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FORMATION OF THE FUTURE TRANSLATORS INDIVIDUAL STYLE

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Abstract: The aim of this article is to study the peculiarities of the formation of the individual style of future translators in the context of the implementation of a systematic approach, based on the experience of higher education institutions that train translators in accordance with market needs. It is determined that the most spoken languages are English, Mandarin Chinese, Hindi, Spanish and French, which are spoken by more than 3.67 billion people in the world, and according to the largest number of native speakers – Mandarin Chinese and Spanish. Installed that the leading institutions of higher education, which occupy the highest positions in the world in the field of education of students majoring in translation, are the Massachusetts Institute of Technology and the University of Massachusetts Amherst.

Keywords: Profession of Translator, Translation Activity, Institution of Higher Education, Digital Technologies.

1 Introduction

With the development of market relations, the labor market places new demands on employees. This is especially true for translators, because the level and quality of their translation activities depends on the results of different areas and levels of activity. Today, the training of students who master the profession of translator, involves mastering the language to a high level. However, practice shows that students, having acquired the profession of a translator, are not always able to carry out translation activities at a high level, qualified, high-quality and professional.

This to some extent indicates the imperfection of the curriculum of students as future translators. As a solution, it is necessary to clearly outline the key advantages and disadvantages of such a program and in the long run to eliminate the problems that affect the process of forming the individual style of future translators.

2 Literature review

Considering the role of modern digital technologies in the training of future translators, Besznyák et al. (2020) emphasize the need to develop a special translation program, which should be based on a sufficient level of theoretical basis necessary for the development of practical translation skills.

Ivleva et al. (2017), examining the importance of using the SmartCAT cloud platform to train future translators, note that such technology can significantly reduce the time required for translators to translate. According to scientists, SmartCAT technology is one of the effective means of machine translation used by modern translators. In addition, researchers compared how the use of SmartCAT technology affects the success of translators. According to the results of the study, it was found that SmartCAT technology should be a mandatory component of the curriculum, which is the training of future translators. Van Egdom et al. (2018) note that an important place in the training of future translators is occupied by ergonomics, due to which the translation activity is successfully combined with the use of modern technologies. Thanks to ergonomics, according to scientists, it is possible to solve both cognitive and physical, professional or organizational problems, as well as to form in future translators the idea of the importance of sustainable translation.

Krajcso (2018) notes that the formation of a profile of translators 'competence is important in the context of students' studies as a translator, and it should be much higher than what is offered by the market. ţă (2019) argues that for the formation of translation competencies in students who acquire the profession of translator, it is necessary to improve the corpus learning, which is based on the improvement of corpus linguistics. Golubkova et al. (2017) emphasize that in the context of training future translators, their socio-cultural competence should be developed. Thus, according to scientists, the cultural component should be one of the key components that underlie the curriculum for training students majoring in translation. Bogush et al. (2019) note that the development of their professional competence is no less important in the context of training future translators. After conducting research, the researchers concluded that the use of context-oriented and competency-oriented approaches in the training program for future translators would significantly increase their success rate. Tarasenko et al. (2019) note the importance of the formation of information competence in future translators through the development of information-thematic component of information competence. The formation of this type of competence will allow students, as future translators; to better master the terminology. Hirci (2017) argues that in preparing students as future translators, special attention should be paid to the acquisition of pronunciation skills in the languages whose translations students will work on in the future. According to the scientist, the development of language skills increases the chances of students, as future translators, for successful employment. Berthaud et al. (2018) emphasize that future translators, after graduating from higher education institutions and acquiring the profession of translator, must definitely improve their skills by participating in postgraduate translation programs.

Popova et al. (2017) as a result of the study noted that an important role in the process of students, as future translators, success in learning, plays primarily the initial stage of their education, as it lays the foundation for further process of acquiring new knowledge, skills, and abilities to learn foreign languages. Portelli (2018) notes that translators, as cultural intermediaries, significantly influence students' mastery of the profession of translator. The researcher also proposes to include a component of cultural awareness in the training program for future translators. This will allow students to better understand cultural values and the fact that their role as a cultural mediator is very important. Sanchez (2017) notes that in the context of preparing students for the profession of translator, it is advisable to focus on the practical aspect, in particular on cooperation with professional translators. In the educational process, according to the scientist, should also use modern teaching methods. Simkova (2017) notes that in order to train highly qualified translators, training programs should be designed and implemented based on the professional standards on which the field of work of translators is based. Also, according to the scientist, special attention should be paid to improving the quality of education in the field of training students majoring in translation.

Pietrzak (2019) notes that effective training of future translators can be ensured by solving problems that arise in the context of preparing students for the level of experienced translators, and a clear set of goals in the curriculum, which provides a holistic procedure for developing real skills in translation. Drugan (2017) notes that in the context of the curriculum for the preparation of students majoring in translation, the requirements of ethics and social responsibility should be taken into account. According to the scientist, highly qualified translators should perform their work based on ethical aspects and feel social responsibility, taking into account the interests of society. Li (2017) argues that it is advisable to use different

translation techniques to train future translators. This will allow future translators to choose the technique that best reveals the content of the translated in the future. Cruz García (2017) emphasizes that in the context of teaching students who master the profession of translator, it is advisable to pay special attention to the lexical, morphological, semantic and syntactic principles of translation that underlie teaching methods. Loock (2017) notes that students who acquire the profession of translator, in the context of learning, it is advisable to form a vision of preserving the originality and grammatical correctness of the text that will be translated by them in the process of translation. At the heart of this method of teaching students is a feature of the naturalness of the language of translation, which improves the quality of translation.

Garcés et al. (2019) focus on the training of future translators as state translators. At the same time, researchers conclude that students who will become state translators in the future will be able to address various issues related to migration. Having studied the main trends in the modern training of future translators, the researchers noted that the programs, which prepare students to acquire such a specialty, need to be significantly improved. Hussein (2021) considers the peculiarities of training students as future translators who will work in the social sphere in the future, in particular, to communicate with foreign minors who are not accompanied by adults. To ensure highly professional training of such students, the researcher offers in the program, which is taught, focus on the social sphere and the sphere of public administration. Federici et al. (2018) also consider the features of teaching students as future civil translators. According to researchers, in order to train translators who will work in the social sphere, it is necessary to better standardize educational materials and provide support for the educational process with modern information and communication technologies. Valero-Garcés (2019) explores the peculiarities of the formation and implementation of the training course on a permanent basis, which provides for the training of administrative translators, i.e. those who will eventually work in government agencies (public administrations). Considering the principles of professional training of future translators, it should be noted that the problems of forming an individual style of future translators are not fully disclosed.

The aim of the article is to study the peculiarities of the formation of the individual style of future translators in the context of the implementation of a systematic approach, based on the experience of higher education institutions that train translators in accordance with market needs. To achieve the purpose of this article we should solve the following tasks:

- establish the most common languages in the world;
- to identify the leading educational institutions of higher education, which occupy the highest positions in the world in the field of education of students majoring in translation;
- present the most popular programs for learning languages that have a fairly high user rating;
- explore the features and present a method of forming the individual style of future translators;
- identify the advantages and disadvantages of the method of forming the individual style of future translators;
- present the components and algorithm for implementing a systematic approach to the formation of individual style of future translators.

3 Materials and research methods

During the achievement of the research goal the following were used: 1) methods of analysis, description, observation, abstraction, comparison – to present the theoretical and practical bases of research of features of formation of individual style of future translators in the context of system approach; 2) methods of tabular and graphical representation – to identify the most common languages in the world and identify the leading higher education institutions that occupy the highest positions in the world in the field of study of students majoring in translation; 3) methods of experiment, modeling and generalization – to study the peculiarities of the formation of individual style of future translators in the context of a systematic approach, based on the experience of higher education institutions that train translators in accordance with market needs.
The information base of the study are the following indicators:

- rating of languages according to the indicator of colloquiality and the indicator of the largest number of speakers (Wordtips, 2021);
- ranking of universities in the field of “Linguistics” in The QS World University Rankings (Quacquarelli Symonds, 2018; Quacquarelli Symonds, 2021).

4 Results

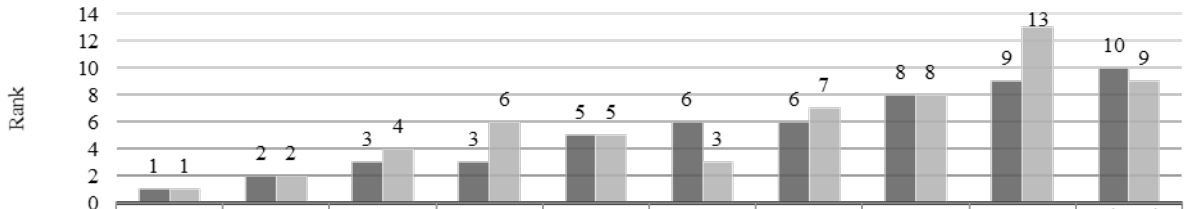
A study by Wordtips (Wordtips, 2021) showed that today there are more than 7,000 vernacular languages in the world. Moreover, the most spoken languages are English, Mandarin Chinese, Hindi, Spanish and French, which are spoken by more than 3.67 billion people in the world (Table 1). Instead, if we pay attention to the indicator of the largest number of native speakers, the leader is Mandarin Chinese and Spanish. As for Ukrainian, it ranked 44th in terms of conversation, as Ukrainian is spoken by more than 33 million people. Instead, only 27 million people are Ukrainian speakers.

Table 1: Ranking of languages on the indicator of colloquiality and the indicator of the largest number of speakers

Language	Conversation rate		The largest number of carriers		Language Origin
	Rank	Number of million people	Rank	Number of million people	
English	1	1132	3	379	Indo-European
Mandarin Chinese	2	1117	1	918	Sino-Tibetan
Hindi	3	615	4	341	Indo-European
Spanish	4	534	2	460	Indo-European
French	5	280	-	-	Indo-European
Standard Arabic	6	274	-	-	Afro-Asian
Bengali	7	265	5	228	Indo-European
Russian	8	258	7	154	Indo-European
Portuguese	9	234	6	221	Indo-European
Indonesian	10	199	-	-	Austronesian
Japanese	-	-	8	128	Japanese
Western Punjabi	-	-	9	93	Indo-European
Marathi Hindi	-	-	10	83	Indo-European
…	…	…	…	…	…
Ukrainian	44	33	-	27	Indo-European

Source: Wordtips, 2021.

Emphasizing the popularity and prevalence of languages, it is advisable to single out the leading educational institutions of higher education, which occupy the highest positions in the world in the field of education of students majoring in translation. A study by British consulting firm Quacquarelli Symonds (Quacquarelli Symonds, 2018; Quacquarelli Symonds, 2021) found that the Massachusetts Institute of Technology (MIT) and University of Massachusetts Amherst (Amherst, United States), who’s overall score is higher than 90 points (Fig. 1).



	Massachusetts Institute of Technology (MIT)	University of Massachusetts Amherst	University of Cambridge	University of Oxford	The University of Edinburgh	Harvard University	Stanford University	University of California, Berkeley (UCB)	University of Maryland, College Park	University of California, Los Angeles (UCLA)
2021	1	2	3	3	5	6	6	8	9	10
2018	1	2	4	6	5	3	7	8	13	9

Figure 1 – University ranking in the field of "Linguistics" in The QS World University Rankings
Source: Quacquarelli Symonds, 2018; Quacquarelli Symonds, 2021

Research shows that the most popular institutions of higher education (Fig. 1), providing training in the field of "Linguistics" are concentrated in two countries – the United States and the United Kingdom.

Regarding Ukraine, in the field of "Philology", the International Scientific carries out the training of future translators and Technical University named after Academician Yuriy Bugay (MNTU), Open International University of Human Development "Ukraine", Kyiv National Linguistic University, and National Pedagogical University named after M. Drahomanov and others.

Analysis of the features of language learning will allow us to identify the 15 most popular, but at the same time the best programs for language learning, which have a fairly high rating of use by users. Thus, according to Effective Language Learning (Effective Language Learning, 2020), the most popular programs designed for language learning are: 1) Speed Learning Languages Review; 2) Fluenz Review; 3) Duolingo Review; 4) Babbel review; 5) Rosetta Stone Review; 6) Memrise Review; 7) Busuu Review; 8) Pimsleur Review; 9) Mondly Review; 10) Michel Thomas Review; 11) Rocket Languages Review; 12) eLanguage Review; 13) Tell Me More Review; 14) Instant Immersion Review; 15) Berlitz Review. Moreover, Speed Learning Languages Review and Fluenz Review have a high level of application efficiency. Instead, the most interactive programs are Duolingo Review and Rosetta Stone Review.

Emphasizing the peculiarities of the formation of individual style of future translators, it should be noted that the basis of a systematic approach to the formation of individual style of future translators should be the development of individual curriculum based on competencies, knowledge, skills and abilities of students. Before forming groups in which students will study while receiving education in higher education institutions, it is necessary to assess the level of knowledge, skills and abilities of such students. According to the results of such assessment, students should be divided into groups that demonstrate a high level of mastery of a foreign language (or foreign languages), a medium level of mastery of a foreign language (or foreign languages) and a low level of mastery of a foreign language (or foreign languages).

At the end of each semester, students must take a language test. This aspect of assessment will determine the level of knowledge acquired during the semester. As a result, students who showed a high level of knowledge, skills and abilities acquired during the semester are enrolled in groups with a high level of foreign language proficiency, students who showed an average level – in groups with an average level of foreign language proficiency, and students who showed low level – to groups with a low level of foreign language proficiency. Students in such groups continue their studies in the next semester, and their preparation

in the field of translating takes place to a specially designed individual study plan for each of the groups. It should be noted that the individual curriculum for each of the groups is formed accordingly to address the problems and difficulties that arise in the way of language acquisition.

It is advisable to note that the proposed method has several drawbacks, since, taking into account the distribution of students in groups according to their knowledge and skills. In this manner, the distribution of students in groups can occur deterioration of the socio-psychological climate among students in the group. In study groups, relationships are formed between students – students become friends, and according to the results of language testing, they can continue their studies in another study group, where their student friends will not study. In addition, the self-esteem of those students who were in the first semester of study, for example in a group with a high level of foreign language proficiency, and according to the results of language testing, passed into a group with medium or low level of foreign language proficiency.

The advantages of this method of teaching are the motivation to get into a group with a high level of mastery of a foreign language or to continue to study in such a group. In addition, the curriculum should provide that translators at leading translation agencies might in the future employ students who successfully complete higher education and demonstrate a high level of proficiency in a foreign language (or languages). This condition of graduation will act as a motivating factor to acquire better knowledge, skills and abilities.

As for the individual style of training students who master the profession of translator, the curriculum should include the following items:

- The student, mastering the profession of translator, must clearly understand that in translation activities should adhere to the social, ethnographic, cultural and at the same time ethnic context.
- In translation activities, high equivalence and quality of translation should be achieved by preserving the content, stylistic, semantic, functional and communicative information presented in the original.

Thus, focusing on the above, the basis of a systematic approach to the formation of the individual style of future translators should be the following components (the weight of which is presented in Fig. 2):

- setting goals and objectives of the training program for future translators;
- rational teaching of educational material by highly qualified teachers with a high level of pedagogical skills, professionalism, psychological culture, competence, creative potential;
- involvement of experienced translators-practitioners in the educational process in order for students to acquire practical skills of translation activity in lectures and practical classes;
- participation of students majoring in translator in international conferences, webinars, round tables in order to gain experience, exchange experiences and achievements with other students;
- internships for students abroad in partner higher education institutions and companies in order to better master the languages in the context of direct communication with native speakers;
- sending students for internships at a translation agency in order to understand the requirements of the labor market for a modern translator;
- exchange of students with foreign institutions of higher education-partners in order to improve the level of practical skills not only of students studying abroad, but also students who will study with foreign students directly in the institution of higher education;
- the use of modern information and communication technologies in the educational process to facilitate students' perception of educational material, the acquisition of practical skills in the context of relationships with native speakers of the language they are learning.

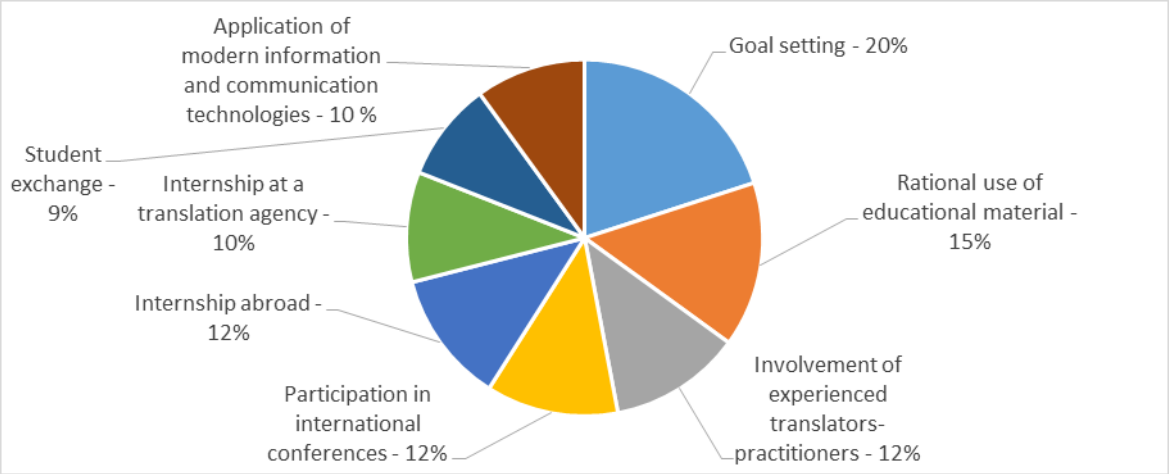


Figure 2 – The importance of the components of a systematic approach to the formation of the individual style of future translators, %

In identifying the components of a systematic approach to the formation of individual style of future translators should present a comprehensive algorithm for implementing such an approach, based on the experience of the International Scientific and Technical University named after Academician Yuriy Bugay (MNTU) (Mizhnarodnyj naukovo-tekhnichnyj universytet imeni akadem , 2021), Open International University of Human Development "Ukraine" (Vidkrytyj mizhnarodnyj universytet rozvytku ljudyny "Ukraine", 2021), Kyiv National Linguistic University (Kyjivsjkyj nacionaljnyj linghvistychnyj universytet, 2021), National Pedagogical University named after M. Dragomanov (*National Pedagogical University named after M.P. Draghomanov, 2021*) (Fig. 3).

Thus, the results of the study allowed to present the features of the formation of individual style of future translators in the context of a systematic approach, based on the experience of the International Scientific and Technical University named after Academician Yuriy Bugay (MNTU), Open International University of Human Development "Ukraine", Kyiv National Linguistic University, National Pedagogical University named after M. Dragomanov. It is established that in order to form the individual style of future translators it is necessary to develop an individual curriculum based on the competencies, knowledge, skills and abilities of students who master the profession of translator. The proposed curriculum aims to conduct language testing at the end of each semester,

The practical significance of the proposed approach is that it will increase the level of foreign language proficiency, as students who are interested in successful employment in the field of translation (and this is one of the conditions of the curriculum) are required to master a foreign language.

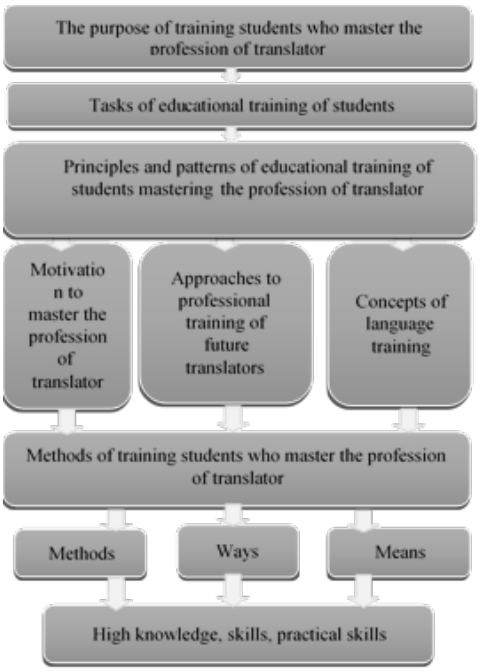


Figure 3 – Algorithm for implementing a systematic approach to the formation of individual style of future translators

5 Discussion

According to the results of the study of the peculiarities of the formation of the individual style of future translators in the

context of the implementation of a systematic approach, the special relevance of the issue professional training of future translators in the research of many scholars. Namely, scientists note that the formation of the individual style of future translators is through:

- development of a special translation program, which should be based on a sufficient level of theoretical basis necessary for the development of practical translation skills (Besznyák et al., 2020);
- the use of the cloud platform SmartCAT (Ivleva et al., 2017), ergonomics, which combines translation with the use of modern technologies (Van Egdom et al., 2018);
- formation of the profile of translators' competence (Krajcso, 2018), formation of translation competencies (Oțăt, 2019), development of socio-cultural competence (*Golubkova et al., 2017*), development of professional competence (*Bogush et al., 2019*), the formation of information competence (Tarasenko et al., 2019),acquisition of pronunciation skills of the languages in which the translation activity will be carried out (Hirci, 2017), raising the level of qualification due to participation in postgraduate translation programs (Berthaud et al., 2018);
- primary education, as at this stage the basis for further process of acquiring new knowledge, skills and abilities in the direction of learning foreign languages (Popova et al., 2017), participation and cooperation with professional translators as cultural mediators who significantly influence the development students of the profession of translator (Portelli, 2018; Sanchez, 2017), the formation and implementation of educational programs, based on professional standards on which the field of work of translators is based (Simkova, 2017);
- solving problems that arise in the context of preparing students for the level of experienced translators (Pietrzak, 2019),taking into account the requirements of ethics and social responsibility (Drugan, 2017),application of different translation techniques (Li, 2017), taking into accountlexical, morphological, semantic and syntactic principles of translation that underlie teaching methods (Cruz García, 2017),forming a vision of preserving the originality and grammatical correctness of the text that will be translated in the process of translation (Loock, 2017).

It is worth agreeing with the results obtained by scientists, but according to the relevance of the issue, the study of the individual style of future translators in the context of a systematic approach should be based on the experience of higher education institutions, for example the experience of Yuriy Bugay International University of Science and Technology (MNTU), Open International University of Human Development “Ukraine”, Kyiv National Linguistic University, National Pedagogical University named after M. Dragomanov.

As a result of the research for the formation of individual style of future translators it is proposed to develop and implement a special and at the same time individual curriculum by institutions of higher education that train students – future translators.

This program should take into account the individual competencies, knowledge, skills and abilities of students who master the profession of translator. The proposed program should be based on language testing at the end of each semester in order to determine the level of foreign language proficiency of students. According to the results of language testing, the program proposes to divide students into groups (groups with a high level of foreign language proficiency, groups with a medium level of foreign language proficiency, groups with a low level of foreign language proficiency).

6 Conclusion

It is established that the formation of the individual style of future translators depends on the result of the development of professional, socio-cultural, informational competencies. It was found that the use of cloud platform SmartCAT and other information and communication technologies significantly affects the individual style of the future translator. It is determined that a special translation program should be developed to increase the level of language proficiency.

To study the peculiarities of the formation of the individual style of future translators in the context of the implementation of a systematic approach, it is necessary to rely on the experience of higher education institutions that train translators in accordance with market needs. In the study, the implementation of systemic to the formation of individual style of future translators was based on the experience of the International Scientific and Technical University named after Academician Yuriy Bugay (MNTU), Open International University of Human Development “Ukraine”, Kyiv National Linguistic University, National Pedagogical University named after M. Dragomanov.

It was found that the formation of individual style of future translators is based on understanding the translation of social, ethnographic, cultural and ethnic context in translation, as well as achieving high equivalence and quality of translation by preserving the content, stylistic, semantic, functional and communicative information, filed in the original.

It is proved that in order to form an individual style of future translators it is necessary to develop an individual curriculum based on the competencies, knowledge, skills and abilities of students mastering the profession of translator and implement it in higher education institutions that train future translators. It is proposed to determine the components of a systematic approach to the formation of the individual style of future translators: 1) setting goals and objectives; 2) rational use of educational material; 3) involvement of experienced translators-practitioners; 4) participation in international conferences, webinars, round tables; 5) internship abroad; 6) internship at a translation agency; 7) exchange of students; 8) application of modern information and communication technologies.

It is established that the basis for the implementation of a systematic approach to the formation of individual style of future translators is: 1) the purpose of training students who master the profession of translator; 2) the task of training students who master the profession of translator; 3) principles and regularities of educational training of students mastering the profession of translator; 4) motivation to master the profession of translator, approaches to the training of future translators and the concept of language training; 5) methods of training students who master the profession of translator; 6) methods, ways and means. As a result of the gradual implementation of such items, high knowledge, skills, practical skills in the field of professional translation activities are formed.

The practical significance of the results obtained in the study indicates that the systematic approach, which provides for the formation of the individual style of future translators, is of universal importance. Because of adjusting this approach in accordance with the peculiarities of other areas of student training, higher education institutions can apply it.

In the perspective of further explorations, a study of the peculiarities of the formation of competencies in future translators is planned in order to increase the level of language proficiency.

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Primary Paper Section: A

Secondary Paper Section: AM

THE EFFICIENCY OF PARLIAMENTARY ACTIVITY ORGANIZATION: EUROPEAN AND NATIONAL FACTORS

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Abstract: Recent trends in populist policies and Euro-skepticism, the lack of transparency and accountability call into question the effectiveness of EU parliaments. The aim of this article was to identify factors of parliamentary efficiency in the EU and Ukraine. The research uses an approach to assessing parliamentary effectiveness based on citizens' perceptions of parliamentary activities, including confidence in parliamentary performance in countries with different levels of democracy. This study uses secondary data from the European Value Study 2017, World Value Survey Wave 7 2011 and 2020 for analysis of parliamentary efficiency according to the following criteria: competence and efficiency; performance of duties; interests of society; service to the country; the presence of corruption; openness and transparency.

Keywords: Parliamentary Efficiency, Factors of Parliamentary Efficiency, Transparency of Legislative Bodies, Legislative Initiatives

1 Introduction

Most EU parliaments act in opposition to the government, influencing individual parliamentary actions and inter-parliamentary activities and efficiency (Bolleyer, 2017). Inter-parliamentary activism presupposes the basic readiness of parliaments to protect institutionally defined interests separately from their leaders. Moreover, in the parliamentary systems of the EU member states (if we do not take into account the parliamentarism of minorities), this readiness is probably low. It is widely acknowledged that the EU complies with the "federal principle" but is not a "federal state". Despite the fact that the EU does not have a monopoly on coercion, its supranational institutions still have significant powers of hierarchical coordination, influencing national parliaments. EU national parliaments are members of transnational assemblies, whose interests are more diverse, compared to the parliaments of countries such as Ukraine. This means that the level of parliamentary efficiency of the EU is declining. Recent trends in populist policies and Euro-skepticism, lack of transparency and accountability also call into question the effectiveness of parliaments.

The aim of the article is to identify factors of parliamentary efficiency in the EU and Ukraine.

2 Literature review

Parliamentary efficiency is seen as legislative effectiveness and legitimacy (Herman & Lodge, 1978; Weissert, 1991; Wessels & Diedrichs, 1997), lack of influence on the legislative initiative, corruption and bureaucracy (Coen & Katsaitis, 2019). The efficiency of the parliament is ensured by reforming and improving the rules and procedures. Parliament and its reform contribute to the formation of democracy through democratization of procedures and rules (Brack & Costa, 2018), narrow specialization of committees, increasing legitimacy, emphasis on public interests, increasing the level of legality and transparency, accountability to citizens (Grau and Segú, 2019).

The scientific literature offers several approaches to assessing the effectiveness of parliament, among the most common - an approach based on the study of citizens' perceptions of the effectiveness of the legislature. Weissert (1991) based on a 10-year expert survey examines the relationship between the perception of the effectiveness of the legislature and changes in society, which are most important from the point of view of citizens (used variable associations of the name of the legislator with the problem, work experience, party affiliation, age). The author found an inverse causal relationship between the urgency of the problem for society and the effectiveness of deputies: the reduction of citizens' attention to the problem reduces the activity of deputies.

Comer, J. C. (1980) assessed the performance of parliamentarians based on the criteria of accountability for the performance of the duties of legislators (based on the indicator of citizens' job satisfaction); effectiveness of responding to inquiries of organizations and citizens (perception and experience of respondents on the level of their influence on legislative processes, awareness and attitude of legislative bodies to the interests of priority groups; accountability based on assessment of citizens' confidence in the influence of his voice that provides problem solving.

Gerber, Maestas & Dometrius (2005) studying the competences of the legislature through the study of ex-ante control mechanisms (veto power (Peters & Wagner, 2011), consideration of procedures, parliamentary approval of policies) based on a survey of experts claim a higher level of public perception these powers. From a strategic point of view on legislative behavior, the literature conceptually covers five roles of national MPs in EU policy: inspectors, subsidiaries, network workers, communicators and transponders (Kinski, 2020).
Parliamentary efficiency and factors influencing it are difficult to assess due to the objective specificity of the legislative process and the dependence of the work of the legislature on the work of other branches of government. To assess the work of the legislature, qualitative research methods are most often used, aimed at identifying the correspondence between certain standards of the democracy process and the work of parliament.

3 Methodology

The study uses an approach to assessing parliamentary effectiveness based on citizens' perceptions of parliamentary activities, including confidence in parliamentary performance in countries with different levels of democracy.

The paper uses secondary survey data:

1) European Value Study 2017 (Balakireva, 2021; EVS/WVS, 2021) to assess confidence in parliament, the level of democratic governance, attitudes towards a democratic political system (Table 1). Indicators of citizens' perception of the work of the Parliament were assessed in the following countries Albania, Bulgaria, Czech Republic, Germany, Italy, Netherlands, Poland, Romania, Sweden, and Ukraine. In total, data were analyzed based on the responses of 20,730 respondents in different countries. A correlation analysis was performed between the indicators using a pairwise correlation between Pearson and Spearman to identify the relationship between confidence in parliament and the perception of the level of democratic governance. Pearson's X-square criterion with a significance level of 5% and a critical value of 43.8 was used to identify differences in confidence in the work of parliament and the level of democracy depending on the country.
2) World Value Survey Wave 7 2011 for Ukraine to compare the assessment of the level of public confidence in

parliament and the perception of the level of democratic governance (WVS, 2021b).

3) World Value Survey Wave 7 2020 (WVS, 2021a) for a more detailed analysis of the factors of parliamentary efficiency in Ukraine (2020) according to the following criteria (Table 2): competence and efficiency; performance of duties; taking into account the interests of society; service to the country; the presence of corruption; openness and transparency.

Table 1. The questionnaire: confidence in Parliament, democratic governance, and attitude to a democratic political system

	The questions	The answers
1	Q38 Please look at this card and tell me, for each item listed, how much confidence you have in them, is it a great deal, quite a lot, not very much or none at all? (Parliament)	a great deal - 1, quite a lot - 2, not very much - 3, none at all - 4
2	Q41 And how democratically is this country being governed today? Again using a scale from 1 to 10, where 1 means that it is "not at all democratic" and 10 means that it is "completely democratic," what position would you choose?	From 1 (Not at all democratic) to 10 (Completely democratic), Don't Know, No answer
3	Q43 I am going to describe various types of political systems and ask what you think about each as a way of governing this country. For each one, would you say it is a very good, fairly good, fairly bad or very bad way of governing this country? Having a democratic political system	very good - 1, fairly good - 2, fairly bad - 3, very bad - 4

Source: Balakireva (2021); EVS / WVS (2021).

Table 2. The questionnaire: the activities of Parliament

The questions	The answers
Q291. Now I would like to ask a few questions about the Verkhovna Rada, the government and the United Nations (UN). Indicate to what extent you agree or disagree with the following statements. What do you think about the Verkhovna Rada of Ukraine?	Completely agree - 1, Agree - 2, Both agree and disagree - 3, Disagree - 4, Completely disagree - 5
P1 In general, the Verkhovna Rada is competent and efficient	
P2 The Verkhovna Rada is performing its duties very well	
P3 of the Verkhovna Rada usually acts in the interests of citizens	
P4 The Verkhovna Rada is trying to serve the country as best it can	
P5 In general, the Verkhovna Rada is free from corruption	
P6 The work of the Verkhovna Rada is open and transparent	

Source: WVS (2021a).

The sample of Ukrainian respondents is formed based on a multilevel approach to stratification with random selection at each stage. The size of the estimated sample was 1,714 respondents from 171 constituencies over the age of 18. As a result, 1289 respondents gave answers (40.8% of men; 59.2% of women). SPSS software was used for statistical analysis of the survey results.

The main limitation of the study is the lack of survey data for 2020 for European countries (in general, data are available only for 2017, collected by an excellent questionnaire compared to the 2020 questionnaire), which would compare Ukraine's parliamentary performance with developed European countries according to selected criteria.

4 Results

The confidence in the work of Parliament varies from country to country. Thus, in developed countries (Germany, the Netherlands and Sweden) the highest percentage of respondents who answered that they are confident in parliament (42%, 46%, 46%, respectively, are either completely confident or very confident). In contrast, in less developed countries, a high percentage of the population is not very confident or completely unsure (Albania - 92%, Bulgaria - 84%, Czech Republic - 86%, Romania - 84%, Ukraine - 80%) (Table 3). For comparison, in 2020 in Ukraine the confidence indicator increased to 18.9%, while 76.7% of respondents were either not very confident or completely unsure of the work of the Verkhovna Rada. With a significance level of 5%, we reject the null hypothesis of the lack of statistical significance between the country and the level of confidence, claiming a significant relationship between these variables:

Table 3. Combination table Country and Confidence in Parliament

	Confidence: Parliament				% of those who answer "Not very much" or "None at all"	Total
	A great deal	Quite a lot	Not very much	None at all		
Albania	28	81	305	1009	92	1423
Bulgaria	25	219	708	563	84	1515
Czech Republic	40	195	806	687	86	1728
Germany	156	1324	1591	457	58	3528
Italy	71	571	1079	505	71	2226
Netherlands	74	982	1001	262	54	2319
Poland	38	231	573	430	79	1272
Romania	104	342	1010	1298	84	2754
Sweden	107	667	347	48	34	1169
Ukraine	53	513	1100	1130	80	2796

Source: calculated by the author based on Balakireva (2021); EVS / WVS (2021).

According to society, governance in the country is carried out on a democratic basis: 58% of respondents generally rated the level of democracy at 6-10 points, while 42% - rated at 1-5 points. At the same time, in Germany 81% of respondents gave a score of

6-10, in the Netherlands - 87%, in Sweden - 92%. For comparison, in Ukraine 40-10 respondents gave a score of 6-10, in Albania 27%, in Bulgaria - 39%, in the Czech Republic - 57%, in Italy - 62%, in Poland - 62%, in Romania - 46%. In developing countries, governance is perceived by respondents as less democratic compared to developed countries. With a significance level of 5%, we reject the null hypothesis of the lack of statistical significance between the country and the level of democratic governance, claiming a significant relationship between these variables: the level of democracy depends on the country (see Table 4).

Table 4. The combination table Country and Democraticness in own country

	Democraticness in own country										Total
	Not at all democratic	2	3	4	5	6	7	8	9	Completely democratic	
Albania	387	128	138	127	247	118	119	81	12	49	1406
Bulgaria	230	107	161	144	265	199	161	115	53	50	1485
Czech Republic	105	67	122	162	287	240	268	303	98	64	1716
Germany	51	46	101	136	354	310	660	944	486	532	3620
Italy	104	65	143	189	332	382	420	317	98	163	2213
Netherlands	31	19	46	88	120	253	494	671	355	189	2266
Poland	123	83	117	98	211	120	139	173	77	131	1272
Romania	335	134	270	221	466	265	298	221	68	371	2649
Sweden	18	4	20	15	41	78	185	362	254	201	1178
Ukraine	291	170	346	341	488	330	324	244	82	130	2746

Source: calculated by the author based on Balakireva (2021); EVS / WVS (2021).

94% of respondents (as a whole by country) consider the democratic political system to be effective (Table 5). It should be noted that the level of subjective assessment of the effectiveness of a democratic political system differs within countries: in Albania, 98% of respondents noted efficiency, in Bulgaria - 93%, in the Czech Republic - 93%, in Germany - 99%, in Italy - 97%, in the Netherlands - 97%, in Poland - 97%, in Romania - 91%, in Sweden - 98%, in Ukraine - 85%.

Table 5. The combination table Country (ISO 3166-1 Numeric code) * Political system: Having a democratic political system

	Political system: Having a democratic political system				Total
	Very good	Fairly good	Fairly bad	Very bad	
Albania	1258	135	8	16	1417
Bulgaria	732	560	74	19	1385
Czech Republic	858	706	91	32	1687
Germany	2724	808	28	22	3582
Italy	1629	507	49	18	2203
Netherlands	1254	900	58	11	2223
Poland	583	552	76	33	1244
Romania	1510	903	160	74	2647
Sweden	999	154	12	12	1177
Ukraine	871	1283	262	107	2523

Source: calculated by the author based on Balakireva (2021); EVS / WVS (2021).

There is an inverse linear relationship between confidence in parliament and the level of perception of democratic governance: Pearson's correlation coefficient is -0.367 with a significance level of 1%: a higher level of confidence may lead to a lower level of perception of democratic governance.

In Ukraine, the effectiveness of the Parliament is subjectively assessed at a low level: on average, 66% of respondents do not agree with the statements about the effectiveness or strongly disagree. 58.1% indicated the incompetence and inefficiency of the Parliament, 67.7% - the poor performance of duties, 67.4% - the lack of action in the interests of citizens, 65.3% - the lack of service to citizens, 71.4 % - on dependence on corruption, 66.2% - on non-openness and non-transparency of work (Table 6).

Table 6. Ukraine Parliament effectiveness: percentage of responses of respondents who agree with the statements

	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly	No answer	Don't know
Parliament: Overall, parliament is competent and efficient	1.2	7.1	28.1	36.6	21.5	, 1	5.4
Parliament: Parliament usually carries out its duties poorly	, 9	3.9	22.8	41.9	25.8	-	4.7
Parliament: Parliament usually acts in its own interests	1.4	4.7	21.5	39.8	27.5	, 1	4.9
Parliament: Parliament wants to do its best to serve the country	, 8	5.4	23.0	39.8	25.5	, 2	5.4
Parliament: Parliament is generally free of corruption	, 9	3.3	16.0	38.4	33.0	, 2	8.1
Parliament: Parliament's work is open and transparent	1.9	4.7	19.4	35.8	30.4	, 6	7.2
Average	1.2	4.8	21.8	38.7	27.3	0.2	6.0

Source: calculated by the author based on WVS (2021a).

In general, the level of confidence in Ukraine in the work of the Parliament has remained at the same level for ten years: 80-81% of citizens are not very confident or unsure of the work of the legislature (see Fig. 1).

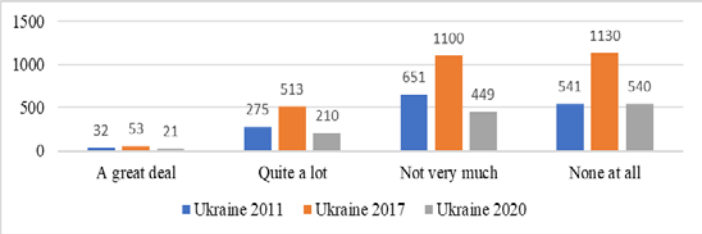

Fig. 1. Confidence to Ukraine Parliament 2011-2020
Source: calculated by the author based on WVS (2021a; 2021b); Balakireva (2021).

The confidence in the work of the Parliament and efficiency criteria are characterized by statistically significant links (at a significance level of 1%): with a decrease in confidence in the work of the Parliament, the perception of the level of democratic processes in Ukraine increases; with declining confidence, satisfaction with the effectiveness of the political system increases; as confidence grows, so does the competence and efficiency of Parliament; with increasing confidence, the level of performance of public duties by the legislature increases; as confidence grows, the level of activity in the interests of the community increases; as confidence grows, the level of service to the country's citizens increases; with increasing confidence, the level of perception of the absence of corruption increases; as confidence increases, so does the perception of transparency and openness.

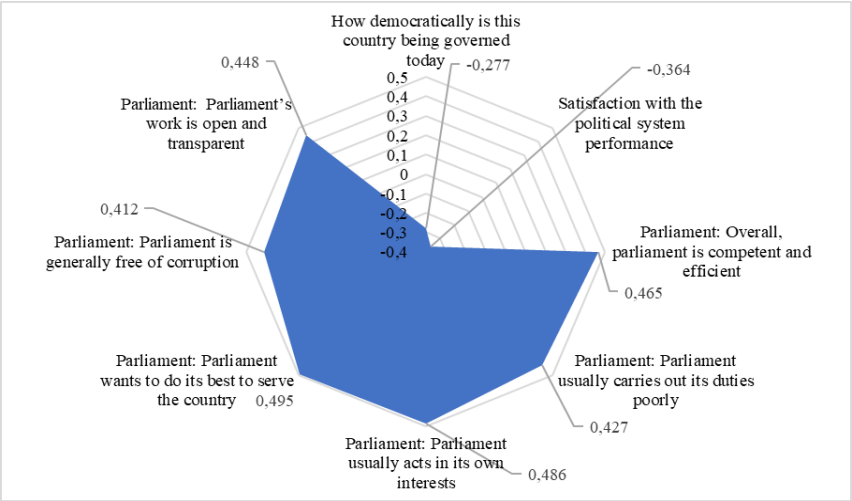

Fig. 2. The value of Spearman's correlation (bilateral at a significance level of 1%): confidence in the work of Parliament and the criteria of effectiveness of the Verkhovna Rada of Ukraine
Source: calculated by the author based on WVS (2021a).

5 Discussion

Since the 2008 recession, more and more Europeans have become skeptical of the EU by political parties, while people's perceptions of EU institutions have deteriorated steadily (Carrillo-López, 2018). The European Union (EU) is facing two parallel trends of increasing polarization. From the outside, the ambiguous actions of parliaments in the EU to create a positive political environment have become more critical, and the global relations of power are changing. The domestic elections to the European Parliament have brought more Euro-skeptics to the parliament, changing its political majority and making it difficult for the main parties to continue the long-standing political positions of the European Parliament (EP), such as ambitious politics (Petri & Biedenkopf, 2021).

A significant part of the EU legislative process remains a mystery. At unofficial meetings, representatives of the three major EU institutions negotiate on compromises "behind closed doors," which are later, announced to the public at public meetings. Most of the studies of the transparency and openness of the EU parliament depend on the accessibility of the documents, it is advisable to further investigate whether the information in the framework of the negotiations "behind closed doors" is available to the general public, including at the meetings of the European Parliament (EP) committees as the only forum where publicity must be ensured in the negotiation process. Despite the fact that the parliaments of the EU countries require negotiators to report to their committees after each dialogue, in most cases the information is not available to the public or is not provided in a timely manner. Thus, EU parliaments do not fulfill their promises of transparency and accountability, seriously undermining the legitimacy of the EU legislative process (Brandsma, 2019). The results of this study confirm the high level of parliamentary closure.

De Vreese, Azrout & Moeller (2016) illustrate people's unfavorable perception of the institution, the functioning of the European Union and the EU parliaments in general. The limited assessment of European democracy is partly explained by the still limited accessibility and inclusiveness of the parliament, and partly by the subjectivity of people's perception of EU parliaments through a negative perception of democracy. The accessibility of the parliamentary process for citizens has not increased in direct or technical and metaphorical sense. The "maneuvering circus" remains a source of discouragement, and the design of active and passive electoral law remains suboptimal. The reform of the EU parliaments was ineffective or failed. The right of appeal and European civic initiative leave many citizens unsatisfied with the legislative process. Various scandals over the use of public funds and the suspicions of a conflict of interest further aggravate dissatisfaction. Moreover, the EU parliamentary structure of decision-making and the shadow role of the lobbyists are in place within the EU parliaments. The moments when the Parliament is positively reflected in the news are less rare. In general, EU citizens condemn the actions of lawmakers due to the lack of transparency, negative perceptions, the practice of implementation of legislative initiatives (de Vreese, Azrout & Moeller, 2016).

6 Conclusion

The research showed that the developed countries (Germany, the Netherlands and Sweden) have the highest percentage of respondents who said they were convinced in the Parliament (42%, 46%, 46% accordingly are either fully convinced or very convinced). However, in the less developed countries, a high percentage of the population is not very well or absolutely not (Albania - 92%, Bulgaria - 84%, Czech Republic - 86%, Rumania - 84%, Ukraine - 80%). Governance in the EU countries is exercised on democratic principles: 58% of respondents in general assess the level of democracy at 6-10 points, with 42% assessing it at 1-5 points. In developing countries the governance is perceived by respondents as less, democratic compared to developed countries. The level of subjective evaluation of the efficiency of the democratic political system varies among the countries. There is a direct linear link between the confidence in the parliament and the level of perception of democratic governance in the country.

In Ukraine, the efficiency of the Parliament is subjectively evaluated at a low level: on the average 66% of respondents do not agree or strictly do not agree with the statements about efficiency. In general the level of confidence in parliamentary work in Ukraine remained at the same level for ten years: 80-81% of citizens are not very satisfied or not satisfied with the work of legislative bodies of power.

Further research should be focused on the study of parliamentary efficiency at the international level in the context of Ukraine's integration into the European Union.

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Primary Paper Section: A

Secondary Paper Section: AG

TRAINING OF FUTURE MANAGERS OF THE CULTURE SPHERE

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Abstract: The purpose of the research: to identify the components of the educational paradigm of bachelors and masters in HEIs of Ukraine. The main aspects of the educational paradigm for the training of bachelors and masters managers in the field of culture: participation of students in the negotiation and adoption of decisions on the development of national and cultural relations between peoples, through the activities of community associations (national and cultural centers, clubs, associations, etc.); conducting scientific and methodological activities on various national and cultural issues; use motivational and mental and cultural self-evaluation of practical activities; interaction of socio-cultural experience, understanding the meaning and value of the fundamental, applied knowledge and creative, creative, professional activities.

Keywords: Higher Education Institutions (HEIs), Management, Manager, Cultural Management, Educational Standards.

1 Introduction

The modern management paradigm, which is established in the XXI century, involves the use of socio-cultural and creative potential of managers. The dynamic world, the transformation of economic, political and cultural models lead to a gradual change in the ideal of education: from a person educated to a person culture. The system of higher education aims to form a person with a global mindset, developed intellectually, culturally, psychologically and socially. The content of higher management education is constantly expanding and updating.

The paradigm of higher education in the field of culture is a set of competencies that determine the value-motivated, personally-effective nature of knowledge of the dominants of the professional development of a manager-specialist.

When training managers for the sphere of culture in higher education institutions (HEIs) in the world in general and in Ukraine in particular, it is necessary to take into account a set of philosophical, sociological, pedagogical and psychological ideas of ethnocultural social potential to preserve the unique cultural environment in the multicultural world. The main purpose of the manager in the field of culture is to ensure ethnocultural stability and security of domestic and foreign policy of the state, which is represented by the manager. The paradigmatic non-continuing (bachelor and master) educational approach can realize this aim. The essence of the paradigmatic approach to the training of the leader of cultural environments in higher education lies in the interaction of education and culture, the possibility of influencing the development of a professional, able to transform theoretical knowledge in the practice of public interaction to achieve relevant results.

The problem of quality training of managers for the field of culture are among the current problems of higher education, which led to in-depth study of this topic.

The essence of the process of forming the professional culture of the future manager is characterized by obtaining information about the values of professional culture, its transformation, understanding the importance of the values of professional culture for successful professional development; emotional and sensory experience of the significance of values and their evaluation, exteriorization of the values of professional culture in activities and communication, the implementation of reflection as a conscious choice of patterns of behavior and professional activities based on cultural norms.

In the context of political and economic reforms, new requirements are put forward to the education system, which must be implemented in the training of specialists. It is important to ensure a high level of professional competence, social mobility and development of creative thinking of specialists in their independent solution of professional problems, social and other life problems.

The main criteria of forming professional culture of the future manager are the culture of thinking (knowledge of the values of professional culture as the basis of ways to organize the activities of the future manager, awareness of their importance for professional development, intellectual skills), communication, reflexive skills and mental self-regulation.

Thus, the effectiveness of public management of the socio-cultural sphere manager should cover a range of professional activities (research; educational and pedagogical; production and practical; scientific and methodological), defined in the Standards of Higher Education by Ukrainian legislation to train highly qualified specialist in specialty 028 "Management socio-cultural activities "field of knowledge 02" Culture and Art ".

2 Literature Review

According to the Standards of Higher Education (Resolution of the Cabinet of Ministers of Ukraine; Standard of Higher Education. Bachelor's degree; Standard of Higher Education of Ukraine: Second (master's) level), which are state regulatory documents that define a set of requirements for the content and results of educational activities of higher educational institutions and academic institutions at the level of higher education "bachelor", "master", within the specialty 028 "Management of socio-cultural activities" of the branch of knowledge 02 "Culture and Art", the basic principles of training of managers-specialists in the field of culture are defined.

Dobrovolska (2019) argues that the theory of social communications and the methodology of documentary research are closely related to the theoretical foundations of documentation in the field of culture. They are important for understanding the problems of documentary communications and the system of documentation in the field of culture and documentation management as a communication system that connects governing bodies, institutions and organizations, creative individuals and groups that implement cultural activities.

Training cultural managers in HEIs to make appropriate management decisions helps to reduce the risks of information technology and additional costs of the organization (Tkachenko O. & Tkachenko K., 2018). To train a competent manager in the field of culture, it is necessary to use methods of forming students' communicative competencies as an important component of a manager's professional activity in the public sphere (Gromova, 2020). The public sphere is an area in which individuals and social groups publicly communicate and discuss ideas about politics, cultures and society. Thus, it is guided by the thoughts and actions of professional managers in certain industries. Equal management positions at the political and social levels are cultural management positions (Hendriks, 2017; Tietze, 2021). According to Suryaman et al. (2020), the management of manager training begins with the assessment of the need to increase the efficiency of employees in accordance with the requirements of the organization and the tasks assigned to them. In addition, the implementation of training includes content, methods and approaches, curriculum, training media and assessment systems. Kochetkov (2016) in the system of training manager of cultural activities considers social and cultural change in society, which may require adequate transformations of higher education. The scientist substantiates the main characteristics of

the spiritual and creative paradigm proposed for all levels of education of the manager.

All that is required of management education based on the hermeneutic-educational paradigm is the optimization of the management of civic skills in order to promote the development of public consciousness and civic competence (Pagano & Schiedi, 2015).

Thus, despite the large number of scientific papers in the field that describe the competence of the manager of cultural activities, the question of the components of the educational paradigm of training bachelors and masters in the HEIs of Ukraine remains unexplored.

2.1 Aims

The aim of the research: to identify the components of the educational paradigm of bachelors and masters in HEIs of Ukraine.

2.2 Research tasks

Among the main tasks of scientific work are the following:

- to conduct a sociological survey of students majoring in 028 "Management of socio-cultural activities" in the field of knowledge 02 "Culture and Art" in order to identify the degree of realization of professional educational needs;
- provide recommendations for improving the training of bachelors and masters in HEIs of Ukraine.

3 Materials and research methods

The methodological base is based on such a system of main and auxiliary methods. The main methods of reconnaissance:

- observation and description (description of key components of the educational paradigm);
- method of theoretical analysis of literature (for a consolidated understanding of the analyzed concepts in Ukrainian and world science);
- analysis of statistical data (to work with the answers of respondents);
- auxiliary intelligence methods:
- method of system analysis (in establishing structural relationships between elements of the paradigm);
- method of generalization (during the formation of conclusions from the theoretical study).

In order to obtain practical results of the study, 450 students from different institutions of higher education (Ukraine), where managers are trained in the specialty 028 "Management of socio-cultural activities" in the field of knowledge 02 "Culture and Art" took part in a survey. The aim of the survey: to find out the elements of the educational paradigm of training a manager of cultural activities. Duration of the survey: 1 month. Processing time of results: 2 weeks. Method of processing results: automatic with presentation of schemes, tables, diagrams. Poll platform: Google-forms. Method of providing answers: ranking, comparison. Method of distribution: by e-mail.

4 Results

The content of the curriculum for the specialty "management", aimed at gaining in-depth knowledge of the main problems of cultural management, basic theoretical and methodological and practical knowledge about the nature, diagnosis and forecasting of crisis situations, development of concepts of industry management; Among the proposed list of principles of inclusion of students in practical activities in the field of culture (subjective orientation of content and technology of practice; interaction of basic sciences and practical activities; balance as a result of reflection of professional, social and individual potential of trainees; motivational-semantic and culturological self-determination cumulative principle of development of professional experience of a specialist in the field of culture) respondents had to identify three, in their opinion, the highest priority. In the first place with a result of 45% was the teamwork in management, career management of the management communications, project management. 300 bachelor students and 150 master students took part in the survey. According to the competencies defined in the Higher Education Standard for Bachelors and Masters, respondents had to correlate the main aspects of the educational paradigm for the training of managers in the field of culture.

Bachelor respondents paired competencies and aspects in this way: 76% of them named integral competence paired with students' participation in negotiating and making decisions on the development of national and cultural relations between nations, through the activities of community organizations (national and cultural centers, clubs, associations, etc.). General competence is paired with motivational and mental and cultural self-perception of practical activities was chosen by 90% of respondents; 81% of respondents indicated social competence because of scientific and methodological activities on various national and cultural problems. The results are presented in Fig.1a.

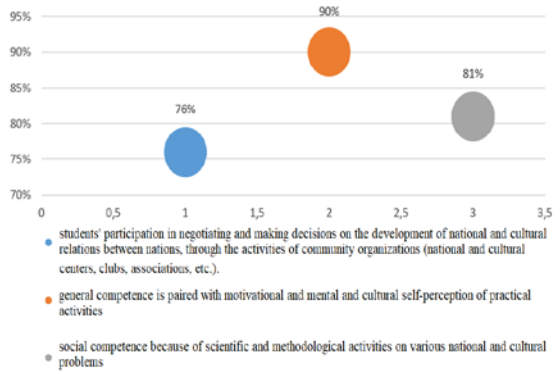

Figure 1a – The main aspects of the educational paradigm for the training of bachelor managers in the field of culture

Respondents-masters compared pairs of competencies and aspects as follows: 92% named integral competence in pairs using motivational-semantic and culturological self-determination of practical activity; general competence is paired with the interaction of socio-cultural experience of 75% of respondents; 81% defined social competence as the result of understanding the content and meaning of fundamental, applied knowledge and creative, creative, professional actions. The results are presented in Fig.1b.

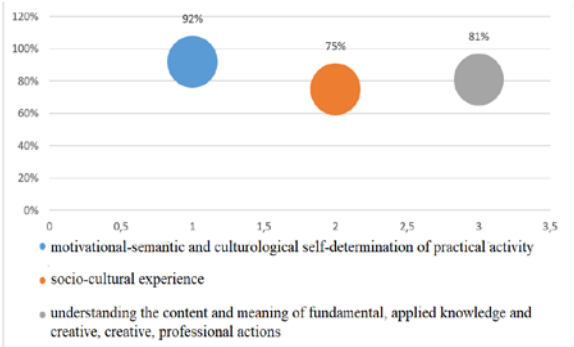

Figure 1b – The main aspects of the educational paradigm for the training of managers-masters in the field of culture

subjective orientation of the content and technology of practice; on the second place – system of motivational-semantic and culturological self-determination of practical activity of the person (38%), in the last place was the cumulative principle of development of professional experience of a specialist in the field of culture (17%). The results are presented in Fig. 2.

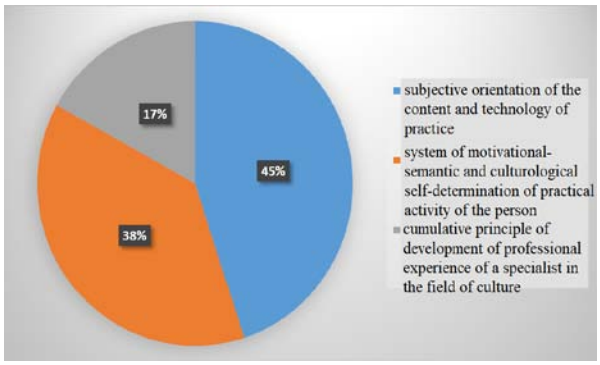

Figure 2 – Principles of involving students in practical activities in the field of culture

The next question was to determine the reasons that affect the level of efficiency of the future specialist in the field of culture. Among the list of offered: ability to model results, developed abilities; ability to outline the prospects for the realization of developed abilities; ability to compare projected and actually achieved; the ability, if necessary, to adjust their activities, the percentage was distributed as follows: 28%, 27%, 25%, 20%, respectively.

Therefore, the manager in the field of culture in accordance with the defined Standards of Higher Education must ensure the full implementation of the functions of culture and arts: to study, restore, preserve and use cultural heritage in the process of raising their needs and interests of different groups; to create and enrich cultural values, to carry out recreational and educational, recreational and educational activities; have the ability to create a cultural environment, stimulate innovative movements in the field of culture and arts (Fig. 3).

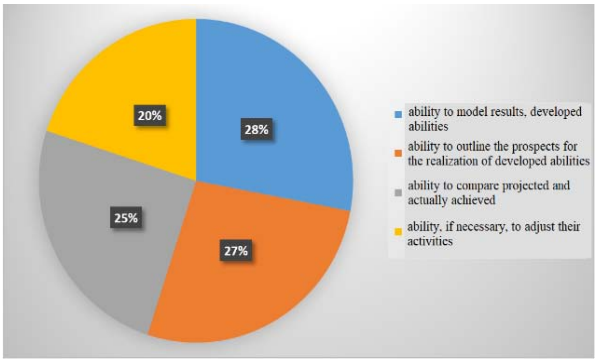

Figure 3 – Principles of involving students in practical activities in the field of culture

5 Discussion

The manager of cultural activities must provide public services in the field of culture, which Valevska (2021) classifies by scale of provision, subjects of provision, subjects of receipt, types of customer satisfaction, content of public service, the order of financing the provision.

According to Mandel et al. (2020), leaders in the arts and culture sector are increasingly required to work internationally and in different cultures, both in other countries and in their own communities. The professionalization of cultural management requires the creation and use of specialized information management systems that strengthen university education, research and professional practice itself. Currently, there are various initiatives that organize and display information resources of interest to cultural managers, but the necessary platforms and models that focus on information management in open, free and shared use are not widely used due to low rates of cooperation (Mariscal et al., 2017).
In European countries, for example, in Romania, the main focus of cultural manager education is on the implementation of three management paradigms: space management, human resource management and "success" management (Tătar-Vîstraș, 2019). The professionalization of cultural management in Spain emerged as a complex process in which the demand for professionals presupposed the existence of academic discipline to maintain skilled knowledge, which gave rise to strong epistemological discussions (del Valle Mesa et al., 2021). Management in the sphere of culture of Great Britain is considered one of the most powerful. The concept of "New Cultural Policy", which has developed in Western Germany, is investigated. France was described as a country that considers culture to be its national superstructure, where, using the experience of other countries, more attention is given to such forms of interaction between culture and business as sponsorship and philanthropy (Mysevych & Didkovska, 2020).

In Latin America, for example, in Argentina, cultural management has become a hegemonic professional approach and an absolute synthesis of politics and culture (Escribal, 2021). In contrast, in Paraguay, despite the transition to democracy, cultural policy is still interventionist and patronizing and hinders grassroots cultural initiatives. The most developed cultural industry in terms of its management is now represented in Brazil (Suelen, 2021). Henze (2021) explains why the lack of information on the training of Latin American cultural managers is a serious shortcoming of cultural management for European research, based on future mutual exchanges between Europe and Latin America through networks and knowledge base opportunities.

In this context, China operates with the longevity of cultural management from public administration to family management, as Confucian culture has influenced all aspects of the life of the Chinese people and, of course, has a great influence on the educational paradigm (Shi Zh., 2021).

The economic liberalization of the economy has also led to an increase in the number of private higher education institutions in India, respectively, which has expanded the training of managers in the field of culture (Devi et al., 2021).

The experience of training in cultural management in the Middle East and North Africa (MENA) region concerns the application of "Western" knowledge of cultural management in the global South, in particular in the Middle East and Africa. Dragicevic & Mihaljinac (2020) offer programs in the format of cultural management based on the neoliberal Western experience.

Thus, a manager of cultural activities who has received higher education in Ukraine will be able to work in one of these countries, as he will have the appropriate knowledge base. Probably, the manager will only have to adjust regional specifics for successful management.

6 Conclusion

Based on the answers received and for the successful training of the manager in the field of cultural activities, it is recommended to keep a balance between the components of training. Among them we define the following: metaphysical (beliefs, inclinations, interests, needs of the leader in the field of culture); value (elements of management activities that are important to the head); applied (the specifics of the interaction of the manager of the organization with his subordinates, means and methods of forecasting, modeling, stimulation, control, management technology, the degree of development of information technology); creative (the ability to atypically perceive the problems of planning, organization and control); self-realization (the ability to reveal their own potential on the basis of adequate assessment of their resources). Additional methodological complexes that influence the formation of a body of knowledge, skills and abilities in the sphere of cultural activity management can be categories of general scientific (disciplines of social and humanistic and natural science orientation), managerial, economic (the development of appropriate competencies). The management team of the company is responsible for the

implementation of effective, economically sound management choices to reduce costs and increase the efficiency of work) and pedagogical (conditions for the training of highly qualified and qualified management professionals, management, who can achieve professional results in line with the time and social development).

It is a systematic approach in the process of mastering the profession of manager in the field of culture is based on general theoretical and special competencies. On this basis, it is also recommended to introduce continuous self-improvement and self-actualization of personal knowledge, increase the level of needs for professional growth and their implementation. The issue of improving the training of specialists in the field of culture in the system of higher professional education now needs to be discussed in the context of the quality of acquired competencies. Further research can be directed to clarify the role of auxiliary disciplines in the training of cultural managers.

The practical significance of the intelligence results is to provide recommendations for the successful training of a manager in the field of cultural activities in HEIs (Ukraine).

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Primary Paper Section: A

Secondary Paper Section: AM

TENDENCIES XXI CENTURY IN DESIGN EDUCATION DEVELOPMENT

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Abstract: Tendencies in design education form material values, but their assimilation in the training system is carried out through spiritual values, as they are aimed at forming the personality of the future designer and his professional culture. The modern system of design education does not always prepare future professionals for the professional challenges they face, as future designers are entrusted with complex and influential design decisions. The aim of the study is to identify the tendencies in design education in the XXI century based on a survey of students and carry out a SWOT-analysis of the implementation of immersive and innovative technologies for professional training of future designers to establish the benefits of ICT use in educational institutions.

Keywords: Tendencies, Design Education, Designers, Immersive Technologies, Innovative Technologies.

1 Introduction

The twenty-first century is the age of digitalization, and information technology is changing all industries, including design education (Sîrghi, Sîrghi, 2020). Reforming the academic field and stimulating innovation are key sources of sustainable economic growth, and they are directly related to the introduction of ICT (also distance learning) in the academic process of design education (World Economic Forum, 2021).

Characterizing tendencies in XXI century design education which include new educational tools used in the learning process through ICT (Islami et al., 2019), digitization and e-learning (Conde et al., 2014; Sriyanti, Jauhari, 2014). Social media, such as Facebook (Wang et al., 2012), WhatsApp, etc., are often involved in the concept of virtual learning (Nurtanto et al., 2019), which shifts the role of traditional learning to effectively provide XXI century design education. The concept of e-learning is an alternative learning option at various universities (Andersson, 2019; Stockless, 2018) and is used for distance learning. The development of e-learning technology is happening very quickly and this is one of the reasons why it is important to introduce and develop this concept on a massive scale. Researchers state that based on survey results from various universities as well as statements from the OECD, it has been found that more and more design training is taking place using the Internet (Rabiman et al., 2020). The use of modern pedagogical technologies also requires teachers to connect disciplines with students' actual design experiences.

As a global institution, higher education institutions should not adhere only to the traditional educational process; they must be mobile, flexible, and adaptable to any new opportunity and challenge. This attitude also arises in design education because this education is based on flexibility, know-how, openness, individual autonomy, and creativity. Design graduates must acquire many kinds of abilities that will help them work as part of a team. Design education should prepare students by planning a specific curriculum that will serve as a coherent system that contains goals, outcomes, and is based on design standards. To meet this system, a curriculum that could take into account global development and innovation is necessary. It is necessary to form a certain network and cooperation with the associated design education, as well as the national and international organization of the profession. This network and collaboration will enable graduates to achieve certain standards of achievement so that they can be accepted by an international qualification (Istanto, 2002).

The aim of the research is to identify tendencies in the XXI century design education based on the students' survey and to make a SWOT-analysis of the implementation of innovative and innovative technologies for professional training of future designers to establish the benefits of ICT in educational institutions.

1.1 Research tasks of the article

1. To analyze the proposed model of educational training of designers on the basis of methods of participation and self-study without teaching others and Industry 3.0 and Industry 4.0.
2. To analyze the design competences in the new educational program of bachelor training based on the Integrated Design Environment.
3. Perform a comparative analysis of educational programs with the disciplines of immersive technologies in the training of designers.
4. Conduct an interview with students to establish an assessment of tendencies in design education in the XXI century.
5. To carry out SWOT-analysis of implementation of immersive and innovative technologies for professional training of future designers.

2 Literature review

Recent research shows that skills, knowledge, and creativity are equally important for professional designers (Guo, 2011), which is also true for graduate designers (Zerillo, 2005). Therefore, according to the developed curriculum, teaching, learning and assessment strategies are critical to prepare students for professional practice (Guo, Jamie, 2015).

Design education is a multifaceted process that aims to provide, on the one hand, in-depth knowledge of specialization, professional training, and on the other hand, a deep understanding of art as an object of educational and cultural process (CEDEFOP, 2008). The modern design education has several origins, starting with the Royal College of Art in London, which began operations in 1837 as the Government School of Design, Glasgow School of Art in 1845 as the Glasgow Government School of Design, Rhode Island School of Design (RISD, USA) in 1877, Konstfak (Stockholm) 1844 National Academy of Craft and Art Industry (Norway) began operations in 1818, which is preserved today as the Design Department of Oslo National College. Much of the curriculum developed years in these schools and several European academies persists in design education today (Meyer, Norman, 2020; Friedman, 2019).

Design is the discipline of shaping and executing a variety of design projects, so quality professional preparation plays an important role. Researchers recommend devoting a significant portion of the curriculum each year to design projects (a common practice in most institutions). Projects can be selected according to the student's specialization. Many projects will be long-term, so students will join a project that is already underway. In the early years of education, students learn not only design skills but also how design teams function, so teaching consistency is as important as teaching leadership, which is often neglected in design project courses. Therefore, at the end of the course, students should be allowed to choose the projects that are most relevant to their major, because simply sending students out to do projects does not produce the desired results. The traditional process of mentoring, guidance, and critique throughout the learning process is important. Projects also need to be selected or improved to encompass concepts, the learning process emphasizes (Meyer, Norman, 2020).

Design in an educational sense becomes a structured basis for new forms of learning. The term "design" in this context is defined as a process: a conception of something that does not yet

exist, which subsequently arranges all the elements necessary to bring that design solution into reality (Yamashita, 2012).

To understand design as a connection between creativity and innovation (Cox 2005), the recent introduction of design and design thinking at all levels of education has been recognized as a method of promoting the professional performance and capacity needed to sustain the transition from a post-industrial economy to a new creative economy based on design knowledge. International analysis of design education highlights the experience of Finland, whose educational program serves as a dynamic example of using design for national innovation and cultural change (Design Commission, 2011).

Significant investments (Macleod et al, 2007) in design research, education, and popularization had a positive impact on the country's global competitiveness and its ranking as an effective education system in 2006 (Ministry of Education and Culture of Finland, 2007). The national cultural policy, Creative Australia, recognizes design thinking as a "potential for innovation" and commits to "provide talent and entrepreneurial initiative to further sustainable business and high-skilled jobs" (Commonwealth of Australia, 2013).

The current challenges and shortcomings around design education in the new learning culture, contribute to encouraging national governments to see the value of design-focused innovation and online design learning platforms in strengthening regional societal sustainability and developing strong economic and social connections (Australian Government, 2012). Education in the XXI century requires a model for understanding a new culture of learning in the face of rapid change, open access data, and geographic diversity (Muntean, 2011). Teachers no longer need to provide the information itself, as students themselves actively play a role in peer collectives, in order to create new design projects. Using digital technology, Design Minds recognizes that interdisciplinary learning helps to engage and empower future professionals to think, implement, and discover new design solutions (Duell et al., 2014).

An analysis of the research on this issue shows that many scholars have paid attention to the problem of studying the processes of applying immersive technologies in the learning process, such as Virtual Reality (VR) (Pellas et al., 2020), Augmented Reality (AR), and Mixed Reality (MR) (MacCallum, 2021). Scholars have paid significant attention to design learning problems with VR (Desurvire, Kreminski, 2018) as well as interface development (Wetzstein, 2016). There is also research on the challenges of learning immersive technologies by future designers. A large number of studies have focused on the integration of immersive engineering technologies (CAD and 3D) in the training of designers: for example, a study by scientists from Poznań University of Technology that focused on the problem of VR in eco-design, in studies by scientists from Novi Sad University and Banjalug University (Grajewski, 2015), Stevens Institute of Technology and Guangdong University of Technology. There are also studies on the use of AR and VR in the educational process of future designers of architects and environmental designers (Milovanovic et al., 2017). Particular attention should be paid to the study of scientists from Nottingham University of Technology "Augmented reality: creating a common context from programmer to designer", which covers quite broadly the problems and interaction of designers and programmers in the process of working with AR technologies, devoted to the internal and external barriers of immersive technologies in design practice (Hoang et al., 2019).

So, the problems of tendencies in design education in the XXI century and the study of obstacles and prospects of providing quality design education are reflected insignificantly in scientific publications in the form of theoretical research and practical studies.

3 Materials and research methods

The implementation of the aim of this research involves the use of research methods such as:

- systematization of the main features of implementation of the proposed model of educational training of designers on the basis of methods of participation and independent learning without teaching others and Industry 3.0 and Industry 4.0;
- systematic and logical analysis, method of information synthesis of the key design competences in the updated bachelor's training curriculum based on the integrated development environment;
- synthesis of the latest scientific publications related to SWOT-analysis of the implementation process of immersive and innovative technologies for professional training of future designers.
- comparison method to distinguish the characteristics of educational programs in institutions of higher education and determine the disciplines for the study of immersive technologies in the preparation of designers.

In order to determine the current characteristics of the tendencies in design education in the XXI century with the use of ICT tools, a survey of students of higher education institutions was conducted using descriptive statistics, the data of which were provided by using MS Forms Pro. The survey was conducted to determine students' perceptions of the ability of modern ICT tools to provide quality professional training for designers. An online survey was conducted from January 10 to June 30, 2021, which collected information from 6,500 students. These participants answered questions about their learning experiences, motivation, expectations, and overall enjoyment of modern ICT tools. The following research questions were addressed in this survey: 1. What are students' perceptions of current tendencies in twenty-first century design education using ICT tools? 2. What are students' perceptions of their ability to absorb information in the context of ICT applications? 3. Are there any shortcomings in the modern tendencies of design education of the XXI century with the use of ICT tools?

4 Results

The fourth industrial revolution (Industry 4.0), which began in the XXI century, was a phase of cyber-physical systems, the Internet of Things, networks, cloud computing, big data, and artificial intelligence. While the problem-based learning process is a vital method of instruction for students characterized as Internet users, it is not appropriate for all students at universities around the world who are defined as significant technology users and makers. Therefore, design education needs to be updated and take into account the progress of technology, society, and students. Thus, the proposed model of educational training for designers is an updated and combined version of participatory and independent learning methods without teaching others and based on Industry 3.0 and Industry 4.0 (see Figure 1).

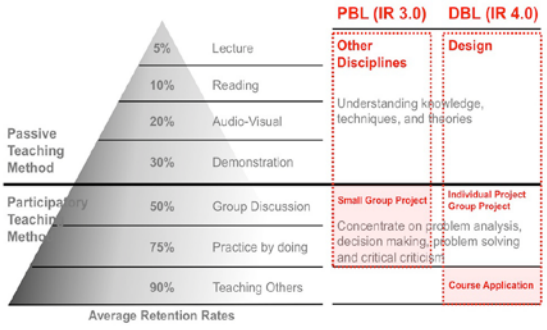

Figure 1 – The model of designers' educational training
Source: Compiled by the authors based on official data of Young Choi (2020).

Table 1, developed in 2020 during the Integrated Design Environment undergraduate program renewal process, presents the current view of the core competencies needed by future designers. These competencies must be available in all design organizations and below in order for organizations to navigate change and make innovative progress. The competencies listed in Table 1 have so far been used to update undergraduate and graduate programs and to shape the growing supply of current design professionals, as well as to achieve higher education and relevant XXI century professional skills.

Table 1: Design competencies in an updated undergraduate curriculum based on an integrated design environment

Competences	Characteristics
Planning and re-planning of possible design challenges	Designers evaluate the current challenge and gain an understanding of the future context in which the challenge is likely to unfold, given the developments they may anticipate.
Re-evaluation and iterative evaluation to approach the correct decision	Complex problems require iteration, repeated divergent research, synthesis and evaluation. It is necessary to open and create a space of opportunities. When developing solutions, designers often have to look for different options in parallel to find out later, which one impresses them, the most. With regard to complex problems, most solutions appear only when the plans are implemented.
Integrate more relevant perspectives into the working order	The recent emergence of human-centered values in industry (design thinking) and in society (the need for goals, security) requires the creation of empathetic designers who can put themselves in the shoes of all those affected and argue, where possible, with the facts. Knowledge and empirical confirmation of their ideas.
Management of the design process and stakeholders	This requires a carefully thought-out design project process that involves stakeholders in its context. This requires critical thinking among designers and the ability to implement and use criticism from others, leading to the skillful implementation and integration of stakeholder intervention in the status quo. This process means working in an interdisciplinary environment and managing the processes of working together and participating with many who may or may not have design skills.
Work and communication at different and several levels of abstraction and in different disciplinary aspects	Designers must be able to work at different levels of abstraction (the process of eliminating details and focusing on a strategic issue) simultaneously and freely move from the abstract to the concrete and between disciplinary perspectives. Communication at all these levels is key and includes a range of skills, ranging from visualizing abstract ideas, to storytelling and role-playing, to modeling and prototyping, to imagine and rehearse a new future in an interdisciplinary setting and with many stakeholders.

Source: Compiled by the authors based on official data of Voute et al., (2020).

Having investigated the tendencies of design education in the XXI century, we analyzed the process and the potential for introduction of digital technologies into the educational process, and the results of the analysis of the available information about the official resources of educational institutions are shown in Table 2.

Table 2: A comparative characteristic of educational programs with the disciplines of immersive technologies

Higher education institution	The theme of the educational program	Immersive technologies		
		VR	AR	MR
The University of Adelaide	Immersive media – virtual reality	as a separate discipline (Core modules) is indicated		
The Asia Pacific University of Technology & Innovation	Multimedia technology with a specialism in VR/AR	as a separate discipline (Core modules) is indicated		
NC State University	Graphic design, industrial design	as a separate discipline (Core modules) is indicated		
Dundalk Institute of Technology	Augmented and Virtual Reality	as a separate discipline (Core modules) is indicated		as a separate topic of the discipline is indicated
Namseoul University	Virtual Reality and Augmented Reality Studies	as a separate discipline (Core modules) is indicated		as a separate discipline (Optional) is indicated
Kingston University	Digital Media Technology	as a separate topic of the discipline is indicated		-
Kharkiv State Academy of Design & Arts	Multimedia Design	as a separate topic of the discipline is indicated		-
New York Institute of Technology	UX/UI design and development	as a separate topic of the discipline is indicated		-
Shenandoah University	Virtual Reality Design	as a separate topic of the discipline is indicated	as a separate discipline (Optional) is indicated	-
Zaporizhzhia National University	Graphic Design	as a separate topic of the discipline is indicated		-
University of Winchester	Digital Media Development: 3D Environments	as a separate discipline (Core modules) is indicated		-
Universitat Politècnica de Catalunya	Computer Graphics and Virtual Reality	as a separate discipline (Core modules) is indicated	as a separate discipline (Optional) is indicated	as a separate topic of the discipline is indicated
Swinburne University of Technology	Design, Multimedia Design	as a separate discipline (Core modules) is indicated	as a separate topic of the discipline is indicated	-

Source: Compiled by the authors based on official data of Chemerys et al., (2021).

The results of the study revealed that the vast majority of educational programs do not include information technology as a separate discipline, but implement specific topics in professional disciplines or have specific disciplines for students to choose

from. Among the disciplines and special modules for studying immersive technologies at the surveyed universities the most extensive are: Access to VR/AR, multimedia programs, modeling, visualization and virtual reality, cognitive experience of working with technologies of virtual, expanded and mixed reality (VR, AR, MR), multimedia, 3D modeling of objects and environments, digital art and technology, etc.

Most of them stated that tendencies in design education positively influence the provision of professional training of designers with ICT equipment (86.1%), a minority (10. 3%) were not satisfied with the quality of professional ICT training of designers, and a small part of the students said that the current tendencies in design education contain certain drawbacks (3.6%) (see Fig. 2).

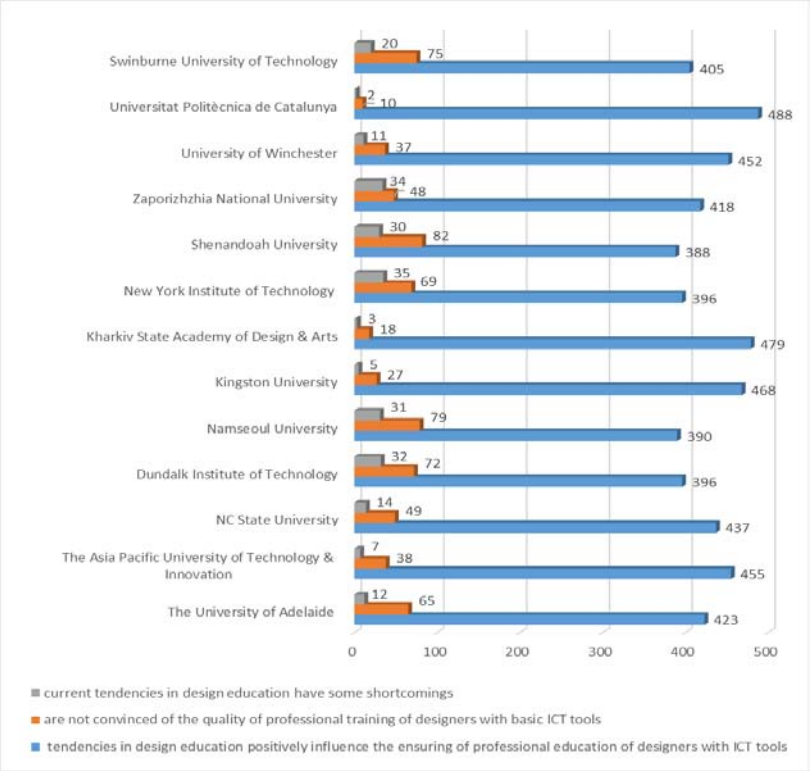

Figure 2 – The assessment of design education tendencies in the XXI century

To analyze design education tendencies in the XXI century SWOT-analysis was conducted, the results of which enabled us to identify the hierarchy and positioning of opportunities and threats to the implementation of intensive and innovative technologies in the process of professional training of future designers (see Table 3).

Table 3: SWOT-analysis of the process of implementation of immersive and innovative technologies for professional training of the future designers

Strengths (S)	Weaknesses (W)
- high level of scientific and pedagogical staff involved in the teaching of immersive and innovative technologies; - increasing the level of motivation and productivity of students' learning activities by focusing developments in the attractiveness and image of immersive and innovative technologies; - demand for skills in the development of immersive and innovative technologies; - strengthening the position of the future designer in the labor market, in particular the global; - high price of reward for the project in which immersive and innovative technologies were applied.	- the high cost of equipment for educational institutions to develop and test the development of immersive and innovative technologies; - loss of motivation among students due to the complexity and the large amount of time spent on the process of learning a software product based on immersive and innovative technologies; - the niche of development of immersive and innovative technologies contribute to the emergence of a small number of projects with high value.
Threats (T)	Opportunities (O)
- low interest of teachers in mastering new immersive and innovative technologies; - shifting attention from creative solutions to technical skills; - insufficient level of formation of multimedia competence, necessary for the successful development of the future designer as a professional.	- opportunities for academic and professional mobility; - opportunities to adapt to the current changing realities of the design market; - advanced training, including in design development through immersive and innovative technologies.

Source: Compiled by the authors based on official data of Chemerys et al., (2021).

5 Discussion

The results of the study of tendencies in design education in the XXI century led to the following conclusions. In the modern world, design education is changing to holistic harmonious personality, fluent in logical and creative thinking (Alekseeva et al., 2017). Now education around the world is undergoing a process of profound modernization, primarily due to the

tendencies and policies of using information and communication technology tools in the preparation, delivery of classes and assessment of knowledge. The use of immersive and innovative technologies should encourage and provide intellectual pleasure to students from a well-done design project (Sîrghi, Sîrghi, 2020).

Improvements in information technology focus on solving more intelligent, scientific problems (Smith & Koppel, 2014). Data visualization, image processing, and virtual environment creation allow the future designer to achieve holistic and innovative approaches to solving complex problems. Today, immersive and innovative technologies are formed as learning materials, which are a small piece of information that is presented in a certain logical sequence, which contributes to the formation of students' intellectual, creative and communicative skills. It should be noted that the use of ICT jointly with the use of other educational technologies, but they complement each other without denying it.

The tendencies in design education in the XXI century contribute to the improvement of the learning process with the help of immersive and innovative technologies is explained primarily by the fact that the use of new information technology in the learning process led to the expected increase in learning efficiency (Muntean, 2011). Therefore, according to many researchers, a radical solution to the problem of increasing the effectiveness of education is to expand the technical capabilities of modern information technology.

The organization of design education using modern information and communication technologies in education serves to enhance students' creative thinking, independent decision-making and teamwork skills by organizing practical and laboratory classes in special subjects. Obviously, the introduction of ICT in design education will be the basis for improving the effectiveness of education in the preparation of designers (Alekhanovich, Abdurakhimovna, 2020).

Therefore, the tendencies in design education in the XXI century based on ICT application will face new challenges, in accordance with the changes in innovative and globalization requirements for the professional competence of future designers, and in-depth research, which will lead to increased attention to improving knowledge in the field of ICT in the professional training of specialists.

6 Conclusion

As a result of the analysis of tendencies in design education in the XXI century, it was found that the use of immersive and innovative technologies in different educational institutions occurs differently. Many problems require special methodology and research methods. In this regard, it is useful to use and integrate the experience of other educational institutions.

The ever-growing influence of technology provides a destabilizing influence on traditional models of education. It is becoming recognized worldwide that a shift toward a "new culture of learning" is necessary to function successfully within the paradigms of the twenty-first century. Design, the process of creatively and rationally exploring complex challenges, provides an ideal framework for facilitating this cultural shift.

The general trend of the virtual and augmented reality marketplace as innovative means of communication has led to a reorganization of the training content for future designers as professionals with professional visualization skills. Increased profits from the use of these technologies, attracting maximum attention, novelty in use, prospects and opportunities in the field of design is only a part of all possible positive effects from the use of augmented and virtual reality in the professional sphere of future designers.

The practical significance of the conducted research lies in the fact that the conclusions and recommendations developed by the author and proposed in the article can be used for the selection of immersive tools and innovative technologies to provide design education, which will allow the implementation of quality professional training.

Further research can be aimed at improving and developing research methods of practical principles of introducing immersive and innovative technologies in the professional training of future designers and the study of the effectiveness of their implementation, corresponding to each level of the higher education system in the training of specialists in the field of design. This will make it possible to determine and adjust not only basic, but also special subject competencies in specific disciplines and correctly build the training process of future designers. Only after that, it is important to determine whether the content of education, its function in the formation of quality professional training, the effectiveness of its types, methods, forms and means in design education. Increased opportunities and wide application of immersive and innovative technologies in the process of professional training of future designers can become the basis of the educational process in higher education institutions for future periods.

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Primary Paper Section: A

Secondary Paper Section: AM

PROFESSIONAL COMPETENCIES OF PRIMARY SCHOOL TEACHERS: LIFE-LONG LEARNING

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Abstract: To improve pedagogical and professional competencies, teachers, especially elementary school teachers, must constantly improve the level of their knowledge, skills and abilities, as it is necessary to increase the level of students' acquisition of new knowledge and achieve a high level of educational success. The aim of the article is to reveal the influence of pedagogical and professional competences, which primary school teachers improve during the life cycle, on the level of academic success of primary school students in Poland and Czech Republic. It was found that teaching and professional competence, the level of which teachers of primary schools improve throughout life significantly affect the level of educational success of primary school students.

Keywords: Level of Pedagogical and Professional Competencies Development, Level of Academic Success of Students, Level of Professional Training, Correlation Analysis, Questionnaire.

1 Introduction

An important condition for raising the level of pedagogical and professional competencies of teachers is their lifelong learning. Practice shows that teachers who regularly participate in various trainings, professional development courses, webinars, conferences, including international ones, and round tables, as well as sharing their experience with other teachers and trainees at other educational institutions, including abroad, to improve their knowledge, skills, and practical skills in teaching students. Teachers' participation in the above-mentioned educational and practical activities has a positive impact on shaping and enhancing the level of professional qualification of teachers as well as raising the level of their teaching and professional competence.

Equally important is the participation of primary school teachers in such training events. As a result of successfully completing each of these activities, elementary school teachers develop not only new knowledge but also professional and pedagogical competencies, This allows them to use new approaches as well as integrate new approaches with traditional ones in teaching primary school students. After all, as a rule, at this age pupils form a personal understanding of the educational material, based on which the interest in mastering new knowledge in the further educational activity is formed.

2 Literature review

Garzon Artacho et al. (2020) investigate the peculiarities of lifelong learning of school teachers. In the opinion of the researchers, teachers have to acquire new knowledge in the course of their training, and considering the fact that in today's conditions the educational process is based on the use of modern ICT, they, apart from other professional competences, have to form and constantly improve their digital competence. Cropley et al. (2014) have also stressed the importance of lifelong learning for teachers. Scientists point out that teacher should receive such training in accordance with specially developed curricula for specific qualification categories of teachers. Uzunboylu et al. (2016) in the course of their study of the peculiarities of lifelong learning of educators have developed a special scale of competence for lifelong learning of educators. Goad (2017) states that lifelong learning for educators must be carried out in accordance with specially established criteria for each stage of such training. Tovkanets (2018) also examines the key features of teacher training throughout life and argues that it should be done for increasing the level of professional training.

Oates (2019) argues that lifelong learning for educators should be autonomous and self-regulated in order to develop and raise the level of professional competence. Yaro (2019) argues that teacher training must be carried out throughout life because globalization processes require the development and improvement of the skills of teachers of all age categories.

Thanks to continuous training, teachers, in the opinion of the scientist, can better open the potential of each of the students. Sysko, N. (2018) states that lifelong learning, which teachers must undergo, influences the increase in the level of their qualification, professionalism and ability to efficiently and effectively teach students. Ishii K. (2017) points out that teacher training must be active on the part of teachers throughout their lives and must be continuous, because teachers need to constantly improve their knowledge. Ayvaz-Tuncel et al. (2018) state that in the course of pedagogical activity educators must constantly improve their professional qualification level, update their personal knowledge, Develop practical skills and competencies from various academic disciplines that are necessary for students to learn the educational material in a form that is accessible to them.

Garces-Bacsal et al. (2018), studying the peculiarities of lifelong learning of teachers, argue for the importance of forming in them such a risk as motivating students to read. Roshanghias et al. (2020) argue that a lifelong approach to teacher education should be established in the undergraduate program of institutions of higher education, when students, as future teachers, are only acquiring the profession of educator. Ukpong (2018) states that a special role in ensuring lifelong learning of educators is played by educational programs for students training to become educators. Solmaz (2017) identifies the strength of the relationship between the lifelong learning levels of educators and their information literacy skills. Currently, Demirel et al. (2017) investigate the relationship between the main tendencies of students, as future educators, to learn throughout their lives in order to improve their professional competence and the efficiency of their information literacy. Souto-Seijo et al. (2019) argue that technology resources play an important role in the lifelong learning context of educators. The use of modern ICT in the teaching process allows teachers to learn knowledge more effectively and to be more responsive to students' learning needs. Kovalchuck et al. (2017) emphasized the importance of using e-coaching and e-mentoring tools in the context of continuous training of educators after they have received teacher education at institutions of higher education.

Navidinia (2021), examining the peculiarities of teacher training throughout life, argues that such teacher training should take place without disconnecting from the core teaching activity. Moreover, the researcher asserts that such training will help educators develop their personal pedagogical practice. Noel (2009) also argues that lifelong educator training should not be disconnected from the mainstream teaching activity. Ye et al. (2021) examine the educator who is trained throughout his or her life as a student.

Moreover, the lifelong learning of the educator, in the opinion of the researchers, should take place under the supervision of supervisors, under the supervision of supervisors without the supervision of supervisors in this kind of educational training. Kuzairi (2019) argues that the lifelong learning process for educators should include a procedure for continually evaluating

their learning accomplishments in terms of new knowledge, skills, and abilities.

Considering the above-mentioned general aspects of lifelong learning for teachers to improve their pedagogical and professional competence, we must note that this problematic is not fully covered; in particular, the life-long training of elementary school teachers to improve their pedagogical and professional competencies from a practical approach is insufficiently disclosed.

The aim of this article is to identify the impact of pedagogical and professional competencies that primary school teachers develop during their lifetime on the level of educational success of primary school students in Poland and the Czech Republic.

2.1 Research tasks

In order to reach the goal of this article, we will assess the teachers who work in the Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza (*Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza, 2021*) (Poland), Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego (*Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, 2021*) (Poland), Základní škola a Mateřská škola Újezd (*Základní škola a Mateřská škola Újezd, 2021*) (Czech Republic) and in Základní škola a mateřská škola Plesná (*Základní škola a mateřská škola Plesná, 2021*) (Czech Republic) to reveal their views on the role of lifelong learning in the development of their educational and professional competencies.

Moreover, in order to identify the impact of pedagogical and professional competencies that primary school teachers improve throughout life on the educational success of primary school students in Poland and the Czech Republic, we need information from the heads of Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza (Poland), Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego (Poland), Základní škola a Mateřská škola Újezd (Czech Republic) and in Základní škola a mateřská škola Plesná (Czech Republic) about the level of development of pedagogical and professional competencies of teachers for the results of their life-long learning programs about the level of educational success of students taught by such teachers. To this end, supervisors of Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza (Poland), Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego (Poland), Základní škola a Mateřská škola Újezd (Czech Republic) and in Základní škola a mateřská škola Plesná (Czech Republic) sent a request for such information by an e-mail.

3 Materials and research methods

In the course of achieving the aim of the research, the following methods were used: 1) methods of theoretical analysis, synthesis, abstraction, systematization, induction and deduction – to reveal theoretical aspects of the development of pedagogical and professional competence of primary school teachers in the course of their training throughout life; 2) methods of monitoring, measuring, comparing, questionnaire, description and summarizing – to identify the impact of teaching and professional competences, which level of primary school teachers improve during life, on the level of primary school students' educational success on the example of Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, Základní škola a Mateřská škola Újezd and inZákladní škola a mateřská škola Plesná.

The information base of the study is based on the data received based on the questionnaire, as well as on the data received from the supervisors of Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, Základní škola a Mateřská škola Újezd and in Základní škola a mateřská škola Plesná.

4 Results

For information about the role of lifelong learning in the development of pedagogical and professional competencies. Grzegorza Piramowicza, Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, Zakladní škola a Mateřská Újezd and Zakladní škola a mateřská škola Plesná have been asked to fill in our specially designed questionnaire (Appendix 1).

Twelve teachers from the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 17 teachers from the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 7 teachers from the Zakłady School and Mateřská Újezd School and 11 teachers from the Zakłady School and Mateřská škola Plesná.

The results of the survey showed that 95% of the teachers of the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 86% of the educators from Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 94% of the educators in the Zakłady School and Mateřská Újezd and 91% of the educators in the Zakłady School and Mateřská School Plesná are willing to undertake life-long learning to improve their teaching and professional competencies (Fig. 1).

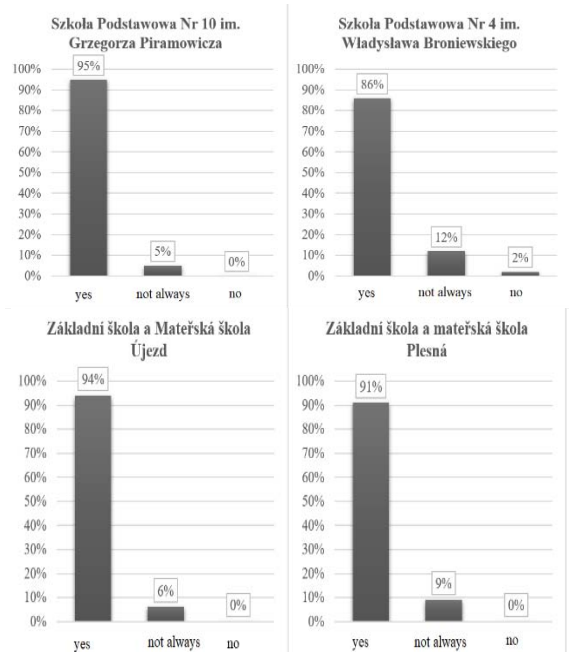

Figure 1 – Teachers' responses to whether they are in favor of life-long learning to improve their pedagogical and professional competencies

When asked how often teachers develop their pedagogical and professional competencies through life-long learning, 89% of the respondents from Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 75% of the educators of the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 93% of the educators in the Zakłady School and Mateřská Újezd and 88% of the educators in the Zakłady School and Mateřská School Plesná reported a month of development of their teaching and professional competencies. Currently, 11% of the interviewed teachers at Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 25% of the educators of the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 7% of the educators in the Zakłady School and Mateřská School Újezd and 12% of the educators in the Zakłady School and Mateřská School Plesná stated that they develop their teaching and professional competencies several times a month.

As for what teachers use to develop their teaching and professional competencies, all teachers of the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, Szkoła

Podstawowa Nr. 4 im. Władysława Broniewskiego, Základní škola a Mateřská Újezd and Základní škola a mateřská škola Plesná stated that they do this through participation in trainings, webinars, round tables, internships at other primary education institutions, internships at foreign primary education institutions, conferences (international conferences), exchange of experience with other educators, consultations with experienced specialists, courses to improve qualification.

When asked about the increase in pedagogical and professional competence after each stage of life-long learning, 78% of the teachers surveyed at the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 69% of the educators of the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 85% of the educators in the Základní škola a Mateřská Újezd and 87% of the educators in the Základní škola a mateřská škola Plesná reported an increase in teaching and professional competencies after each stage of the life-long learning process. Currently, 22% of the educators of the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 31% of the educators at the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 15% of the educators in the Základní škola a Mateřská Újezd and 13% of the educators in the Základní škola a mateřská škola Plesná said that pedagogical and professional competencies do not always improve after each stage of life-long learning.

When asked whether teachers acquire new knowledge, skills and practical abilities after each stage of life-long learning, all teachers of the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, Zakładna Szkola a Mateřská Szkola Újezd and Zakładna Szkola.

When asked what approaches teachers use to engage students in the educational process, 75% of the respondents from the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 81% of the educators of the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 84% of the educators in the Základní škola a Mateřská Újezd and 81% of the educators in the Základní škola a mateřská škola Plesná indicated that they use traditional, interactive, and innovative approaches to engage students in the educational process (Fig. 2).

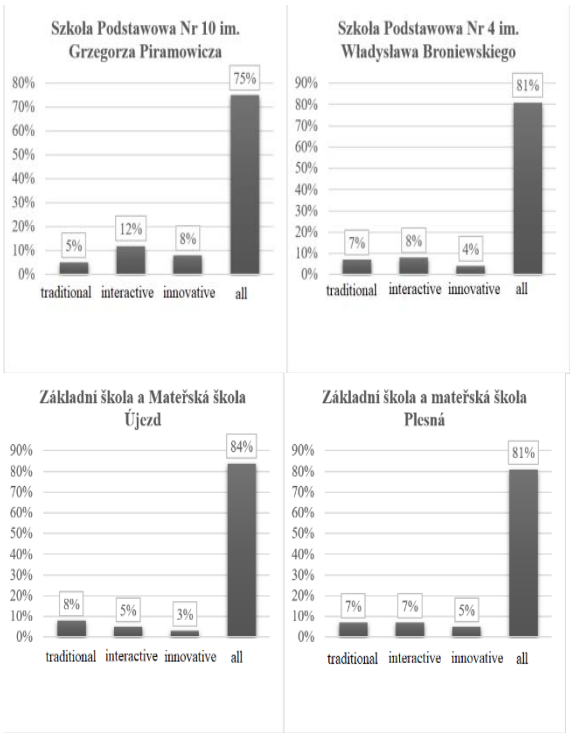

Figure 2 – Teachers' responses to what approaches they use to engage students in the educational process

All teachers of the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, Základní škola a Mateřská Újezd and Základní škola a mateřská škola Plesná.

As to whether teachers use modern ICTs to teach primary school students, all teachers at the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, Základní škola a Mateřská Újezd and Základní škola a mateřská škola Plesná have all acknowledged the use of modern ICT for teaching primary school students.

The exchange of experience with colleagues on how best to develop pedagogical and professional competencies was mentioned by 82% of the teachers of Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 87% of the teachers at the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 83% of educators educated in Zakładna Szkola a Mateřská Újezd and 89% of educators educated in Zakładna Szkola a Mateřská Szkola Plesná (Fig. 3).

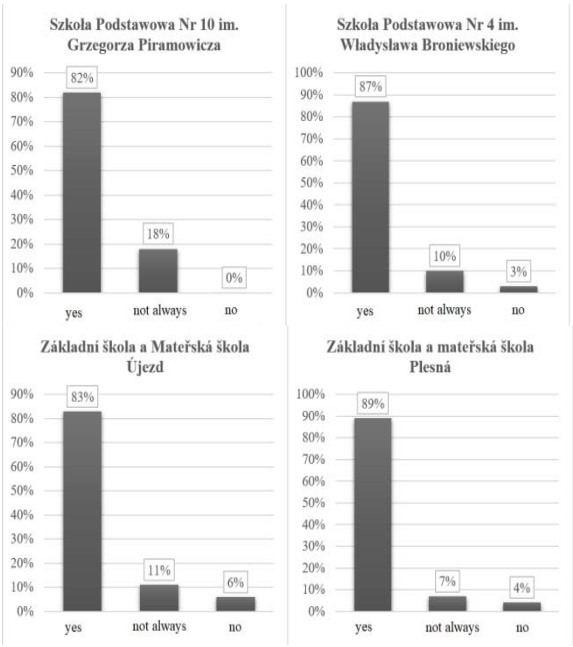

Figure 3 – Teachers' responses as to whether they share their experience with colleagues on how best to develop pedagogical and professional competencies.

The importance of developing information and digital competence in today's teachers, and the fact that teachers will develop such competence was mentioned by 88% of the teachers of the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, 91% of the educators at the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 98% of educators educated at Zakładna Szkola a Mateřská Újezd and 95% of educators educated at Zakładna Szkola a Mateřská Szkola Plesná (Figure 4).

Eighty-nine percent of the teachers surveyed at the Szkoła Podstawowa Nr. 10, Grzegorza Piramicowicz Piramicowa, and the majority of those surveyed said they considered themselves to be excellent, knowledgeable, highly qualified and competent teachers with a high level of competence for the performance of their educational activities. Grzegorza Piramowicza, 85% of the educators of the Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, 93% of educators educated at Základní škola a Mateřská Újezd and 91% of educators educated at Základní škola a mateřská škola Plesná (Fig. 4).

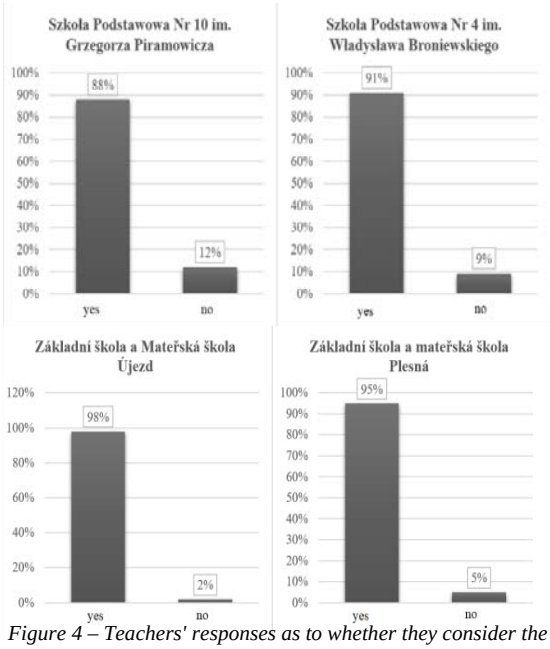

Figure 4 – Teachers' responses as to whether they consider the importance of developing information and digital competence in today's teachers.

Interpreting the data received from the heads of the Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, Zakladní škola a Mateřská Újezd and at Zakladní škola a mateřská škola Plesná, The level of development of pedagogical and professional competencies of teachers as a result of their life-long teaching program is presented on the scale from "0" to "10" (Table 1, Table 2).

Table 1: Level of Development of Pedagogical and Professional Competences of Teachers because of their Lifelong Learning Programs

Primary school	2015	2016	2017	2018	2019	2020
Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza	6,5	6,8	6,7	6,9	7,2	7,1
Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego	7,5	7,4	7,8	8,1	8,2	8,1
Základní škola a Mateřská škola Újezd	7,9	8,2	8,4	8,1	8,3	8,5
Základní škola a mateřská škola Plesná	8,1	8,4	8,2	8,4	8,5	8,7

Source: systematized by the authors based on information obtained from the supervisors Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza (Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza, 2021), Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego (Szkoła Podstawowa Nr 4 im., 2021), Základní škola a Mateřská škola Újezd (Základní škola a Mateřská škola Újezd, 2021) and Základní škola a mateřská škola Plesná (Základní škola a mateřská škola Plesná, 2021).

To identify the influence of pedagogical and professional competencies, the level of which teachers of the Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, Zakladní škola a Mateřská Újezd and Zakladní škola a mateřská škola Plesná to improve the quality of life, the level of academic success of the students, we will conduct a correlation analysis between the change in the level of development of pedagogical and professional competencies of teachers by the results of their life-long learning programs and the change in the level of learning success of the students taught by these teachers. According to the results of the calculation, we obtained the appropriate values of the coefficient of correlation.

The assessment of the intensity of the interconnection between the analyzed variables was made based on the Cheddock scale (Table 3).

Table 2: Level of learning success of students taught by teachers who are in life-long learning programs

Primary school	2015	2016	2017	2018	2019	2020
Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza	5,1	5,4	5,4	5,8	6,1	6,0
Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego	5,2	4,9	5,8	5,4	5,9	6,1
Základní škola a Mateřská škola Újezd	6,4	6,5	6,1	6,5	6,6	6,5
Základní škola a mateřská škola Plesná	7,8	7,9	7,7	7,9	8,1	8,4

Source: systematized by the authors based on information obtained from the supervisors Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza (Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza, 2021), Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego (Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, 2021), Základní škola a Mateřská škola Újezd (Základní škola a Mateřská škola Újezd, 2021) and Základní škola a mateřská škola Plesná (Základní škola a mateřská škola Plesná, 2021)

Table 3: Results of correlation analysis

Primary school	Correlation coefficient	Correlation	Interconnectivity
Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza	0,978233	direct	very high
Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego	0,802453	direct	high
Základní škola a Mateřská škola Újezd	-0,14098	turned	weak
Základní škola a mateřská škola Plesná	0,922194	direct	very high

Analyzing the value of the correlation coefficient, it was found that the correlation between the level of development of pedagogical and professional competences of teachers for the results of their life-long learning programs and the level of learning success of the students. The level of success of the students taught by these teachers is very high at the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza and Základní škola a mateřská škola Plesná. Thus, the variation in the level of development of pedagogical and professional competencies of teachers based on the results of their life-long educational programs leads to an increase in the level of educational success of students who are taught by such teachers at the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza and Základní škola a mateřská škola Plesná were 97.82% and 92.21%, respectively. The Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, the correlation between the level of development of teachers' pedagogical and professional competencies because of their completion of life-long learning programs and the level of learning success of the students taught by these teachers is

high. However, the variation in the level of development of teachers' pedagogical and professional competencies because of their life-long teaching programs leads to an increase of 80.24% in the level of teaching success of the students taught by such teachers in this primary education institution. As for the Základní škola and Mateřská škola Újezd, the difference between the analyzed variables is reversed, because the variation in the level of development of pedagogical and professional competencies of teachers as a result of their completion of life-long educational programs leads to a 14.09% decrease in the level of educational success of the students taught by these teachers in this primary education institution.

5 Discussion

As a result of the research the aim was revealed that pedagogical and professional competences level of which primary school teachers improve during life significantly affect the level of educational success of primary school students.

It has been noted that the problem of enhancing pedagogical and professional competence of teachers is particularly relevant in the research of many scientists and scholars. Garzon Artacho et al. (2020), Cropley et al. (2014), Tovkanets (2018), Oates (2019), Sysko, N. (2018), Ishii K. (2017), Ayvaz-Tuncel et al. (2018) argue that in the course of lifelong learning, teachers have to develop new knowledge, skills, and practical skills to increase the level of professional training, the level of qualification.

It is also worth considering the findings of Garces-Bacsal et al. (2018), Roshanghias et al. (2020), Ukpong (2018), Souto-Seijo et al. (2019), Navidinia (2021) about: life-long learning for educators influences their formation of such a risk as motivating students to read; life-long learning for educators is supported by educational training programs for students, educating the faculties of educators; technology resources play an important role in life-long teacher training, and teacher training should be carried out without disconnecting from the core teaching activity.

We have identified the impact of pedagogical and professional competencies, the level of which primary school teachers improve throughout life, correlation analysis between changes in teacher and professional competencies development level of teachers as a result of their life-long learning programs and changes in the level of educational success of students was

proposed, The teaching of these teachers is based on the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr. 4 im. Władysława Broniewskiego, Základní

škola a Mateřská Újezd and Základní škola a mateřská škola Plesná. The results of the correlation analysis allow us to note a direct and very high correlation between the analyzed variables in Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza and Základní škola a mateřská škola Plesná.

With regard to the position of teachers on the role of lifelong learning in the development of their teaching and professional competencies, the results of the survey of teachers of Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, Szkoła Podstawowa Nr 4 im. Władysława Broniewskiego, Základní škola a Mateřská Újezd and Základní škola a mateřská škola Plesná, carried out by questionnaire; indicate that life-long learning plays a very important role in:

1) improvement of pedagogical and professional competencies of teachers;
2) teachers' attainment of new knowledge and skills and practical skills after each stage of lifelong learning;
3) improvement of students' success by having teachers continually receive training throughout their lives;
4) solving conflicts between students.

6 Conclusion

It was found that the pedagogical and professional competencies that primary school teachers improve throughout life have a significant impact on the level of educational success of primary school students. This is confirmed by the results of the correlation analysis conducted based on data from Szkoła Podstawowa Nr 10 im. Grzegorza Piramowicza and Základní škola a mateřská škola Plesná, according to which there is a very high direct correlation between the change in the level of development of pedagogical and professional competence of teachers based on the results of their life-long teaching programs and the change in the level of teaching success of the students taught by these teachers, since the variation in the level of development of pedagogical and professional competencies of teachers based on the results of their life-long learning programs leads to an increase in the level of learning success of the students taught by these teachers at the Szkoła Podstawowa Nr. 10 im. Grzegorza Piramowicza, the Základní škola a mateřská škola Plesná at 97.82% and 92.21% respectively.

Based on the results of the questionnaire survey the position of teachers was determined that the role of teacher training during life is crucial in the development of their pedagogical and professional competencies.

The practical value of the obtained results of the correlation analysis and testing information indicates that this approach to identifying the impact of pedagogical and professional competences, the level of which primary school teachers improve during life, on the level of educational success of primary school students is universal because it can be used to identify the impact of pedagogical and professional competences, the level of which secondary school teachers improve during life, on the level of educational success of secondary school students.

In the future, it is planned to find out the influence of pedagogical and professional competences, the level of which secondary school teachers improve during their life, on the level of academic success of secondary school students on the application of other countries of the European Union.

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Primary Paper Section: A

Secondary Paper Section: AM

Annex 1

QUESTIONNAIRE

The purpose of the questionnaire is to find out your position on the role of lifelong learning in the development of your teaching and professional competencies.

1. Do you agree with the idea of life-long learning to improve your pedagogical and professional competencies?
a) Yes;
b) Not at all;
c) No;
2. How often do you develop your educational and professional competencies via lifelong learning?
a) Every day;
b) Once a day;
c) Several times a day;
d) Monthly;
e) Once a month;
f) Once a quarter;
g) Once a quarter;
h) Once per twenty-four hours;
i) Once a quarter;
j) Once per year;
k) A couple of times per year;
l) I do not develop my pedagogical and professional competence.
3. 3. What do you use to develop your teaching and professional competence?
a) Trainings;
b) Webinars;
c) Round tables;
d) Internships at other institutions of primary education;
e) Internships at institutions of primary education abroad;
f) Participation in conferences (international conferences);
g) Exchange of experience with other educators
h) Consultations with experienced specialists;
i) Professional development courses;
j) All the above.
4. Do you think your educational and professional competence grows during your lifetime after each stage of training?
a) Yes;
b) No;
c) I cannot give a clear answer to this question.
5. Do you acquire new knowledge, skills, and practical abilities after each stage of life-long learning?
a) Yes;
b) Not always;
c) Not at all;
d) I cannot give a clear answer to this question.
6. Do you consider yourself a good, experienced, highly qualified, and competent teacher with a high level of competence for pedagogical activity?
a) Yes;
b) No.
7. In your opinion, does the success of your students improve due to your lifetime educational experiences?
a) Yes;
b) Not always;
c) Not at all;
d) I cannot give a clear answer to this question.
8. What approaches do you use to involve your students in the educational process?
a) Traditional;
b) Interactive;
c) Innovative;
d) All of the above.
9. Are you able to use modern ICT confidently?
a) Yes, I do;
b) Not at all skillfully;
c) Not able to.

10. Do you use modern ICT for teaching elementary school students?
a) Yes;
b) Not always;
c) No.
11. Do you share your experience with colleagues on how to develop pedagogical and professional competencies?
a) Yes, I do;
b) Not always;
c) No.
12. Do you know how to solve conflicts between your students in a positive way?
a) Yes;
b) Not always;
c) No.
13. Considering the importance of developing digital competence in today's teachers, how will you develop this competence?
a) Yes;
b) No.

EUROPEAN SOCIAL STANDARDS OF HUMAN RIGHTS

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Abstract: European social standards are considered as a standard of social security for human rights. The results demonstrate three main stages in the development of the model of social investment in the EU: 1) after 1945 – the beginning of the introduction of the paradigm in connection with the need to ensure employment growth; 2) after 1970 – a new stage in the implementation of the paradigm of social investment in connection with the crisis of previous models, moving away from passive transfers to maximizing employment and employment with different national differences and specific regimes; 3) after the 1990s due to demographic changes, economic changes, structured unemployment and long-term problems of ensuring economic stability; 4) after the crisis of 2008, a new paradigm of social security of human rights was formed, adapted to the needs of the monetary union.

Keywords: social standards, social security, human rights, social benefits, social investment.

1 Introduction

Many countries around the world follow European social standards. The European Social Charter and the European Social Security Code are the main international regulations governing social security of human rights. EU social security policy is being transformed due to the high burden on member states' budgets since the 2008 crisis. In particular, structural reforms of social policy (transition to economic governance and departure from the open method of policy coordination), which led to a negative impact on the social model of Europe (Hermann, 2017). The President of the European Central Bank M. Draghi argues for the departure from the European social model and emphasizes the need for structural reform as a prerequisite for the resumption of economic growth in the EU. In practice, the new regulated social standards do not solve the problems of those sections of the population in need of social protection.

This is evidenced by the growth of poverty and inequality in crisis situations. In addition, protection of citizens from social risks is characterized by duality due to different socio-demographic characteristics of beneficiaries. The tendency of the population to support the policy of populism, which inevitably leads to increasing inequality and additional costs, strengthens the duality of social security. The policy of populism, on the one hand, strengthens the link between social and political inequality within the EU, and on the other hand, forms public confidence in institutions and the opportunity to participate in addressing social issues, expressing their needs (Dotti Sani & Magistro, 2016).

The purpose of the article is to identify the features of social security of human rights based on social standards of the EU. In accordance with the purpose of the main objectives of the article are:

- To analyze the historical development of the paradigm of social investment in Europe and the reasons for its transformation.
- Assess the state of social security in Europe (structure and dynamics of social benefits) depending on the level of economic well-being of EU countries.

2 Literature review

European social standards as an element of international standards reflect the practice and experience of European member states in the field of social security (protection). European social standards in the field of social protection should be considered as a social minimum defined by international legal acts and mandatory for member countries, as it provides the opportunity for disabled people to exercise their rights and freedoms in full. Thus, social standards determine the level of social security of human rights.

European social protection systems were mainly developed at the end of World War II because of the need for countries to encourage the return of male employment. In the EU's social security systems, there were mechanisms through which a man's social contributions protected his wife and children. According to Palier (2006), the social models of European countries formed after 1945 can be divided into the following five types: "British, Nordic, Continental, Mediterranean, and Eastern". However, since the early 1970s, these models have been in crisis and in need of reform. Since the 1970s, the EU has been implementing social investment strategies that have shifted from passive transfers to maximizing employment and employment with different national differences and specific regimes (Van Kersbergen & Hemerijck, 2012). Such models of social protection have led to modifications of social benefits and derivative rights that still exist in current social protection systems and have never been questioned (Jepsen & Meulders, 2017).

EU cranes have undergone long-term reforms of social protection and policy since the 1990s in the face of demographic change (Europe's aging population), economic change (market globalization and increased competition), structured unemployment and the long-term challenges of economic sustainability. Since the 1990s, the EU has gradually introduced a new paradigm of social investment "as a distinctive welfare policy paradigm" in connection with changes in the labor market, the need to improve the quality of human capital, the need to form a social protection system based on minimum benefits (Hemerijck, 2015). After the financial crisis of 2008 and the introduction of fiscal consolidation packages to reduce the level of debt in European countries, the elements of the social model have changed pensions, social protection, workers' rights, and quality of work, working conditions, social protection and dialogue.

The changes have been relatively rapid, as EU countries have introduced a previous model of social protection since the Treaty of Rome in 1956 (Vaughan-Whitehead, 2015). Because of changes in the EU, a new paradigm of social security of human rights has been formed, adapted to the needs of the monetary union. The EU's social security policy paradigm involves the integration of social investment and social entrepreneurship concepts. This paradigm involves the involvement of enterprises in social investment in order to direct public funding to education, employment, job support, wage supplements, childcare payments (Jenson, 2017). At the same time, the literature notes the ambiguous and unexpected negative impact of social investment policy on economic growth and the level of opportunity on the example of Italy, due to the lack of important structural prerequisites (Kazepov & Ranci, 2017).

Social investment has recently attracted a lot of attention from politicians and scientists in welfare states. Garritzmann, Busemeyer & Neimanns, 2018) based on the study of public opinion on social investment in comparison with other social security policies distinguish the following models of social policy of the welfare state: social investment, passive transfers and social security policy. Social investment is the most popular policy. Passive transfer policy is most popular among the low-income population and those who are inclined to social values

and the population with left-wing economic views. Social investment policy is supported by a broad coalition of people with higher education and left-liberal economic views. Social security policy is most popular among high-income people who adhere to conservative and traditional authoritarian values (Garritzmann, Busemeyer & Neimanns, 2018). Social protection policy provides benefits only for protected labor sectors. This means that the structure of the labor market determines the relationship between socio-economic characteristics of the population and their views on the general welfare of the country (Fernández-Albertos & Manzano, 2016). Economic insecurity of the population leads to the support of populist parties and an increase in the level of social benefits. At the same time, economic insecurity is transforming the labor force and labor market in post-industrial economies (Inglehart & Norris, 2016). However, the scientific literature argues that there is a need for a clear concept of social protection in Europe based on the paradigm of social union, like monetary, monetary unions within the EU. The need for a new concept is due to two factors. The first factor is the use of supranational instruments of stabilization through monetary integration to share risks and "reduce responsibility". This limits the use of different social models in European countries, as it necessitates their adaptation to the legal requirements of a monetary union. This means that monetary integration takes precedence over social integration, which causes a constitutional imbalance between the "market" (economy) and the "social" in the EU legal order (Garben, 2018). The second factor is the EU's need to reconcile the free movement of people and internal social cohesion. In practice, it is advisable to review the division of labor, which provides for supranational economic policy and national social policy (Vandenbroucke, 2016), as today there is a displacement of national legislation and economic management of social security (Garben, 2018). National social policies and standards are needed to take into account the level of economic insecurity of the population in different European countries and to choose the model of social policy of the welfare state: social investment, passive transfers and social security policy.

3 Materials and research methods

The study is based on the concept of social investment to identify changes in the structure of social security in the EU. The research used a statistical analysis of indicators of development of social security models of the EU-27 according to Eurostat for 2010-2018. To analyze the structure of social benefits, the dynamics of payments by functions was studied: disability (disability pension; early retirement benefit due to reduced capacity to work); old age (old-age pension; anticipated old-age pension; partial pension); survivors (Survivor's pension); unemployment (early retirement benefit due to labor market reasons).

4 Results

The model of social protection of the EU countries provides for the implementation of social benefits for the following functions: disability (disability pension; early retirement benefit due to reduced capacity to work); old age (old-age pension; anticipated old-age pension; partial pension); survivors (Survivor's pension); unemployment (early retirement benefit due to labor market reasons). EU-27 spending on social protection averages € 8,154.88 per capita, varying significantly across countries (Figure 1).

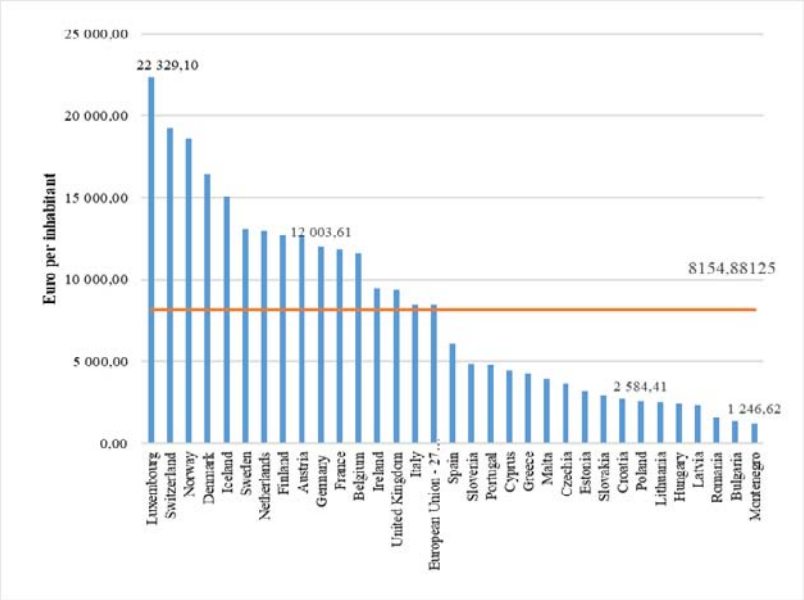

Figure 1 – Social protection expenditure in EU-27, euro per inhabitant 2018
Source: Eurostat (2021a).

Social benefits depend on the level of GDP per capita and median net income (Figure 2). This means that social policy takes into account the national characteristics of the labor market. In terms of structure, most social benefits are made by age – 10.7% of GDP in 2018 within the EU-27, care and illness – 7.8% of GDP, disability – 2.0% of GDP, pension benefits in due to the loss of a breadwinner – 1.6% of GDP. This indicates that the aging of the
population in the countries has affected the social burden on the active population (employed) due to the high level of pension benefits. In the dynamics of social protection, expenditures gradually increased in 2011-2018, in particular, the largest increase in sickness benefits; pension benefits (Table 1).

The largest share of social contributions is made by citizens – 58% and employers – 36% in 2010-2018 (Table 2), which shows a developed liberal model of social investment, where individuals and businesses make social investments, and the state carries out personalized transfer of social benefits to individuals.

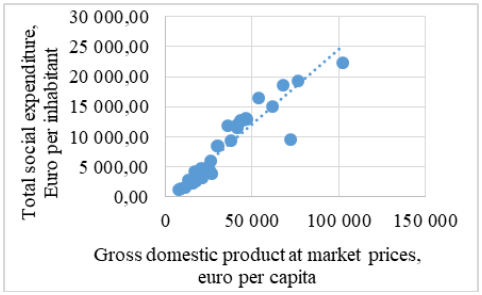

Figure 2 – Dependence of total social expenditure of GDP per capita and median net income in EU-27, 2018
Source: author calculation based on Eurostat

Table 1: Social protection expenditure in EU-27 by functions, aggregated benefits and all schemes – % of the GDP, 2018

Indicators	Social protection benefits	Non means-tested benefits	Means-tested benefits	Cash benefits	Cash benefits (non means-tested)
Sickness/Health care	7.8	7.7	0.1	1.1	1.1
Disability	2.0	1.6	0.5	1.4	1.1
Old age	10.7	10.3	0.4	10.3	10.0
Survivors	1.6	1.6	0.1	1.6	1.5
All functions	26.7	23.8	2.9	17.4	15.8

Source: Eurostat (2018).

Table 2: Social contribution depends on receipts by type in EU-27, 2010-2018

European Union – 27 countries (from 2020)	2010	2011	2012	2013	2014	2015	2016	2017	2018
Social contribution									
Percentage of total receipts	57.58	57.99	57.83	57.77	57.72	57.59	57.85	58.28	58.35
Percentage of gross domestic product (GDP)	16.9	16.9	17.1	17.3	17.2	17.0	17.0	17.0	17.0
Employers' social contribution									
Percentage of total receipts	36.72	36.83	36.53	36.27	36.26	36.10	36.09	36.33	36.36
Percentage of gross domestic product (GDP)	10.8	10.7	10.8	10.9	10.8	10.6	10.6	10.6	10.6
Imputed employers' social contribution									
Percentage of total receipts	5.96	6.06	6.04	6.03	5.90	5.92	5.93	5.95	5.93
Percentage of gross domestic product (GDP)	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7

Source: Eurostat (2021f).

Corporations (non-financial and financial) and the central government – 28% and 31% respectively in 2018, generate most revenues. State and local government provides 16% of revenues, and state social security funds – 1% (Figure 4). It should be noted that in Germany, France and the United Kingdom corporations (financial and non-financial) make the largest social contributions (290,266.31 million €, 240,311.87 million €, and 214,910.74 million € in 2018, respectively). The next group of countries in terms of social investment of corporations – Italy with a volume of 135,858.00 million €, Spain with a volume of 94,272.56 million €, The Netherlands with a volume of 79,014.18 million €, and Switzerland with 75,644.12 million €. In 2018 in Sweden, Belgium, Austria, Turkey, Poland, Norway, Czech Republic, Portugal, Ireland, Finland, Denmark, and Greece corporations finance between10,000 million € and 43,000 million€ in social security contributions. In Hungary, Slovakia, Croatia, Lithuania, Estonia, Slovenia, Luxembourg, Bulgaria, Serbia, Iceland, Romania, Latvia, Cyprus, Montenegro and Malta, corporate social investment ranges from € 165 million to € 6,050 million. Thus, EU countries can be divided into 4 groups according to the level of social investment carried out by corporations (see at the Figure 3).

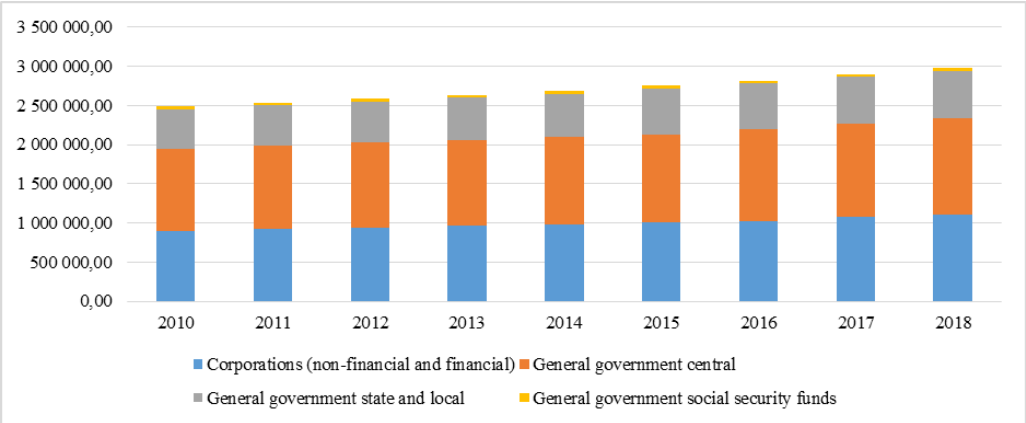

Figure 3 – Receipts by sector of origin and type, million EUR
Source: Eurostat (2021).

The amount of social investment of the central government also differs in different countries: the central government of the United Kingdom made 363,964.23 million € of social contributions in 2018, France – 335,289.37 million € of social contributions, Italy – 234,860.00 million € social security contributions, Germany – 219,158.43 million € in social security contributions. The following group of countries by social contributions of the central government: the Netherlands with 51,119.61 million €, Denmark

47,997.99 million €, Poland – 42,037.08 million €, Spain – 39,484.24 million €, Turkey – 39,246.66 million €, Belgium 37,006.33 million €, Norway 36,871.38 million €, Ireland – 30,438.31 million €, Sweden -28,852.54 million €, Portugal – 27,285.06 million €, Greece – 25,470.24 million €, Austria – 24,114.27 million €, Finland – 23,293.84 million €, and Switzerland – 19,515.93 million €. Third group of countries by social contributions of the central government: Czech Republic – 9,512.79 million €, Hungary 8,588.82 million €, Romania 7,592.71 million €, Luxembourg 7,451.44 million €, Slovakia 5,172.14 million €, Bulgaria 4,625.81 million €, Croatia 3,950.69 million €, Serbia 3,125.81 million, Iceland 2,843.46 million, Slovenia 2,335.76 million, Lithuania 2,270.09 million €, Cyprus 2,267.57 million €, Latvia 1,927.73 million €, Malta 1,532.60 million €, Estonia 968.77 million €, Montenegro 268.74 million €. This means that combined social investment models operate in Europe: social entrepreneurship and government social security.

5 Discussion

The social security systems of European countries are differentiated depending on the level of social benefits, which in turn depends on the level of economic development and income of citizens. Social protection of citizens depends not only on legal standards, but also on the structure of the labor market.

While the countries of southern Europe are known for their social security system, which takes little account of the needs of "future generations of citizens", conservative and social democratic countries differ significantly for investment in the social protection system. Among the reasons for the inefficiency of the social security system in Southern Europe are the peculiarities of the labor market, in particular non-standard employment, employment of one family member, which leads to increased poverty in the event of a crisis for the family (childbirth, loss of breadwinner). According to Schoukens, Barrio & Montebovi (2018) the growth of atypical employment within the EU (online work through platforms on the Internet, the development of self-employment) causes deviations from standard employment relationships, which is a challenge for social security systems. This requires a revision of EU legislation and the adaptation of social policies with a greater emphasis on social benefits that take into account the working conditions of the self-employed without taking into account the conditions of the self-employed family members (Schoukens, Barrio & Montebovi, 2018). This means that combating inequality, as a historical problem will be relevant due to the emergence of new forms of labor that transform the structure of the labor market as a whole, increase the social stratification of the population. According to Barbieri & Bozzon (2016), inequality among the population is growing due to the historical social stratification of the population and resources. New forms of labor contribute to this stratification.

Countries with higher unemployment in working age have significantly higher risks of poverty and lower opportunities for social protection in the event of an economic recession. Social protection spending can mitigate the negative effects of the crisis to a certain extent. Countries with higher social benefits are less likely to increase poverty among the population (Chzhen, 2017). Increasing investment in social protection can help reduce inequality among the population. Reducing costs or strengthening social protection conditions (for example, public education programs in the labor market for citizens) may adversely affect the mental health of vulnerable populations (Niedzwiedz, Mitchell, Shortt & Pearce, 2016).

Moriarty, Wickham, Bobek & Daly (2016) explore the contradictions between the European Union's commitment to a single European labor market, in which all citizens of the Member States enjoy equal rights, and national social security systems within the EU. In particular, the growing dynamics between increasingly mobile European citizens who receive access to and transfer of social support within the EU in accordance with EU directives guaranteeing equal protection of citizens of member states (Moriarty, Wickham, Bobek & Daly, 2016) has been identified.

Within the EU, there are significant differences in the amount of social benefits between the countries of Northern Europe and Eastern Europe. Social protection of the population by age (pension benefits) occupy the largest share in the structure of social security in all European countries. Social costs due to illness and disability also play a significant role. These results correlate with the results of the study Halaskova (2018), which based on a cluster analysis of European countries revealed the same trends. This means that the social model in Europe has changed little, despite changes in social policy and the transition to economic governance due to the need to adapt the social union to the monetary union after the 2008 financial crisis. Thus, population aging as a factor of social policy is the most important in providing for citizens. According to Halaskova (2018), not all EU member states are characterized by differences in the structure of social security spending. Differences in the volume and level of expenditures reflect the level of economic well-being of the population, features of social models of countries, national social protection policy, income of citizens (Halaskova, 2018). This study found a linear relationship between GDP per capita, net per capita income and per capita social benefits. This confirms the conclusion of Garritzmann, Busemeyer & Neimanns (2018) that social investment is the most popular policy in the EU, which has the support of people with higher education, high incomes and left-liberal economic views. These results also correlate with the findings of Fernández-Albertos & Manzano (2016): social protection policy provides benefits only for protected labor sectors.

6 Conclusion

The article reveals the features of social security of human rights on the basis of social standards of EU countries. The first feature is the differentiation of social benefits due to differences in economic welfare (GDP per capita) and net incomes. The peculiarities of the labor market and its structure determine the national regimes of social investment, the disregard of which leads to a reduction in the effectiveness of social security of human rights. Since the 1970s, when the paradigm of social investment and the departure from the system of passive transfers were gradually introduced, the social security models of the EU countries have changed due to changes in the structure of the labor market. Since the early 1990s, social models have also changed due to an aging population, which has led to an increase in pension benefits. The emergence of new forms of work (development of self-employment) requires the introduction of new social security standards with an emphasis on personalization of benefits and taking into account the working conditions of the individual citizen, rather than the structure of the household. Individualization of rights involves the elimination of any reference to the composition of the household or lifestyle when providing social security assistance. The amount of needs testing assistance should depend on the number of hours worked by the partner (Jepsen & Meulders, 2017).

Further research should focus on assessing the link between new forms of employment that increase migration flows within the EU and the transformation of EU social security systems to develop a new social policy that takes into account the national structure of employment.

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PROFESSIONAL ORIENTATION OF MATHEMATICAL TRAINING FOR THE FUTURE TECHNICAL SPECIALISTS

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Abstract: Mathematical training is a fundamental part of the general professional training of future engineers. Fundamentalization of mathematical training is an important way to improve the quality of mathematical training of future engineers, aimed at the formation of future technical specialists of mathematical competencies in the context of their training. The purpose of the study is to experimentally test the effectiveness of the proposed method of fundamentalization of mathematical training of future engineers on the example of students in Electronics and Telecommunications area of study, to make statistical calculations, to correlate the quality of teaching mathematics and special disciplines.

Key words: Engineering, Educational Process, Fundamentalization, Future Technical Specialists, Higher Education, Mathematical Training, Operational Component, Training Of Engineers.

1 Introduction

Mathematical training of technical specialists is an integral and basic part of their general professional training. The modern engineer constantly uses mathematical knowledge. At the same time, there is a problem of the quality of mathematical training of future engineers and the search for ways to form students' mathematical professionally oriented competencies, as knowledge of mathematics must be fundamental, strong and professionally oriented.

This problem is solved by fundamentalizing the educational process, in particular by fundamentalizing the mathematical training of future technicians, which includes the fundamentalization of sections, topics and concepts. The conceptual foundations of the fundamental mathematical training of bachelors of technical specialties are subject to the general concept of fundamentalization of the educational process.

2 Literature review

Within the framework of the national symposium project, which is discussed in the work of Broadbridge & Henderson (2008), it is noted that mathematical knowledge is extremely important for engineering.Scientists present the fundamentalization of the educational process depending on their own author's approach to outlining the definitions of the problem field of fundamentalization. In particular, Kovtonyuk (2013) emphasizes that the result of the fundamental professional training of the student is the formed fundamental space of the student. The researcher notes that under the condition of fundamentalization of education, the future specialist will be able to receive not only professional training, but also the necessary basic basic knowledge for self-development.

Subetto (2010) defines the fundamentalization of education through the allocation of the core knowledge systems of the individual, which he describes as a fundamental-knowledge framework of the individual, which determines its potential for self-learning within the concept of continuing education.

Subetto (2010) emphasizes that the fundamentalization of education is a complex phenomenon that targets the individual and society as a whole, as well as social intelligence. According to Semerikov (2009), the fundamentalization of the educational process is distinguished by several features: the dynamics of universal fundamental basic knowledge, bringing them to priority positions and giving them the core value for the accumulation of other knowledge, integration of education and science, restructuring the learning process and technological mobility.

Vaskivska (2017) considers the fundamentalization of education as its methodology, which will form a variable and invariant components of the content of education.

According to researchers, in particular, Lypova (2014), the fundamentality of education means the focus of its content on methodological, invariant elements of knowledge, and it is such knowledge that contributes to the internal motivation for self-education.

Polishchuk (2018) notes that the essential importance of the fundamentalization of professional training should be seen in the transition from highly specialized to fundamental, holistic knowledge.

Researchers Rudyshyn, Kravets, Samilyk, Sereda, & Havrylin (2020) analyze the problem of fundamentalization of professional training in pedagogical higher education institutions. The authors emphasize that the fundamentalization of the educational process includes ensuring the integrity of knowledge by integrating them into the core of fundamental scientific concepts; Priority is given to a concentrated presentation of the basic laws and principles of science from a single methodological position, which allows to form interdisciplinary links. In their study, researchers Coupland, Gardner, & Carmody (2008) described an experiment conducted among students to identify topics in higher mathematics that are fundamental to students. Researchers Chalmers, Carter, & Cooper (2017) have formed a six-component model in the educational environment of future technicians.

The study by Henderson, Simi & Broadbridge (2009) discusses the problem of low levels of mathematical competence and ways to solve this problem in the educational process. Abdulwahed, Jaworski & Crawford (2012) analyzed the research of scientists on the methodology of methods and approaches that improve the quality of mathematical training. Scientists note that the first attempts to apply new methods in the learning process do not always seem convenient. Lagrange (2014) notes that innovations to improve the quality of mathematical training of future technicians cannot be implemented instantly, but require radical changes in the educational process.

Rakov (2005) defines mathematical competence as the ability to see and apply mathematics in real life, to understand the content and method of mathematical modeling, the ability to build a mathematical model, to explore it with methods of mathematics. Alpers (2013) lists the components of mathematical competence.

In his study, Sazhiienko (2021) forms the criteria, indicators and levels of operational and activity component of the professional competence of bachelors in computer technology, highlighting three levels of its formation. Researchers Blomhoj & Jensen (2003) describe the formation of students' competence in mathematical modeling.

King (2007) states that mathematical knowledge belongs to those who have a certain hierarchy. At the same time, Waldvogel (2006) proposes to focus on linear algebra when studying higher mathematics, to include elements of discrete mathematics in the educational process of engineers.

Authors Saiman, Puji Wahyuningsih, Hamdani (2017) conducted an expert study understanding the importance of the role of mathematics for engineers. The researchers stressed that most technical experts consider knowledge of mathematics to be basic for their work. In the work of Engelbrecht, Bergsten, and

Kagesten, (2012) it was proved that for specialists and technical specialists in particular, not only theoretical mathematical knowledge is important, but also practical mathematical knowledge is important for their professional activity.

The purpose of the article is to experimentally test the effectiveness of the method proposed by the authors of professionally oriented fundamentalization of mathematical training of future engineers on the example of students in Electronics and Telecommunications department, make statistical calculations, correlate the quality of teaching mathematics and special disciplines.

Research tasks are:

- give the stages of fundamentalization of mathematical training of future technicians;
- experimentally check the equivalence of selected control and experimental groups;
- experimentally test the effectiveness of the proposed method of fundamentalization of mathematical training of future technicians on the example of the formation of the operational component;
- to formulate criteria, indicators and levels of formation of the operational-activity component of professionally-oriented mathematical competence of future technical specialists;
- check the relationship between mathematical and professional training by determining a statistically significant correlation coefficient.

3 Materials and research methods

Theoretical analysis of literature sources was carried out, observations, questionnaires, sections were performed, correlation analysis of random variables was used.

Students of technical specialties in the field of Electronics and Telecommunications of Vinnytsia National Technical University took part in the experimental research. The experimental group had 129 students in 2013 admission and 98 students in 2015 admission. The control group included 134 students in 2012 and 105 students in 2014. The experiment was conducted twice: started in 2012, a control group of students was selected (which consisted of 6 study groups and 134 students), in 2013 an experimental group of students was selected (which consisted of 6 study groups of 129 students). The experimental method was implemented during three academic semesters (when students study higher mathematics), its effectiveness was tested at the end of each semester, as well as during the study of special disciplines during the next three semesters of study.

The experiment was conducted for the second time in a similar way, starting in 2014, when a control group of students consisting of 105 students and 5 study groups and an experimental group of 2015 admission students consisting of 98 students and 5 study groups were selected. The experimental group of students introduced the author's method of fundamentalization of mathematical training, which included the fundamentalization of sections, topics and concepts of the discipline Higher Mathematics.

To check the equivalence of the experimental and control groups of students, zero control work was performed. Assessment of group equivalence was performed using Fisher's test.

Zero control work was evaluated on a five-point scale (5, 4, 3, 2). Successful writing of the test is considered to be grades 5, 4. A table is compiled in which students are divided into groups: there is an effect, there is no effect. There is an effect, if students have successfully written a zero test, ie received grades 5, 4, have a sufficient and high level of school knowledge in mathematics; No effect if students have reached the intermediate or elementary level of school knowledge of mathematics.

According to the tables The value of the angle φ for different percentages we obtained the values of φ, which correspond to the percentages of the effect in each of the groups (φ_1 - experimental, φ_2 - control).

Indicators, criteria and levels of formation of operational-activity component of professionally-oriented mathematical competence are formulated.

Correlation analysis of the results of the exam in the discipline Higher Mathematics and special professional disciplines of students in the field of Electronics and Telecommunications was conducted using the Spearman correlation coefficient.

In addition to determining the levels of formation of operational components, the effectiveness of the proposed method of fundamentalization of mathematical training of future bachelors of technical specialties was tested by determining the correlation between the results of the exam by students of technical specialties (including Electronics and Telecommunications) in mathematics and special disciplines. systems , Fundamentals of circuit theory (or Theoretical foundations of electrical engineering) .

4 Results

According to our proposed concept of fundamentalization is subject to professional (professional) training of future technicians, mathematical training of future technicians, within which the fundamentalization of sections, topics and concepts.

Fundamentalization of concepts can be classified as follows: fundamentalization of personality concepts and fundamentalization of concepts in the structure of the discipline.

The fundamentalization of the concepts of personality can be described as follows:

- The first stage is theoretical. At this stage, students of technical specialties learn basic theoretical information about the concept, learn to classify and systematize the theoretical knowledge about the concept.
- The second stage is practical. With the help of the proposed system of actions, students of technical specialties develop skills for the practical application of the concept, the ability to solve problems where a particular concept occurs.
- The third stage is activity-applicable. This stage, in contrast to the previous two, is more stretched in time, involves the systematic repetition of this concept in the form of its application in applied professional tasks.
- The fourth stage is verification and evaluation. At this stage, the assimilation of concepts is tested. Usually such a test takes place at the end of the academic semester, year or course of study of the discipline.

Fundamentalization of mathematical training of future engineers is part of the fundamentalization of the educational process and is integrated into the holistic process of fundamentalization of training of future engineers, covers a system of actions aimed at acquiring mathematical, professionally-oriented mathematical competencies. The criterion of mathematical training is the ability of a specialist to independently find, reproduce, operate with mathematical knowledge, use the mathematical core in engineering calculations. An engineer must apply mathematical knowledge in his professional activity in the same way that a user uses certain computer programs to achieve his goal.

To test the proposed method of fundamentalization of mathematical training of future technicians, a control and experimental group of students was selected. Let’s form a table for calculating φ* Fisher's test based on the results of zero control work in mathematics for EG-1 and CG-1 (Table 1).

Tab. 1: Table for calculating φ* Fisher's test according to the results of zero control work in mathematics

Group	There is an effect	No effect	Total
EG-1	38 (29,5%)	91(70,5%)	129
CG-1	43 (32%)	95(68%)	134
Total	81	186	263

Let's formulate statistical hypotheses: H0: - the level of school knowledge in mathematics in the experimental group (EG-1) is not higher than in the control group (CG-1); H1: - the level of school knowledge in mathematics in the experimental group (EG-1) is higher than in the control group (CG-1).

According to the tables The value of the angle φ for different percentages Sydorenko (2002) we find the value of φ. Which correspond to the percentages of the effect in each of the groups (φ1 - experimental, φ2 - control):
φ1 (29,5%) =1,148 ; φ2 (32%) = 1,203.
The empirical value of φ* is calculated by formula (1):

$$\varphi* = (\varphi_1 - \varphi_2) \cdot \sqrt{\frac{n_e \cdot n_k}{n_e + n_k}} \quad (1)$$

where φ1 – is the angle corresponding to the higher percentage;
φ2 - is the angle corresponding to the smaller percentage;
n_e - the number of studied students in the experimental sample;
n_k - number of surveyed students in the control sample.

$$\phi^*_{емп.} = (1,203 - 1,148) \cdot \sqrt{\frac{129 \cdot 134}{129 + 134}} \approx 0,055 \cdot \sqrt{\frac{17286}{263}} \approx 0,055 \cdot 8,1071 \approx 0,4458$$

For the obtained value φ* = 0,4458, the level of statistical significance does not exceed 0.001 (the significance level is determined from the table Levels of statistical significance of different values of the φ* Fisher test given in Sydorenko (2002). For psychological and pedagogical research levels sufficient are levels $P \le 0,05$ і $P \le 0,01$
The critical values of the criterion φ*, which corresponds to them, are found in the same tables: φкр* = $\begin{cases} 1,64\ (\rho \le 0,05) \\ 2,31\ (\rho \le 0,01) \end{cases}$.
We obtained, that φ*емп.>φ*кр., and therefore the obtained value φ*емп =0,4458 is in the zone of insignificance (fig.1).

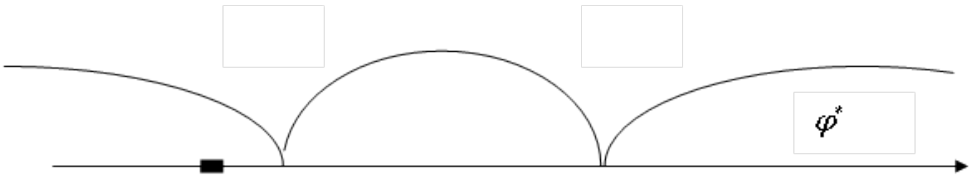

Figure1 – Geometric interpretation of the values of the criterion φ^*

The obtained results give grounds to reject the H_1 hypothesis that the level of school knowledge in mathematics in the experimental group (EG-1) is higher than in the control group (CG-1). Accordingly, we accept the H_0 -hypothesis that the level of school knowledge in mathematics in the experimental group (EG-1) is not higher than in the control group (CG-1). And the selected EG-1 and CG-1 are homogeneous in the level of school mathematical training. Similarly, the homogeneities of EG-2 and CG-2 were checked according to the level of school mathematical training. Let's evaluate the equivalence of groups using Fisher's test. Let's form a table for calculating φ^* Fisher's test based on the results of zero control work in mathematics for EG-2 and CG-2 (Table 2)

Tab. 2: Table for calculating φ^* Fisher's test according to the results of zero control work in mathematics

Group	There is an effect	No effect	Total
EG-2	38 (38,78%)	60(61,22%)	98
CG-2	51(48,57%)	54(51,43%)	105
Total	89	114	203

Let's formulate statistical hypotheses: H_0 : - the level of school knowledge in mathematics in the experimental group (EG-2) is not higher than in the control group (CG-2); H_1: - the level of school knowledge in mathematics in the experimental group (EG-2) is higher than in the control group (CG-2).

According to the tables The value of the angle φ for different percentages (Sydorenko, 2002) we find the value of φ. Which correspond to the percentages of the effect in each of the groups (φ_1 - experimental, φ_2 - control):

φ_1 (38,78%) =1,345 ; φ_2 (48,57%)= 1,543.
The empirical value of φ^* is calculated by the formula:

$$\varphi* = (\varphi_1 - \varphi_2) \cdot \sqrt{\frac{n_e \cdot n_k}{n_e + n_k}} \quad , \quad (1)$$

where φ_1 – an angle corresponding to a higher percentage;
φ_2 - an angle corresponding to a smaller percentage;
n_e - the number of students studied in the experimental sample;
n_k - the number of students in the control sample.

$$\phi^*_{емп.} = (1,543 - 1,345) \cdot \sqrt{\frac{98 \cdot 105}{98 + 105}} \approx 0,198 \cdot \sqrt{\frac{10290}{203}} \approx 0,198 \cdot 7,12 \approx 1,409$$

For the obtained value φ^* = 0,014, the level of statistical significance does not exceed 0,001. (The analysis of the significance level is determined from the table Levels of statistical significance of different values of the criterion φ^* by Fisher (Sydorenko, 2002).

Got that $\varphi^*_{емп.} < \varphi^*_{кр.}$, and therefore the value obtained $\varphi^*_{емп}$ =1,409 is in the zone of insignificance (see fig.2).

The obtained results give grounds to reject the H_1 hypothesis that the level of school knowledge in mathematics in the experimental group (EG-2) is higher than in the control group (CG-2). Accordingly, we accept the H_0 hypothesis that the level of school knowledge in mathematics in the experimental group (EG-2) is not higher than in the control group (CG-2). And the selected EG-2 and CG-2 are homogeneous in the level of school mathematical training. Similarly, the homogeneity of EG-2 and CG-2 was checked for the level of school mathematical training. Thus, the selected control and experimental groups are homogeneous in terms of mathematical training.

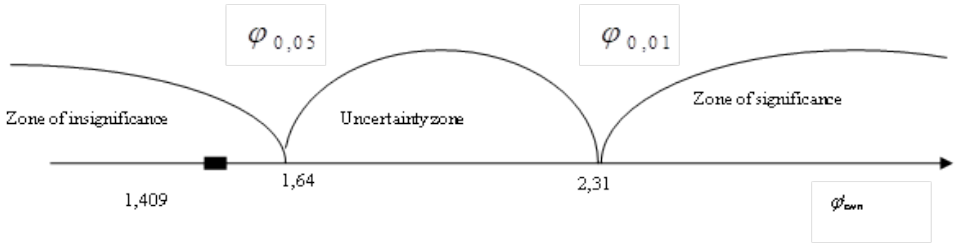

*Figure 2 – Geometric interpretation of criterion values φ**

Let's check the level of formation of the operational-activity component of the mathematical training of experimental students in the control groups. To do this, in both groups: experimental and control, testing was performed to determine the level of formation of this component.

The following tasks were included in the section on higher mathematics, with the help of which the level of the operational-activity component was determined.

1. Find an algebraic complement A_{23} to the element a_{23} $A=\begin{pmatrix} 0 & -1 & -2 \\ -8 & 1 & -6 \\ -3 & 0 & -3 \end{pmatrix}$; (2 marks)

2. Solve a system of equations based on Kirghhoff's laws using the Cramer method (*i1, i2, i3* – values of constant currents in different branches of the circuit)

$$\begin{cases} 11i_1 + 6i_2 - 5i_3 = 10; \\ 6i_1 + 26i_2 + 10i_3 = 15; \\ -2i_1 + 4i_2 + 11i_3 = 2. \end{cases}$$ (2 marks)

3. Two bodies began to move at the same time in a straight line from the same point in the same direction. One body moves with speed $v=5t^2 + 2t$, the second - with speed $v= 2t$. In how many seconds the distance between them will be equal 135 м. (2 marks).

4. Dynamic self-induction of the antenna at constant wave elongation per unit length is expressed by the formula $L = L_0 \frac{tg(\pi l / \lambda)}{2\pi l / \lambda}$ - where, L – dynamic self-induction; L_0 - static self-induction; l - current antenna length; λ - antenna wavelength. Find $\lim_{\lambda \to \infty} L$ (3 marks).

5. The material point oscillates in a circle near its middle position according to the law $x = A \cdot e^{-k \cdot t} \cdot \sin \omega \cdot t$, where $(A, k, \omega > 0)$. Find $\lim_{t \to \infty} x$ (3 marks).

Levels and criteria of formation of operational-activity component of mathematical competence are formed: high, sufficient, average, low. The scores that the student scored for the correct solution of the relevant tasks are selected as indicators (see Tab. 3).

Table 3: Criteria, indicators and levels of formation of the operational component of professionally-oriented mathematical competence

Levels	Criteria of formation	Indexes
High	Student performs all tasks without errors, orients in the material, distinguishes methods of solving specific tasks, knows what methods to use for specific tasks, solves problems of professional content.	12-10
Sufficient	Student is well versed in ways of solving problems, but makes minor mistakes in calculations.	9-7
Average	Student performs tasks, is guided in theoretical material, ways of solving problems.	6-4
Low	Student is practically unfamiliar with the ways of solving problems, solves problems with errors.	1-4

According to the results of writing the test, table 4 is compiled

Table 4: The results of the success of students of the experimental and control groups

	Number of students	High	Sufficient	Average	Low
EG -1	129	29(22,5%)	33(25,6%)	47(36,4%)	20(15,5%)
CG -1	134	11(8,2%)	23(17,1%)	84(62,7%)	16(12%)
EG -2	98	21(21,42%)	26(26,5%)	38(38,78%)	13(13,3%)
CG -2	105	11(10,5%)	19(18%)	53(50,5%)	22(21%)

Let's form a table for EG-1 and EG-2. We will assume that There is an effect if students have reached a high and sufficient level, respectively No effect if students have reached a medium and low level (Table 5).

Table 5: Calculation table for φ* Fisher's criterion according to the test results

Group	There is an effect		There is no effect		Total
	High level	Sufficient level	Average level	Low level	
EG-1	29(22,5%)	33(25,6%)	47(24,8%)	20(15,5%)	129
	48,1%		51,9%		100%
CG-1	11(8,2%)	23(17,1%)	84(62,7%)	16(12%)	134
Total	25,3%		74,7%		100%

Let's formulate statistical hypotheses: H_0- the level of measurement results of the operational component of professionally oriented mathematical competence in the experimental group (EG-1) is not higher than in the control group (CG-1); H_1: - the level of measurement results of the operational component of professionally oriented mathematical competence in the experimental group (EG-1) is higher than in the control group (CG-1).

According to the tables, the value of the angle φ for different percentages Sydorenko (2002) we find the values of φ, which correspond to the percentages of the effect in each of the groups (φ_1 - experimental, φ_2 - control): φ_1 (48,1%) =1,531 ; φ_2 (25%) = 1,047. The empirical value of φ* is calculated by formula (1):

$$\phi^*_{емп.} = (1,531-1,047)\cdot\sqrt{\frac{129\cdot134}{129+134}} \approx 0,484\cdot\sqrt{\frac{17286}{263}} \approx 0,484\cdot 8,1071 \approx 3,9238\cdot$$

Got that $\varphi^*_{емп.} > \varphi^*_{кр.}$, and therefore the value obtained $\varphi^*_{емп}$ =3,9238 is in the area of significance. We reject H_0 hypothesis and accept H_1 the hypothesis that the level of measurement results of the operational component of professionally oriented mathematical competence in the experimental group (EG-1) is higher than in the control group (CG-1). Similarly, make a table for the values of EG-2 and CG-2 (see Tab.6).

Table 6: Calculation table φ^* Fisher's criterion according to the test results

Group	There is an effect		There is no effect		Total
	High level	Sufficient level	Average level	Low level	High level
EG-2	21(21,42%)	26(26,5%)	38(38,78%)	13(13,3%)	98
	47,92%		52,08%		100%
CG-2	11(10,5%)	19(18%)	53(50,5%)	22(21%)	105
Total	28,5%		71,5%		100%

Let's formulate statistical hypotheses: H_0- the level of measurement results of the operational component of professionally oriented mathematical competencies in the experimental group (EG-2) is not higher than in the control group (CG-2); H_1: - the level of measurement results of the operational component of professionally oriented mathematical competence in the experimental group (EG-2) is higher than in the control group (CG-2). Similarly, the empirical value φ^* calculated by the formula (1):

$$\phi^*_{емп.} = (1,529-1,126)\cdot\sqrt{\frac{98\cdot105}{98+105}} \approx 0,484\cdot\sqrt{\frac{10290}{203}} \approx 0,403\cdot 7,11 \approx 2,82$$

.Got that $\varphi^*_{емп.} > \varphi^*_{кр.}$, and therefore the value obtained $\varphi^*_{емп}$ =2,82 is in the area of significance. Therefore, we reject H_0 hypothesis and accept H_1 the hypothesis that the level of measurement results of the operational component of professionally oriented mathematical competence in the experimental group (EG-2) is higher than in the control group (CG-2).

Fundamentalization of concepts, topics and sections involves the selection of invariant mathematical elements of knowledge (concepts) that are most applicable in special professional disciplines. We have shown this dependence for special disciplines studied by students majoring in Electronics and Telecommunications (Figure 3).

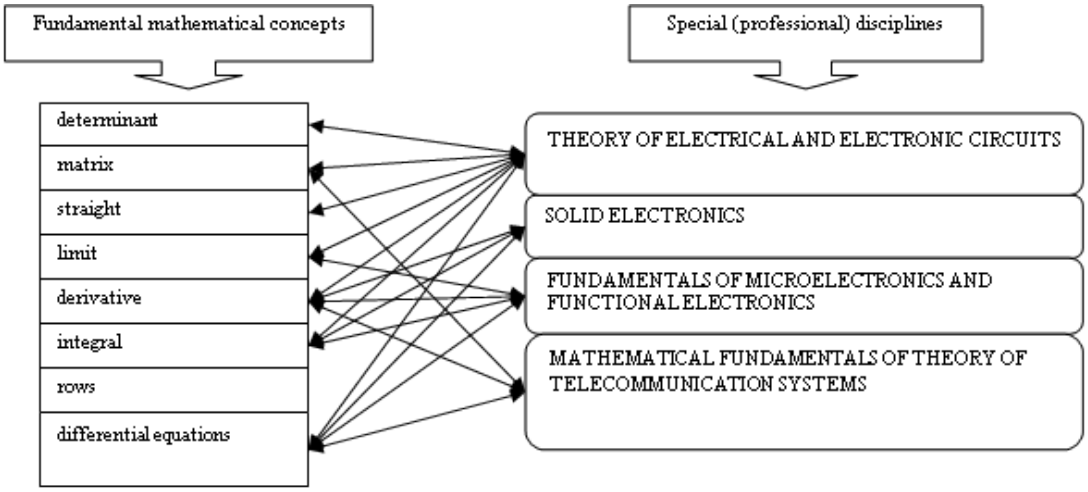

Figure 3 – The relationship of fundamental mathematical concepts and special (professional) disciplines, where these concepts are used

The effectiveness of the proposed method of fundamentalization of mathematical training of future bachelors of technical specialties was also tested by determining the correlation between the results of the exam by students of technical specialties (in particular, Electronics and Telecommunications) in mathematics and special disciplines. The following special disciplines were identified: Mathematical foundations of the theory of telecommunication systems, Fundamentals of the theory of circuits (or Theoretical foundations of electrical engineering).

Let's analyze for the experimental group the correlation between the results of exams in higher mathematics and special (professional) disciplines. To determine the statistically significant correlation between the values we use the Spearman correlation coefficient.

Let's form hypotheses. H_0 The hypothesis is that the correlation of control results in higher mathematics and control results in the discipline Theoretical Foundations of Electrical Engineering (TOE) of the experimental group of students does not differ from zero. H_1 The hypothesis is that the correlation of control results in higher mathematics and control results of an experimental group of students in the discipline Theoretical Foundations of Electrical Engineering (TOE) is different from zero.

From a general sample of the experimental group, we will randomly select a group of students. During the fundamental mathematical training in the experimental group of students, the author's method of professionally-oriented fundamentalization, which was mentioned above, was introduced. Since the students of the experimental group studied in different specialties, the special (professional) disciplines for them were somewhat

different. A group of students of one specialty was randomly selected from the experimental group and the correlation of control results in higher mathematics and control results in the discipline Theoretical Foundations of Electrical Engineering (TOE) was checked for it.

Denote the scores obtained in the exam in the discipline of Higher Mathematics for the third semester by a random variable X, and the scores obtained in the exam in the discipline TOE denote by Y. Record the results in table 7.

Table 7: Table of values of the results of the exam in higher mathematics and theoretical foundations of electrical engineering students of control and experimental groups

№	Marks X	Marks Y	Ranks X	Ranks Y	Rank difference D_i	Rank difference D_i Elevated to the square
1	75	75	3,5	1,5	2	4
2	63	64	3,5	1,5	2	4
3	62	62	3,5	3	0,5	0,25
4	35	62	3,5	4	-0,5	0,25
5	62	35	3,5	5,5	-2	4
6	75	77	3,5	5,5	-2	4
7	35	62	8	8	0	0
8	62	60	8	8	0	0
9	35	50	8	8	0	0
10	91	90	10	10	0	0
11	35	62	11,5	12	-0,5	0,25
12	82	75	11,5	12	-0,5	0,25
13	35	62	13	12	1	1
14	91	90	14	14	0	0
15	35	35	16	15,5	-0,5	0,25
16	90	75	16	15,5	0,5	0,25
17	91	93	16	17	-1	1

Sum19,5

The correlation is calculated by the formula:

$$r_s = 1 - 6 \cdot \frac{\sum d^2}{N(N^2-1)} \quad (2)$$

If the ranks match, use the formula (3)

$$r_s = 1 - 6 \cdot \frac{\sum d^2 + T_a + T_b}{N(N^2-1)} \quad (3),$$

Where T_a , T_b - correction for the same ranks, which is calculated by the formula:

$$T_a = \sum (a^3 - a)/12 \quad (4.1)$$

$$T_a = \sum (b^3 - b)/12 \quad (4.2)$$

Since the ranks coincided, it is necessary to calculate a correction for the ranks.

$$T_a = \left(6^3 - 6 + 3^3 - 3 + 2^3 - 2 + 3^3 - 3\right)/1 = 22$$

$$T_b = \left(2^3 - 2 + 2^3 - 2 + 3^3 - 3 + 3^3 - 3 + 2^3 - 2\right)/1 = 5,5$$

$$r_s = 1 - 6 \cdot \frac{\sum d^2 + T_a + T_b}{N(N^2-1)} = 1 - 6 \cdot \frac{19,5 + 22 + 5,5}{17(17^2-1)} = 1 - \frac{282}{4896} = 0,942$$

According to the table we determine the critical values r_s at $n = 17$

For psychological and pedagogical research, as noted by Sydorenko (2002) levels of significance $p \le 0,05$ i $p \le 0,01$ are sufficient. Corresponding critical values of the criterion r_s find the same tables:

$$r_{кр}^{*} = \begin{cases} 0,48\ (\rho \le 0,05) \\ 0,62\ (\rho \le 0,01) \end{cases}.$$

Got, $r_{s_{емп}} > r_{s_{кр}}$ and therefore the value obtained $r_{s_{емп}} = 0,942$ is in the zone of significance (Fig. 4).

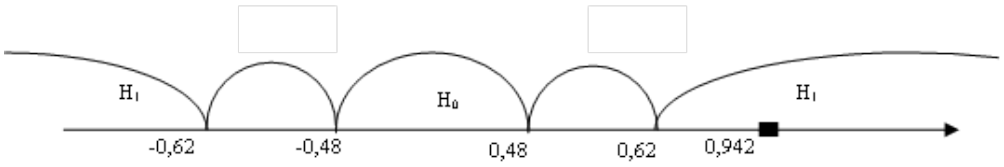

Figure 4 – Geometric interpretation of the obtained values

Thus, we reject the H_0 hypothesis and accept the H_1 hypothesis - the correlation of control results in higher mathematics and control results in the discipline Theoretical foundations of electrical engineering (TFE) is different from zero.

5 Discussion

The efficiency of fundamentalization of mathematical training of future technical specialists has been experimentally proved. Thus, in the experimental group EG-1 of the first wave of the experiment, students of high and sufficient level of formation of the operational component of professional-oriented mathematical competence by 22.8% more than in the control group CG-1, in the experimental group EG-2 of the second wave of the experiment students of high and sufficient levels of formation of the operational component of professionally-oriented mathematical competence by 19.42% more than in the control group CG-2. When checking the obtained values for statistical significance. The obtained values are statistically significant, which was proved by Fisher's test. In his work, Sazhiienko, O (2021) investigated the equivalence of the experimental and control group using the Wilcoxon - Mann - Whitney test, as well as the formation of operational and operational component of the professional competence of bachelors in computer technology. The researcher also tested the formation of the operational component of the professional competence of bachelors in the field of computer technology.

Given the research of scientists we have considered, we conclude that the fundamentalization of mathematical training of future technicians has a professional focus.

Based on the research of Semerikov (2009), Polishchuk (2018), Lypovoyi (2014), the main features of the fundamentalization of educational space include: selection of the core of fundamental knowledge - fundamental, basic elements of knowledge that are conservative and basic to study, generalization of knowledge (their unification) , selection and adherence to the basic principles and approaches in the educational process.

Scientists Saiman et al. (2017) emphasize that theoretical knowledge and operational (procedural) skills develop in parallel. According to this opinion, we can say about the effectiveness of the method of fundamentalization of mathematical training of future technicians in the process of forming also the cognitive component.

Coupland, Gardner & Carmody (2008) conducted an expert assessment among students on their understanding of the relationship between mathematics and the study of special (professional) disciplines in senior courses, in particular, 52.4% of surveyed students clearly understand this relationship Coupland, Gardner & Carmody (2008). At the same time, in our study, we experimentally tested and determined a statistically significant correlation between the study of higher mathematics and special (professional) disciplines.

6 Conclusion

Fundamentalization of the educational process plays an exceptional role in improving the quality of education and includes a hierarchical structure of fundamentalization of mathematical training, fundamentalization of sections and concepts.

Fundamentalization of the concepts of personality can be described in stages: the assimilation of basic theoretical information about the concept, the formation of skills for classification and systematization of theoretical knowledge; formation of skills for the practical application of concepts, the ability to solve problems where a particular concept occurs; formation of skills to solve professional tasks, testing the mastery of concepts.

The effectiveness of the method of fundamentalization of mathematical training of future engineers is experimentally tested in the work. In particular, it was statistically verified that the students of the experimental group of high and sufficient levels of formation of the operational component of professionally-oriented mathematical competence are 24.11% more than in the control group.

The correlation between the formed operational and activity component of professionally oriented mathematical competence of future engineers and the results of studying the discipline of TOE is checked. For the experimental group, the correlation was statistically significant. Therefore, we can say about the effectiveness of the proposed method of fundamentalization of mathematical training of future technicians.

We see further research in this direction in the experimental verification of the formation of the cognitive component of professionally oriented mathematical competence, which is formed in the process of fundamentalization of mathematical training of future technicians.

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Primary Paper Section: A

Secondary Paper Section: AM, BA

MARKET OF ORGANIC PRODUCTS IN THE EU: AN ASSESSMENT OF CONSUMERS

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Abstract: The production and consumption of organic products in the EU is growing steadily due to the policy of ensuring the sustainability of the agricultural sector within the EU. The governmental support provides stimulation of organic markets development. The aim of this article was to evaluate the segment of producers and buyers of organic products in the EU for 2012-2019. The results show a positive dynamics to the growth of the number of organic producers in the EU (by 15.2% for 2012-2019). It was found that the most developed countries have the highest number of producers and the total volume of the distribution market. The number of producers does not determine the volume of organic production in the EU countries.

Keywords: Producers of Organic Products, Consumers of Organic Products, Organic Market of the EU.

1 Introduction

The organic sector has the potential to ensure the sustainability of the EU food system through detailed planning and the resolution of inequalities between the home socio-economic organization of agricultural production and the ability of the EU to implement the principles of organic farming (ecology, health, care, and justice) (Brzezina, Kopainsky & Mathijs, 2016). The potential of organic producers are growing: the number of organic producers in Europe grew by 57.6% in 2009-2019 to 418 thousand according to Eurostat (2021a), representing 14% of the total number of organic producers in the world (FIBL&IFOAM. Organic International, 2021). The growth of producers is stimulated by the EU policy for the development of organic production and the policy of sustainable development, the need for sustainable development of rural areas (Escribano, 2016). Among the main problems – the efficiency of production activities, which is different in different countries through different methods of production, and the insufficient level of production of products to satisfy the consumer demand. This requires studying the specialization of EU countries on organic products.

The aim of this article is to evaluate the segment of producers and buyers of organic products in the EU according to 2012-2019 years.

The main objectives of the study are:

- Assess the dynamics of the number of organic producers in 2012-2019 in the EU.
- Identify the relationship between the volume of production of organic products and the number of producers.
- To classify countries by specialization of organic production in the field of crop production, 2019.
- Identify the features of consumption of organic products in EU countries.

2 Literature review

In the scientific literature the dynamics of the organic market in the world and the EU is investigated in the context of the growth of the area of organic land, organic producers, consumer spending on organics within the EU countries, and the leaders of organic production in the world (Willer & Schaack, 2015; Willer, Schaack & Lernoud, 2019; Paull & Hennig, 2016). The literature also identifies the peculiarities of the development of organic markets in different EU countries: the growing demand for Italian organic products; the tendency of consumers to focus on health, which is the reason for the purchase of organic products; the dependence between the marketing orientation of organic producers and their profitability; the trend towards the development of institutions regulating organic production and certification in developing countries; peculiarities of certification of organic products in the EU (Vehapi & Milanović, 2017; Vietoris, et al. 2016; Mercati, 2016; Marmul & Krukovskaya, 2018; Vieira & Hoppe, 2016). Vincent-Caboud et al. (2017) investigated the main problems of implementation of innovative alternative production practices in organic agriculture in the EU. The main target of organic agriculture development is a steel development and reduction of the level of impact of the agricultural sector on ecology (Brzezina, et al. 2017; Liulov et al., 2020). Increasing awareness of the importance of organic products in the diet leads to an increase in their consumption, especially in developed countries. Kranjac, Vapa-Tankosic & Knežević (2017) developed a portrait of food consumers: mostly young, educated people in cities aged 31-40, who are concerned about their health and diet. Vukasovič (2016) also reveals a predilection for organic products among young, educated people. "Desire for natural and healthy food the most important driver" for the purchase of organic food by consumers, "Interest in 'environmental protection' second most important driver" (Janssen, 2018). Vukasovič (2016) also argues that to promote organics, manufacturers need to differentiate their products and increase the level of information about their benefits.

The organic production of goods combines innovative and traditional methods of production based on new principles of marketing. Organic food production ensures sustainability in production and consumption, so the governments encourage producers to develop enterprises, and consumers – to choose environmentally friendly food products. The main incentive tool is subsidies for organic farmers, which influence the price of products and the decision of consumers to purchase them, increasing the supply of products on the market and reducing the relative price of organic products. Developed EU countries have also implemented environmental labelling and various schemes to support consumers in product selection (Thøgersen, 2016; Akimova, Akimov & Liakhovich, 2017; Yakymchuk, Valyukh & Akimova, 2017). These measures have ensured the success in promotion of organic products and growth of their sales in the EU countries (Thøgersen, 2016).

The literature review indicates the lack of studies of the main trends in the segment of producers and buyers of organic products in the EU. The literature also lacks an analysis of specialization of EU countries in the production of certain types of organic products and peculiarities of organic production.

3 Materials and research methods

This article contains a statistical analysis of the indicators of development of the organic market in the EU countries according to Eurostat data on organic farming in 2012-2019. Statistical analysis was carried out in terms of the main organic sectors in the sphere of plant growing. The authors calculate the indicator of the ratio of the volume of production of organic products (plant products) to the number of operators of the agricultural market for 2019 (tons/1 operator). The study provides a classification of countries by specialization of organic production in the sphere of agriculture based on data on the production of various types of organic products in the EU countries in 2019. The following indicators were used to assess the segment of producers and buyers of organic products in the EU:

1. The number of agricultural operators-producers of organic products in the markets of EU countries and the volume of land under organic farming (ha / 1 producer) in 2019
2. The ratio of production of organic products (crop products) to the number of operators of the agar market, 2019

3. Percentage of total utilized agricultural area under production of cereals for the production of grain (including seed).
4. Share of production of Cereals for the production of grain (including seed) in EU-27, 2019
5. Retail sales of organic products in some EU countries and market share of products, %, 2019.

To assess the level of support for organic producers and consumers of products used indicators according to the OECD methodology:

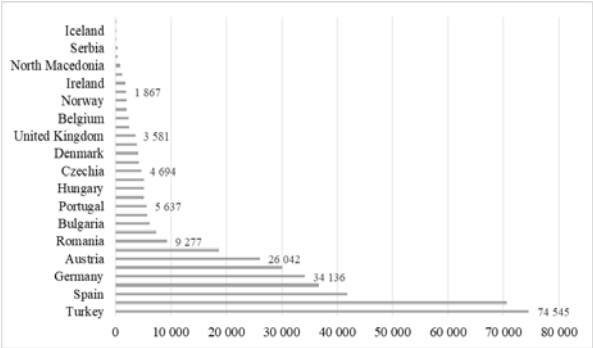
- Producer Support Estimate (PSE), USD million
- The ratio of production prices and subsidies on production volumes to marginal prices (Producer NPC).
- The ratio of the value of products at domestic prices, including all government payments, to its value according to marginal prices (Producer NAC)
- Consumer Support Estimate (CSE), USD million
- The ratio of actual average consumer prices to border prices for agricultural products (Consumer NPC).
- Nominal indicator of consumer assistance – the ratio of the cost of consumed products to its value in border prices (Consumer NAC).
- Total Support Estimate (TSE), USD million
- Share of PSE in TSE, %.
- Share of CSE in TSE, %.
- General Services Support Estimate (GSSE).
- Share of GSSE and TSE, %.

4 Results

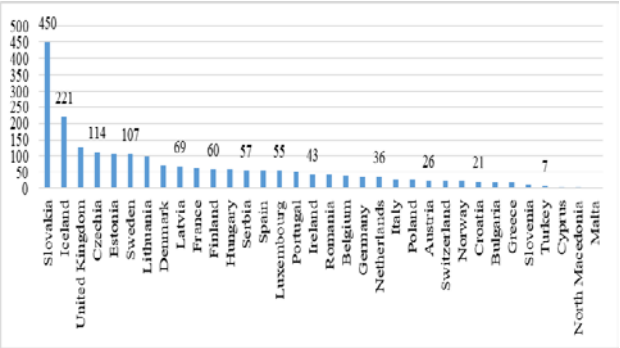
In 2012-2019 the number of agrarian producers of organic products in the EU grew by 15.2%, in particular, their number increased most in Italy (26730), France (12266), Spain (11376), Germany (11104), Turkey (9503), Greece (6676), Austria (4199), Croatia (3740), Hungary (3576), Bulgaria (3459), and Portugal (2804). Utilized agricultural area excluding kitchen gardens total fully converted and under conversion to organic farming increased in the EU-27 from 5.88% in 2012 to 8.49% in 2019.

The most developed countries have the largest number of operators in the agricultural market, with the exception of Turkey (74545 operators) (see Figure 1).

There are on average 64 hectares of utilized agricultural area excluding kitchen gardens (total fully converted and under conversion to organic farming) per producer of organic products. The number of producers of organic products determines the size of the land bank.



A) Number of manufacturers, units



B) Utilized agricultural area excluding kitchen gardens (Total fully converted and under conversion to organic farming), Hectare per organic producer.

Figure 1 – The number of agricultural operators-producers of organic products in the markets of EU countries and the volume of land under organic farming (ha/1 producer) in 2019, units

Source: Eurostat (2021a; 2021c).

At the same time, the countries with the highest number of market operators engaged in the production of organic products have a lower volume of production per producer (see Fig. 2). This may be due to the lack of efficiency of the used methods of work (e.g. soil treatment) or management practices of producers, as well as the quality of soils or specialization.

For example, 919.14 tons of organic production per company in Serbia, 769.92 tons in Slovakia, 476.23 tons in the Netherlands, 422.92 tons in Sweden. Serbia's specialization is the production of grain crops for growing grain (the share of production was 68% in 2019) and industrial crops (10% in 2019). The specialization of Slovakia – grain crops for production (32%), wheat and spelt (8%), plants harvested green from arable land (51%). The specialization of the Netherlands – root crops (8%), plants harvested green from arable land (53%), fresh vegetables (including melons) (32%). Most EU producers specialize in the production of cereals, wheat and oats and mixtures of spring cereals, green plants and fresh vegetables (Table 1).

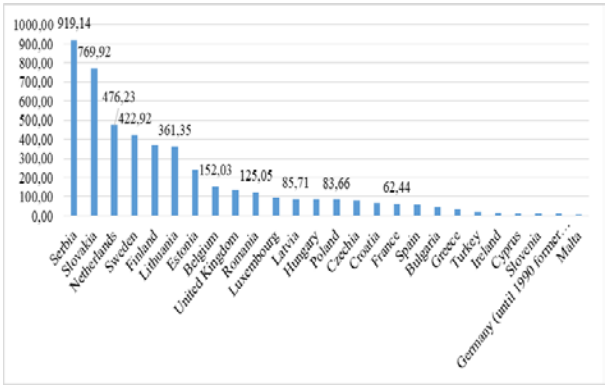


Figure 2 – The ratio of organic production (crop products) to the number of agar market operators, 2019 (tons/1 operator)

Source: Eurostat (2021a; 2021b).

Table 1: The classification of countries by organic production specialization in the field of crop production, 2019

Group of countries	Specialization (by the share of organic production in 2019 in tons, exceeding 10% of the total production of organic crops)				
	Cereals for the production of grain	Wheat and spelt	Oats and spring cereal mixtures	Plants harvested green from arable land	Fresh vegetables
Belgium, Bulgaria, Czech Republic, Estonia, Ireland, Greece, Spain, France, Croatia, Latvia, Lithuania, Luxembourg, Hungary, Poland, Romania, Slovenia, Slovakia, Sweden, Serbia, Turkey	The average share value of 22%	-	-	-	-
France, Lithuania, Luxembourg, Hungary, Romania	-	Average value 13%	-	-	-
Estonia, Ireland, Latvia	-	-	Average value 13%	-	-
Belgium, Czech Republic, Estonia, Ireland, Greece, Croatia, Cyprus, Hungary, Netherlands, Poland, Slovenia, Slovakia, Finland, Sweden	-	-	-	Average value 36%	-
Belgium, Germany, Ireland, Spain, Cyprus, Malta, Netherlands,	-	-	-	-	The average value of 30%

Source: compiled by the author

There is an individual specialization in such countries: in Germany 99% of organic products fall on crops harvested green from arable land; Bulgaria, Croatia, Ukraine, Serbia and Romania specialize in industrial crops (12%, 7%, 4%, 9%, 10% respectively); grain maize and corn-cob-mix are mostly produced in Greece (9%), France (8%), Croatia (7%), Hungary (5%), Rumania (10%), Serbia (15%); Bulgaria, Latvia and Lithuania specialize in organic dry pulses and protein crops for the production of grain (13%, 4% and 4% respectively); Root crops are grown mainly in Belgium (11%), Latvia (6%), Lithuania (7%), Malta and the Netherlands (7% and 8% respectively). Organic Fruits from temperate climate zones grow in Bulgaria (7%), Ukraine (6%), Poland (5%), Serbia (4%) and Turkey (14%). Grapes are grown in Bulgaria (5%), Spain (18%), Cyprus (10%), Malta (28%), Slovenia (5%), and Turkey (9%). Greece, Spain, Cyprus and Turkey specialize in the cultivation of olives (part of the production (16%, 12%, 46% and 10% respectively).

The specialization of the country does not depend on the share of agricultural land, which is allocated in each country for organic production, which can be seen in the application of organic production of grain crops (Figure 3). The coefficient of determination indicates that the model of dependence between the share of organic land and the share of grain crops production only by 1.03% explains the link between these variables.

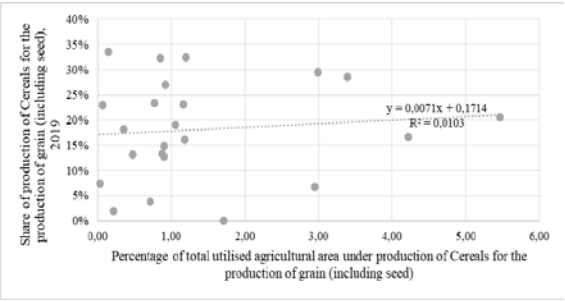


Figure 3 – Dependence between percentage of total utilized agricultural area under production of cereals for grain production (including seed) and share of production of Cereals for grain production (including seed) in EU-27, 2019
Source: Eurostat (2021b; 2021 c).

Organic products are most consumed in Denmark, Switzerland, Luxembourg, Austria and Sweden (for example, 334 euros spent per person on organic products in Denmark and 338 euros per person in Switzerland, 265 euros in Luxembourg, 216 euros in Austria, 215 euros in Sweden, 174 euros in France, 144 euros in Germany) (FIBL&IFOAM. Organic International, 2021). In Europe as a whole, 55.8 euros per person were spent on organic products in 2019, and total sales were 4,549 million euros in 2019. The largest consumer market in Europe is Germany with the volume of retail trade in organics products at 11.97 billion euros in 2019 (Table 2), followed by France at 11.295 billion euros and Italy at 3.6 billion euros.

Table 2: Volumes of retail sales of organic products in some EU countries and market share of products, %, 2019

	Retail sales, million euros	Organic share,%
Belgium	779	3.1
Bulgaria	30	0
Czech Republic	164	1.6
Denmark	1979	12.1
Germany	11970	5.7
Estonia	62	3.7
Ireland	206	2.5
Greece	66	0.3
France	11295	6.1
Italy	3625	3.7
Cyprus	2	0.1
Latvia	51	1.5
Lithuania	51	1
Luxembourg	160	8.6
Hungary	30	0.3
Netherlands	1211	4.9
Austria	1920	9.3
Poland	314	0.6
Portugal	21	0.2
Romania	41	0.2
Slovenia	49	1.8
Slovakia	4	0.2
Sweden	2144	9
Norway	442	-
Switzerland	2912	10.4
Turkey	46	-

Source: FIBL & IFOAM. Organic International (2021).

The most important indicator that characterizes the support of the agricultural sector in the monitoring system of the OECD is the volume of support provided to agricultural producers and consumers (Table 3), which affects the establishment of the organic market of products in the EU. These indicators were named Producer Support Estimate (PSE) and Consumer Support

Estimate (CSE). The indicators include two components: direct forms of support (budget payments) and indirect forms of support (Market price support, MPS).

These components are the cost of cumulative transfers of taxpayers and consumers to producers in the agricultural sector. Such support (PSE) is ensured mostly at the expense of price transfers (at the expense of consumers), the share of which in the total amount of support to producers varies between 50-70%. The market price support (price transfers) are transfers of agricultural products consumers, budget payments – payments of taxpayers. The methodology of assessment of agricultural support based on the PSE indicator allows for a more comprehensive and objective assessment of the scale of such support in comparison with the assessment of support only for budgetary payments to producers. With this approach to the amount of direct budgetary support is added to the amount of market price support received by producers due to the formation of domestic prices at a higher level in comparison with global commodity prices. This support is ensured through special measures of state fiscal, foreign economic, social policy. Among them, protectionist measures in foreign trade activities (trade quotas, import quotas, etc.) occupy a special place. Therefore, in 2012 the indicator PSE amounted to 108.61 billion dollars, in 2020 – $104.54 billion, CSE – $19.4 billion and $14.7 billion respectively. In fact, support of producers remains a priority in the policy of the EU countries for the development of the organic market (Table 3).

Table 3: Dynamics of volumes and coefficients of support of producers and consumers of the agar sector in the EU in 2012-2020

	2012	2019	2020
Producer Support Estimate (PSE *), USD million	108606.97	104698,44	104537.71
Ratio of production prices and production subsidies to marginal prices (Producer NPC)	1.05	1.05	1.04
The ratio of the value of products at domestic prices, including all government payments, to its value according to marginal prices (Producer NAC)	1.23	1.24	1.24
Consumer Support Estimate (CSE), mln. dollars	-19365.97	-18410.60	-14668.38
Ratio of actual average consumer prices to marginal prices for agricultural products (Consumer NPC)	1.04	1.05	1.04
Nominal indicator of consumer assistance – the ratio of the cost of consumed products to its value in border prices (Consumer NAC)	1.04	1.04	1.03
Total Support Estimate (TSE), USD mln.	125766.27	117101.05	117449.92
Share of PSE in TSE,%	86,36%	89,41%	89,01%
Share of CSE in TSE,%	-15.40%	-15.72%	-12.49%
General Services Support Estimate (GSSE)	17,207.91	12,002.37	12,416.25
Share of GSSE and TSE,%	13.68%	10.25%	10.57%

Source: OECD (2021).

The price of production is higher than the domestic prices for agricultural products in the EU, which means that producers sell their products at higher prices compared to foreign producers, the price protection of EU producers by the state. However, in 2020 the coefficient went down to 1.04. In general, the low value of NPC indicates the competitiveness of the EU agricultural market with the domestic market, the high export capacity of agricultural products in the EU countries.

In the EU countries, NPCc and NACc indices approach 1 (NPCc – 1.04 and NACc – 1.03), which indicates a narrowing of the gap between actual average prices of consumers and border prices for agricultural products.

GSSE describes transfers for research for agricultural production, education and training of personnel, control over the quality and safety of food, agricultural resources and the environment, improvement of infrastructure, marketing support, inspection services, maintenance of agricultural production warehouses and other general services. A reduction in the volume of the indicator in the EU from $17.21 billion to $12.42 billion in 2020 indicates a decrease in state support for the agricultural sector.

5 Discussion

The trend towards ecological consumption in the EU countries ensures the development of the market of organic products and the paradigm of "green marketing". Strategies of old growth in different countries are differentiated depending on the specialization of organic producers, who are more and more increasing ecological potential, developing local networks of production and consumption, organic farming. This article demonstrates the dynamic growth of the organics market value in the EU countries. Similar to other studies, the assessment of the segment of producers indicates a significant environmental trend. For example, Bryła (2015) states about the growth of the European organic food market by twofold during the period 2004-2012. The potential of the market depends on the structure of product distribution channels and their prices, trends in the growth of national income in the long term and the growth of environmental awareness of society (Bryla, 2015).

Willer & Schaack (2015) studied the dynamics of the European organic market of the EU (15 countries) and revealed a continuous growth of organic agricultural land and domestic markets for 2003-2013. The authors identify the diversification of production and satisfaction of domestic consumption by domestic production, the importance of imports for many EU countries in various segments of organic production. Our research also revealed the diversification of organics production and specialization of countries. Most of the countries specialize in the production of grain crops, greens and vegetables, wheat and spelt, although in some countries there is a high degree of specialization due to the historical and natural conditions for the production of certain types of crops.

The market of organic plants is well developed and offers a wide assortment of products within the EU (Willer, Lernoud & Kemper, 2018). On a global scale, the EU countries remain leaders in both production and consumption (as evidenced by the growth of per capita expenditure on products and the share of the organic market as a part of the total agricultural economy). The level of consumption of organic products per capita is significantly higher in the countries compared to other countries in the world due to the high level of awareness of the role of organic products for health. Willer & Schaack (2015) explain the constant growth dynamics of the market by the strong interest of consumers in the products, strong investments in the development of the organic segment, government support and measures of the government to popularize and support organics. The authors of this research revealed a slight decrease in indicators of financial support for producers and consumers of the agricultural sector in the EU.

The support of programs for the development of the organic sector in the countries that have joined the EU has ensured a significant growth of the market.

However, the consumer market, volume of organics production, market share and consumption per capita remain low in some

countries. Lack of development of processing enterprises in some countries leads to the lack of satisfaction of domestic demand for processed products and the need for imports in these countries (Willer & Schaack, 2015). For example, this study revealed a low rate of reduced consumption in Slovakia, Bulgaria, Greece, Latvia, Lithuania, Hungary, Portugal, Rumania and Poland. Nevertheless, in these countries the organic market is growing rapidly, despite the growth of domestic and export markets and processing. Developed countries have a high share of organic land in the agricultural sector, a large organic sector, a food sector with a high share of distributed consumption, and substantial government support (Willer & Schaack, 2015).

The highest per capita consumption of organic food in 2013 was in Switzerland (210 euros), Denmark (164 euros), Luxembourg (157 euros), Austria (127 euros in 2011), Sweden (107 euros), Germany (93 euros) (Willer & Schaack, 2015). In 2019, the amount of spending on organic products was also the highest in the most developed countries: Denmark has 334 euros in costs per person for organic products, 338 euros per person in Switzerland, 265 euros in Luxembourg, 216 euros in Austria, 215 euros in Sweden, 174 euros in France, 144 euros in Germany. Organic fruit production remains the leading specialization of EU countries (average production share 36%). While in 2013, the share of production was one p.p. (20%) (Willer & Schaack, 2015), in 2019, it will be two p.p. (36%). Overall, the production of fresh products in Europe is overvalued (Willer & Schaack, 2015).

Willer, Schaack & Lernoud (2019) identified two trends in organic market development in Europe in 2017: 1) double-digit growth rates (10.5% in Europe; 10.9% in the European Union); and 2) growth of organic farmland was greater than growth of the organic market (7.9% growth in Europe and 6.4% in the European Union). The tendency for the market to grow at a faster pace than the land area has been observed for several years (2010-2017), which means the excess of consumer demand over production. In comparing the growth of the organic zone with the growth of commodity sales, Willer, Schaack & Lernoud (2019) highlighted the importance of land cultivation, tillage methods, and cropping schemes to the value of production. In this context, it is also important to note that the growth rate of more intensive production, such as fruits and vegetables, increased significantly in 2012-2019.

Organic sales in Europe were estimated at 37.3 billion euros in 2017 (Willer, Schaack & Lernoud, 2019), while in 2019 they were 39.574 billion euros (34.3 billion euros in the European Union in 2017). The European Union represents the second largest organic market in the world after the United States. In 2017, Germany was the largest consumer market in Europe with 10 billion euros of sales, the second largest consumer market in the world. In 2019, the German market amounted to 11.9 billion euros, while France ranked second in terms of volume sales (11.3 billion euros). While in 2017 European consumers spent an average of 47 euros on organic products (67 euros in the EU), in 2019 they spent 55.8 euros (Willer, Schaack & Lernoud, 2019). Thus, the results of the research have shown a continuation of trends towards an increase in the production and consumption of organic products in the EU countries.

6 Conclusion

The research showed a positive dynamics of the number of organic producers for 2012-2019 in the EU: a growth of the number of producers by 15.2% for 2012-2019. At the same time, the most developed countries have the highest number of producers and the volume of the distributed sales market. The number of producers does not determine the volume of organic production in the EU countries.

The countries with the largest number of market operators engaged in the production of organic products have a lower volume of production per producer. This can be due to the lack of efficiency of the used methods of work (soil treatment, for example) or management practices of producers, as well as the quality of soils or specialization. For example, 919.14 tons of organic production per company in Serbia, 769.92 tons in Slovakia, 476.23 tons in the Netherlands, 422.92 tons in Sweden. Most of EU producers specialize in the production of cereals, wheat and spelt, oats and a mixture of spring grains, greens and fresh vegetables. The specialization of the country does not depend on the share of agricultural land, which is allocated in each country for organic cultivation. The level of state support for producers and consumers, provision of services to agricultural producers and the level of price support for producers and consumers has decreased.

The further research should be focused on identifying the most effective strategies of organic products producers in Europe and the importance of state support for producers to implement the strategies (price leadership, differentiation).

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Primary Paper Section: A

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ASPECTS OF THE FORMATION OF FUTURE DESIGNERS' PROFESSIONAL COMPETENCIES

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Abstract: Changing demands of information users and development of information society caused the need of labor market for competent designers who have a set of skills: contextual, process, social, technical and digital, creative, skills of complex problem and task solving. This requires assessing the development of these competencies of designers in order to identify the highest priorities that need to be developed during the educational training programs. The aim of the article was to reveal the peculiarities of designers' competences development in the context of effective use of theoretical knowledge in practical activities. The research methodology was based on the structured interviewing of the designers in Germany and Poland.

Keywords: Designer Competencies, Graphic Design, Designers' Skills, Designers' Technical Skills, Designers' Social Skills.

1 Introduction

Changing demands of information users and development of information society caused the need of labor market for competent designers who have a set of skills: contextual, process, social, technical and digital, creative, skills of complex problem and task solving. In response to employers' needs, educational programs and directions of designer training are changing: universities focus on the student's ability to create a conceptual idea of a design product, technically implement it, and with the help of creativity ensure interaction of users with the final product.

However, in practice, educational institutions are not able to form a sufficient level of practical skills through theoretical presentation of the material, and it is difficult for a young designer to transform the acquired knowledge into practical skills. Besides, there is a problem of the designer's personal characteristics – ability to master one of the skills perfectly at the lack of competence in other tasks. For example, design studio managers note that a designer has a high level of technical skills and use of software, but has absolutely no skill in problem-oriented thinking and creativity. As a result, in practice there is a need to employ designers with different skills in order to achieve synergy in the product development process (website layout, mobile app, etc.). This leads to an increase in the cost of the design product, because the process involves human resources whose labor cost is a major expense in the design industry.

The above-mentioned points to the relevance of the study of designers' competencies development in the context of how to transform theoretical knowledge of a designer into practical skills and develop competencies required by the labor market.

The aim of the article is to identify the peculiarities of designers' competence development in the context of effective use of theoretical knowledge in practical activities.

2 Literature review

Graphic designers create visual concepts using computer software to communicate with users of information and interact with consumers of the design product. Organizations use design to display product concepts through colors, images, logos with embedded ideas or identity used in marketing and promotion (Bridges, 2013).

The academic literature explores the development of designer competencies, specifically creativity and creative thinking (Dong, Zhu & Li, 2021), practical and creative skills, the ability to reflect and interpret the needs of customers and users of the final graphic product (Bresciani, 2019; Bonnardel et al., 2018), process management, conceptual design, technical design and software use (Dziobczenski, Person & Meriläinen, 2018).

The process management competency includes skills between personal communication and the ability for designers to work as part of a team (80% of design job postings employers need these skills). The conceptual design competence includes the ability to perform user-oriented design work, i.e. the specialist must be business-oriented to the problems of the customer of the design product. Technical design competence includes skills and knowledge in interface coding and product visualization. Software use competence includes proficiency in 2D software (Photoshop, Adobe Illustrator and InDesign). The personal characteristics of a designer are self-management, professionalism, aesthetics, and product development with visual meaning (Dziobczenski, Person & Meriläinen, 2018; Chiang, Idris & Chuen, 2019).

Heller (2015) discusses the issue of educators' priorities in teaching designers to develop technical design skills, the use of software more general skills (management, planning and design, complex problem solving). Educators are charged with encouraging design students to view and develop competencies and learn new skills beyond design education (Dziobczenski & Person, 2017). Employers in the design industry talked more about "practical experience" than on "academic qualifications" when recruiting graphic designers. The availability of informal training and curriculum, design software, and tools is causing an increase in the number of "self-taught" and "informally trained" graphic designers. Therefore, design educators and institutions of higher learning must reevaluate the role and importance of formal education for design practice (Chiang, Idris & Chuen, 2018) (table 1).

Table 1: The components of the graphic designers' competences

Group of competencies	List of competencies
1. Cognitive	1.1 Design Fundamentals 1.2 Industry Knowledge 1.3 Contextual Awareness 1.4 Multidisciplinary Knowledge 1.5 Business Fundamentals 1.6 Marketing Fundamentals
2. Functional	2.1 Technical Design Skills 2.2 Conceptual Design Skills 2.3 Interactive Design Skills 2.4 Advertising Design Skills 2.5 Software Skills 2.6 Graphic Print Production Skills 2.7 Project Management Skills
3. Individual	3.1 Aesthetic and Visual Sensitivity 3.2 Self-driven 3.3 Adaptability and Flexibility 3.4 Emotional Intelligence 3.5 Interpersonal Skills 3.6 Self-efficacy
4. Ethical	4.1 Professional Behaviors 4.2 Professional Expertise 4.3 Professional Values
5. Meta-competence	5.1 Creative Thinking Skills 5.2 Problem Solving Skills 5.3 Design Thinking Skills 5.4 Critical Thinking Skills 5.5 Reflective Thinking Skills 5.6 Communication Skills 5.7 Teamwork and Leadership Skills

Source: Bhebhe (2018).

Traditional graphic design (GD) education builds graduates' technical skills to prepare for entry-level employment. However, due to new challenges and expanding practical opportunities, graduates are expected to master a wide range of additional competencies outside of the traditional field. Bhebhe (2018) categorizes the competencies of graphic designers into five components: cognitive, functional, personal, moral, and meta-competencies.

With the emergence of new concepts in design, particularly personalized graphic design in digital information art, professionals must have the skill set to address individual user needs (Gaimei & Xueling, 2019). Javan & Zeman (2018) talk about personalization in design: "The skills of graphic designers may be utilized in creating highly customized 3D-printed models." However, "the type of skills and thinking that students must evidence are difficult to define" (Giloi & Du Toit 2013). For example, Han & Bromilow (2010) argue for the importance of leadership development for executive designers. Wragg & Barnes (2016) argue for the development of "user-centered design" and the lack of competencies for designers to work from this approach.

Teachers to encourage the creativity of design students assert the need for openness in learning outcomes in order to adapt students to their own unexpected and unique solutions in designing artifacts. In higher education institutions, the assessment of designers is transparent and the learning process is detailed and in-depth in order to develop the student as a practical designer (Giloi & Du Toit 2013). In addition, the literature explores the effectiveness of different methods of training designers to develop them as practitioners. Ramadhani, Saide & Indrajit (2018) examine contextual learning (CTL) methods for students in graphic design to develop creativity (Ramadhani, Saide & Indrajit, 2018). Lowell & Moore (2020) propose to integrate authentic learning principles in a project to implement a design curriculum to develop students' skills: project management.

Thus, the scholarly literature examines the competencies required of a designer, the methods of teaching designers to develop them as practitioners, the concepts of contemporary design, and the relevance of designers' skills to these concepts. The process of developing designers' competencies and how a design professional is formed, how theoretical knowledge is transformed into practical skills, and how young novice professionals are prepared to apply theoretical knowledge in practice require detailed study.

3 Materials and research methods

The study used the OECD (2021) art competency classifications as the basis for assessing the competencies of novice designers (those employed in design for 1 to 5 years) and designers with 5 or more years of experience. The competency groups included: 1) basic process skills "2) social skills; 3) integrated problem solving skills; 4) technical skills; 5) system skills; and 6) resource management skills. In addition, the questionnaire contained a block of questions of socio-demographic characteristics of respondents.

The assessment of competences was carried out based on the method of structured interviews with the use of electronic questionnaires sent to designers of different design studios in Germany and Poland. The countries for the analysis were selected based on the differences in the design labor market: the number of employees in the field; the structure of employees; annual cash turnover in the field; the work of designers with foreign clients; the number of educational institutions (Table 2). The sample was formed randomly; each designer could take part in the survey at his or her own request.

Each skill was independently evaluated by the respondent on a scale from -1 to +1 depending on his or her own subjective feeling of need for the corresponding skill.

Table 2: Characteristics of the design market in Germany and Poland, 2018

Feature	Germany	Poland
Registered designers/design studios	-	-
Number of self-employed and employed	147,300 employed designers (in 2003 this figure was only 53,000), and another 94,600 self-employed.	8,000 designers professionally work in Poland, 6,500 are self-employed, and 1,500 are employed.
Employment structure, %	24 % graphic and communication design 19 % environmental and interior design, 7 % product and industrial design, and 50 % other specialized design fields.	35 % are graphic and communication designers, 30 % environmental and interior designers, 15 % fashion and textile designers, 10 % product and industrial designers, 5 % illustrators, and 5 % others.
The total annual turnover, euro	19 billion, which makes 0.31 % of the GDP (2.47 % considering all creative industries). The annual turnover per head is € 130,600.	The total annual turnover per designer is in average € 14,000 with another € 0.2 subsequent investment of each realized € of turnover.
Other specific	22.1 % of all designers work for international clients with a turnover of € 885.1 m. Thus, design makes 4.8 % of a contribution to export.	10 % of all designers work for international clients. 3 is the average number of employees of a designer/design studio.
Number of universities	290 programs in 120 design schools on tertiary level exist, of which around 15 are private institutions.	There are 21 design schools, of which 9 are universities. There are approximately 1,500 graduates per year
Design policy	Regional policy	Regional policy
A national regional, local innovation, creative industries strategy exists	Yes, a national innovation strategy	Yes, a national innovation strategy

Source: European Design report (2018).

Positive values indicated a deficit of skills, and negative values indicated a surplus of skills. A greater absolute value was associated with a greater imbalance in skills. The results are shown on a scale from -1 to +1 (OECD, 2021).

4 Results

The survey involved 52 designers in Germany and 49 designers in Poland (age 20-25 years), 44 designers in Germany and 41 designers in Poland with more than 5 years of experience in various fields of design. Among the respondents, 32.5% of designers are at the beginning of their careers at the age of 20-25 years. According to subjective assessments of young designers in Germany, basic process skills, social skills, and integrated problem-solving skills, as assessed competency values are more than 0 (Table 3). At the same time, the competencies of young designers in Germany are more developed according to the competencies of designers in Poland. Most of all young designers require skills in learning and process monitoring strategies, coordination, persuasion, negotiation, instruction (Table 3).

Table 3: Basic, Social and Complex Problem Solving Skills Needs in the design industry in EU, Germany and Poland in 2020 (age 20-25 years)

Skills		Germany, N = 52	Poland, N = 49
Basic Skills (Process)	Critical Thinking	0,277	0,336
	Active Learning	0,345	0,223
	Learning Strategies	0,416	0,509
	Monitoring	0,451	0,542
Social Skills	Social Perceptiveness	0,277	0,336
	Coordination	0,536	0,447
	Persuasion	0,452	0,532
	Negotiation	0,636	0,734
	Instructing	0,517	0,617
	Service Orientation	0,634	0,636
Complex Problem Solving Skills		0,678	0,727
Complex Problem Solving Skills	Complex Problem Solving	0,678	0,727

Source: OECD (2021).

Basic technical skills are well developed in designers (20-25 years old) in Germany and Poland (selection of software for work, installation, hardware support, recovery). However, skills that require more in-depth analysis are practically absent. According to subjective assessments of young designers, the most in need of development are technical skills: operational analysis, technological design, operational monitoring, control, decision-making, system analysis, and system evaluation (Table 4). However, resource management skills of young designers noticed how little they need in their work. This is explained by the presence of project managers (project managers), who carry out resource planning: financial, material, labor. Therefore, designers are little involved in the project management process (Table 4).

Table 4: Technical, Systems and Resource Management Needs in the design industry in EU, Germany and Poland in 2020 (age 20-25 years)

Skills		Germany	Poland
Technical Skills	Operations Analysis	0,877	0,915
	Technology Design	0,723	0,802
	Equipment Selection	0,005	0,005
	Installation	0,003	0,001
	Programming	0,417	0,501
	Operation Monitoring	0,632	0,729
	Operation and Control	0,616	0,721
	Equipment Maintenance	0,001	0,005
	Troubleshooting	0,409	0,513
	Repairing	0,004	0,004
	Quality Control Analysis	0,332	0,424
Systems Skills	Judgment and Decision Making	0,851	0,927
	Systems Analysis	0,605	0,702
	Systems Evaluation	0,611	0,718
Resource Management Skills	Time Management	0,223	0,341
	Management of Financial Resources	0,336	0,444
	Management of Material Resources	0,233	0,336
	Management of Personnel Resources	0,095	0,041

Source: OECD (2021).

Designers with more than 5 years of experience (Table 5) have a higher level of competencies compared to young designers, but they also highlight the need for skills development. In particular, the designers considered the following to be the most needed skills: active learning and training in strategies, opinion making, negotiation, service orientation, and complex problem solving.

Table 5: Basic, Social and Complex Problem Solving Skills Needs in the design industry in EU, Germany and Poland in 2020 (age 26-35 years)

Skills		Germany, N = 44	Poland, N = 41
Basic Skills (Process)	Critical Thinking	0,177	0,236
	Active Learning	0,245	0,123
	Learning Strategies	0,216	0,309
	Monitoring	0,151	0,242
Social Skills	Social Perceptiveness	0,177	0,236
	Coordination	0,136	0,147
	Persuasion	0,252	0,232
	Negotiation	0,336	0,334
	Instructing	0,217	0,247
	Service Orientation	0,234	0,236
Complex Problem Solving Skills	Complex Problem Solving	0,378	0,327

Source: OECD (2021).

Designers with work experience also noted their own need to develop technical, systemic competencies and resource management skills (Table 6). Among the most necessary: development of competencies in the field of technological design, decision-making, system analysis and evaluation.

Table 6: Technical, Systems and Resource Management Needs in the design industry in EU, Germany and Poland in 2020 (age 26-35 years)

Skills		Germany, N = 44	Poland, N = 41
Technical Skills	Operations Analysis	0,377	0,415
	Technology Design	0,423	0,502
	Equipment Selection	0,002	0,002
	Installation	0,001	0,001
	Programming	0,117	0,201
	Operation Monitoring	0,232	0,329
	Operation and Control	0,316	0,421
	Equipment Maintenance	0,001	0,005
	Troubleshooting	0,109	0,113
	Repairing	0,004	0,004
	Quality Control Analysis	0,132	0,224
Systems Skills	Judgment and Decision Making	0,351	0,427
	Systems Analysis	0,305	0,402
	Systems Evaluation	0,211	0,318
Resource Management Skills	Time Management	0,123	0,241
	Management of Financial Resources	0,236	0,144
	Management of Material Resources	0,133	0,236
	Management of Personnel Resources	0,195	0,241

Source: OECD (2021).

Thus, the study shows the need for designers of different specialties in systemic skills development: both young designers and professionals with 5 years or more of experience noted the need to develop skills, especially skills of persuasion and negotiation and decision-making. This means that social and systems skills are the highest priority, because customer satisfaction depends on them. At the same time, technological design skills obviously also need constant development, which can be explained by the dynamism of customer requirements and the personalization of design services.

Figures 1-2 reflect the prioritization of designers' skills development needs in Germany and Poland. Young designers in Germany consider operational analysis, decision-making and evaluation, technological design, complex problem solving skills as the most in-demand.

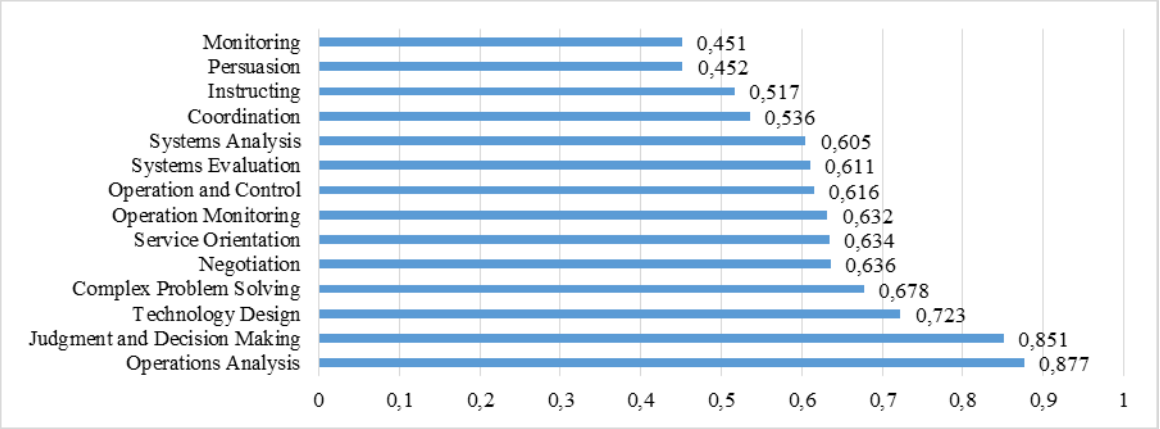

Figure1 – Priority in the development of designers' competencies at the age of 20-25 years in Germany
Source: OECD (2021).

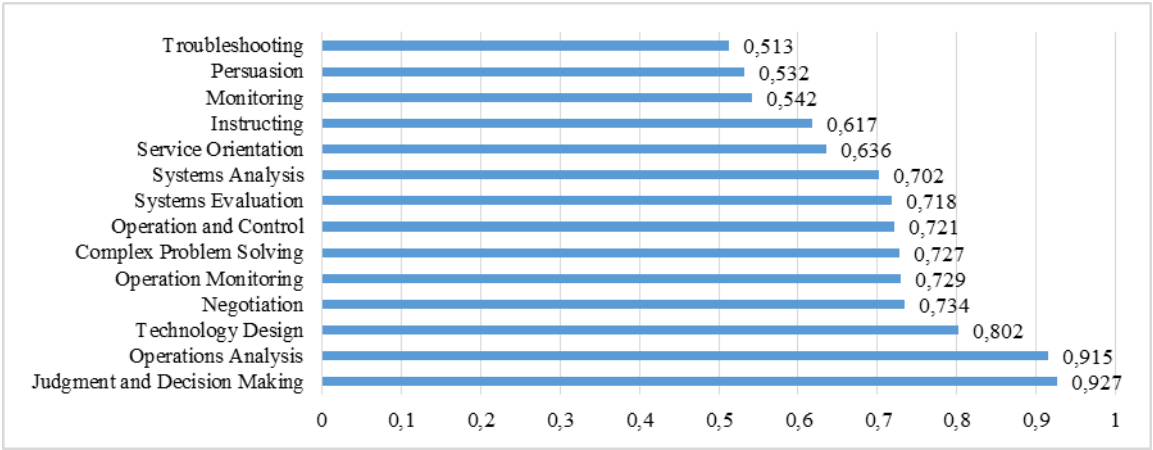

Figure 2 – Priority in the development of designers' competencies at the age of 20-25 years in Poland
Source: OECD (2021).

Young designers in Poland consider skills in evaluation and decision-making, operational analysis, technological design, negotiation, and operational monitoring to be the highest priority.

Designers with experience of working in Germany state that the most required skills are technological design, integrated problem solving, operational analysis, decision-making, and negotiation (Fig. 3).

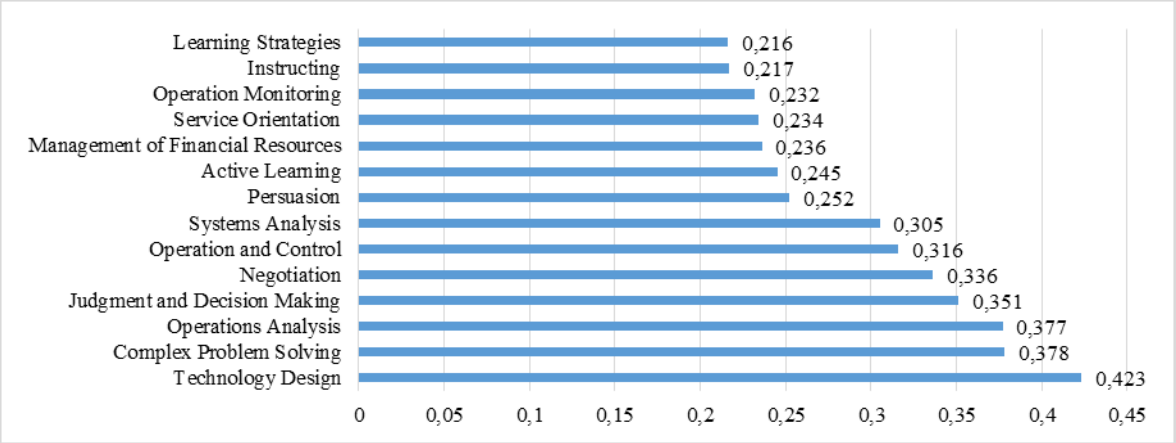

Figure 3 – Priority in the development of designers' competencies the age of 26-35 in Germany
Source: OECD (2021).

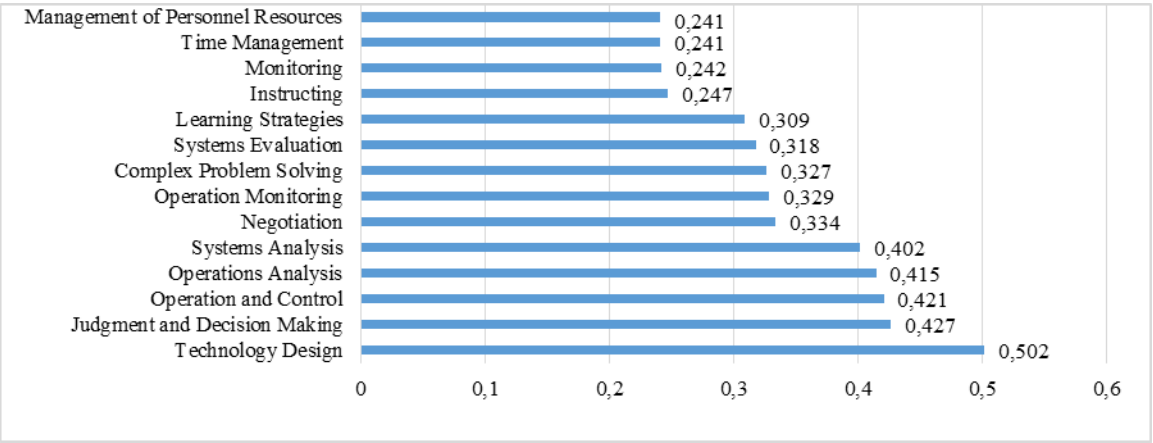

Figure 4 – Priority in the development of designers' competencies at the age of 26-35 in Poland
Source: OECD (2021).

Experienced designers in Poland suggest the following skills: technological design, decision-making, operations and control, operational analysis (Figure 4).

5 Discussion

This study reveals a shift in the skill set that younger designers and designers with seniority indicate is important. Young designers need to develop skills in operational analysis, decision-making and evaluation, technological design, complex problem solving and negotiation, and operational monitoring. Designers ages 26-35 claim to need to develop skills in technological design, complex problem solving, operational analysis, decision-making, and negotiation.

Dziobczenski & Galeotti's (2017) study identified the following groups of designers' skills: (1) Conceptual Design skills, referring to that support and build the foundation for the design project; (2) Project Management skills, referring to how designers manage their projects and deadlines; (3) Software skills, referring to the digital tools necessary to perform design work and lastly (4) Technical Design skills, which are skills carried by graphic design professionals and are directly related to design projects (Dziobczenski & Galeotti, 2017). Dziobczenski & Galeotti (2017) found the greatest importance of conceptual design skills: briefing, business (marketing/branding) skills, concept design skills, idea generation skills, market trends skills, problem-solving skills, research (users, competitors) skills. The results of this study also confirm the importance of conceptual skills, particularly integrated problem-solving skills. Dziobczenski & Galeotti (2017) state that project management skills are the third most important for designers (client relationship skills, leadership skills, presentation skills (internal and external stakeholders), project management skills, teamwork skills). In this study, through highlighting other project skills, this group is the least needed for young designers and designers at the age of 26-35 because of the presence of a project manager who performs the mentioned functions.

Software skills rank fourth in Lowell & Moore (2020) and Brill (2016), specifically 2D software (Adobe Suite, Corel Draw, etc.), 3D software (3D Studio, Maya, etc.), coding skills (Java, PhP, HTML, CSS, etc.), office skills (Microsoft Word/Excel/PowerPoint etc.), Web development software (Adobe Dreamweaver, etc.). However, this study found important for all groups of designers technological design skills, with the most basic software skills also being the least important. Dziobczenski & Galeotti (2017) state that technical Design skills directly related to the work (project) of graphic designers received the second highest ratings (3D modelling skills, illustration skills, layout (grid, compositions, colors) skills, motion design skills, photo manipulation skills, photography skills, Production (printing/materials) skills, typography skills).

This also correlates with our research findings about the importance of technological design skills.

The evaluation of conceptual design skills, process control skills, software proficiency, and technical design skills allows us to determine the usefulness of each and make changes to educational programs with an emphasis on the most useful ones. As Lewis & Bonollo (2002) argue, market expectations should play a key role in shaping design education practices. Regarding the latter, knowledge of company expectations for design skills can help practitioners and students improve and shape their skills in the future according to the results of this study.

The results of the study show a difference in how designers see the set of skills needed at the beginning of their careers and as they gain experience. For example, experienced designers rated «technological design» skills significantly higher. Siu (2009), Dziobczenski & Galeotti (2017) state the operational role of designers at the beginning of their careers, so it is the technological design, operational analysis, and complex problem solving skills that designers with experience should prioritize. Previous research regarding required skills for graphic designers found that 2D software, teamwork, and project planning were the most mentioned skills in job postings in the UK (Dziobczenski and Person, 2017). In comparison, previous research by scholars suggests a need for strategic skills in graphic designers (Alonso-García et al., 2020; Bakarman, 2005; Lin et al., 2020), where professionals expand roles and responsibilities to areas such as business strategy , innovation management, branding, and service design. However, this study found a low level of need for strategic skills, because the role of strategic leadership is assigned to project managers who manage resources and have the appropriate skills.

6 Conclusion

This study reveals a shift in the skill set that younger designers and designers with seniority indicate is important. Young designers need to develop skills in operational analysis, decision-making and evaluation, technological design, complex problem solving and negotiation, and operational monitoring. Designers at the age of 26-35 claim to need to develop skills in technological design, complex problem solving, operational analysis, decision-making, and negotiation. Survey results confirm the importance of conceptual skills, particularly integrated problem solving. Resource management skills are the least necessary for young designers and designers at the age of 26-35 because of the presence of a project manager who performs these functions. Technological design skills are important for all groups of designers, with the most basic software skills being the least important.

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Primary Paper Section: A

Secondary Paper Section: AM

COMPETITIVE ADVANTAGES OF SMALL BUSINESS

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Abstract. The article is devoted to studying the competitive advantages of small businesses in low- and middle-income countries. The study's main purpose is to identify critical factors that allow small businesses to occupy a significant market share and work alongside large companies. The relevance of the research is formed by several specific small business problems in low- and middle-income countries, which are absent in high-income countries. The study analyzed a significant amount of scientific and statistical literature, which identified key problems facing small businesses. At the same time, a table of competitive advantages of small businesses has been developed, which in general can be classified by price and non-price factors.

Keywords: competitive advantages, small business, low and middle-income countries

1 Introduction

Small business is a performer of a significant social role, which allows providing jobs for citizens and is a primary source of their income. Small businesses in low- and middle-income countries make their economic system more flexible and resilient, bringing it closer to the needs of a particular consumer. In some countries, it is characterized by high mobility, less response to the harmful effects of crises, using rational forms of management, and getting available financial resources. At the same time, it forms a new social class of business owners (middle class of merchants), helping to minimize the impact of monopolies, and developing a competitive environment (Chernychko, 2010). Small business is a unique type of business: in many developing countries, it forms the bulk of the budget. Competing with large enterprises in difficult conditions for decades, its place in the market is virtually unchanged, and all these facts are due to the competitive advantages of small businesses, which could not be compared with large businesses.

2 Literature review

The search for competitive advantage begins with the identification of benefits and advantages that consumers especially value. Considering the achievements of the theory and practice of competitiveness management, developed scientific approaches and principles, it is proposed to form the theory of competitive advantage based on the concept of value. Value is what the system owns, preserves or has in the future. At one time, Porter M. (2006) formulated the idea of product value for the consumer. He suggested considering the consumers not as individuals because it is very difficult to determine which quality characteristics will be better for each individual, so the value is determined in general for society. In the literature, the concept of competitive advantage is defined differently. For example, the

French scientist Lambert J.-J. (1996) believes that competitive advantage is characteristics, properties of a product or brand that create certain advantages for the company over its direct competitors. These characteristics can be varied and apply both to the product (basic service) and additional services that accompany the basic product, forms of production, or specific to the company sales (Hamel & Prakhalad, 1996). In turn, Lambert (1966) considers the main competitive advantages of product quality and service that accompany its sale. Assel G. (1999), one of New York University's leaders in marketing, accompanies competitive advantage over competitors by offering consumers greater value, i.e., more significant advantages of goods and services or the same advantages with better prices. The researcher identifies the price characteristics of the product, which are essential for the consumer in the formation of the product value. Competitive advantage is achieved over other products using different sets of product characteristics (Fig.1).

According to most authors (Lovelock & Weinberg, 1993; Hamel & Prakhalad, 1996; Assel, 1999; Lambert, 1996; Porter, 2006), there are two main ways to create a competitive advantage:

- offer better price for the product;
- offer a better quality of product, that can be achieved by:
- better customer service;
- the presence of the brand, the company's reputation for quality;
- innovative features of the enterprise;
- more convenient location of retail space for the buyer;
- advantages of the championship ("pioneering" advantages).

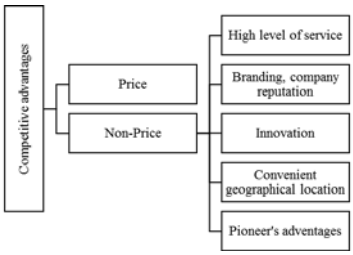

Figure 1 –Competitive advantages of products
Source: (Lovelock & Weinberg, 1993; Hamel & Prakhalad,1996; Assel, 1999; Lambert, 1996; Porter, 2006)

In order to determine the main competitive advantages of small business in developing countries, it is advisable to determine what exactly "small business" means and what are the features of its conduct. In different countries, the term "small business" at the level of the regulatory framework has quite different meanings. For example, micro-, small and medium businesses form one size of business category in some countries. On the other hand, there is no such definition as "Medium Business" in other countries, and "Micro Business" is an addition to small. This fact has a significant impact on the country's small business support policy.

That is why the development of small businesses in low- and middle-income countries should be considered in the context of specific countries (Pletnev et al., 2015). For example, if we talk about Ukraine, where the average monthly salary in 2021 is $ 401 (MFU, 2021), according to the Commercial Code of Ukraine (2003), small business includes enterprises and companies employing up to 50 people, and the total annual profit does not exceed 10 million euros. For comparison, the same restrictions on identifying small businesses apply in accordance with the definition of the European Commission (2021). Nevertheless, by 2020 small businesses are developing In Ukraine rapidly. At the end of 2018 and the beginning of 2019, 79% of the country's population was employed, and most of them worked in small businesses. However, the share of small and medium-sized businesses in GDP is only 15%, while in most countries, according to the UN, this figure is 30-60% of GDP (Ero, 2019).

In Moldova, where in 2021 the average monthly salary is about $501, small businesses include companies with an average number of employees up to 50 people and an annual turnover of

about 1.12 million euros. Most small businesses were established during the privatization and restructuring of state property (Barbaroshie & Nazar, 2014) and are engaged in trade (47%), food industry, light-, machine-building, and agricultural enterprises. The most critical factor determining the pace of small business development is the country's tax policy that helps the government to stimulate or restrain economic growth. According to the National Bureau of Statistics, at the end of 2018, small and medium-sized businesses accounted for 98.7% of all enterprises in the country. They employed more than 60% of all working citizens. Small Businesses accounted for 40.4% of sales (Agarkova, 2019). Since 2014, the country has had more than 30 business support programs under DCFTA, including small business support.

In Belarus, where the average monthly salary is $ 498 (MFU, 2021) in 2021, small businesses include enterprises with a total of up to 100 employees in industry and transport, up to 50 people in agriculture and science, technology, construction, wholesale trade, as well as other non-food sectors, up to 30 people in retail and consumer services (Pletnev et al., 2010). Since 1996, the country has moved to tighter state regulation of economic processes and control of business activities. Since then, the development of small businesses has declined significantly. Its contribution to the overall economic development of the country has decreased (Elovskih, 2005). Small business in Belarus is mainly represented by enterprises engaged in services (74% of the total number of small businesses). A specific characteristic of small business development is the uneven representation across the country. The maximum number of enterprises are concentrated in Minsk and large cities. In the regions, there is a relative uniformity of representation.

Tajikistan is a low-income country. According to statistics, the average monthly salary in this country is $135 (Take Profit, 2021). Small business in Tajikistan includes commercial enterprises in the authorized capital of which the share of the state, subjects of the republic, public and religious organizations does not exceed 25%, the share owned by one or more legal entities that are not small business entities is not exceeds 25% and in which the average number of employees does not exceed 50-100 people depending on the industry.

It should be noted that in Tajikistan, small business includes individuals who engage in entrepreneurial activities without establishing a legal entity (Tajik Legal Consortium, 2008). Today, more than 6,500 enterprises are involved in small and medium-sized businesses, the bulk of which (96%) are small businesses with up to 50 employees (Tajik Legal Consortium, 2008).

Kazakhstan is a middle-income country with a salary of about $ 537 in 2021 (MFU, 2021). Small businesses in the country include companies with up to 100 employees and an annual profit of up to 2.89 million euros. The indicators that determine the affiliation of a business to a small business here are floating. A feature of business regulation in Kazakhstan is the use of MCI (monthly calculation indicator), a coefficient that is not constant and is changing by the government. According to the law, the value of the assets of a small enterprise may not exceed the MCI more than 300 thousand times.

Also, small businesses may not include enterprises engaged in the production and (or) wholesale trade, storage of grain, lotteries, activities in the field of gaming or show business, activities for the extraction, processing, or sale of oil, petroleum products, gas, electricity, and thermal energy, in activities related to the circulation of radioactive materials, in banking and the insurance market, auditing, professional activities in the securities market, credit bureaus and security activities (Pletnev et al., 2015). The fastest pace of small business development was recorded after the entry into force of the "Law on measures of state support and intensification of small business development" in 1997. During the period from 1996 to 1997 years, the number of small businesses increased 2.4 times, and the share of their products – 1.8 times (8.5% of GDP). Due to such a sharp growth, the country practically overcame unemployment, which existed until 1995 (Ten, 2014).

Today, about 600 000 small businesses are registered in Kazakhstan, more than half of which are operating, and the number of enterprises involved in commerce is constantly declining. 12% of the registered companies are involved in the industry, 30% – in agriculture, 26% – in commerce, 9% – in construction, 23% – in the provision of intermediary and other services. In contrast to large and medium-sized businesses, small and medium-sized businesses have their own competitive conditions and business problems. According to statistics (Fig. 2), most small businesses have problems with demand for non-products and the formation of cash flows, which are often insufficient for development. Problems of solvency and obtaining additional loans are also one of the most common for small businesses.

At the same time, a study of the existing problems of small businesses in low- and middle-income countries shows the following: most developing countries have serious problems with corruption in the government, and therefore any initiatives to support small businesses by the state are formal (Ukrainian crisis media center, 2021). In fact, it is almost impossible to obtain funding for affordable programs (Ero, 2019; Barbaroshie & Nazar, 2014; Agarkova, 2019) (Fig. 2).

The main problem of small business development is the lack of effective and efficient financial support and the possibility of obtaining investment loans from banking organizations, the Small Business Development Fund, EBRD open credit lines, Central Asian and American business support funds. A significant obstacle to the development of small businesses is the imperfect taxation system (today, direct and indirect taxes account for 50 to 70% of total corporate income), so entrepreneurs try to avoid taxation (Abdulaev & Kaliakparova, 2015).

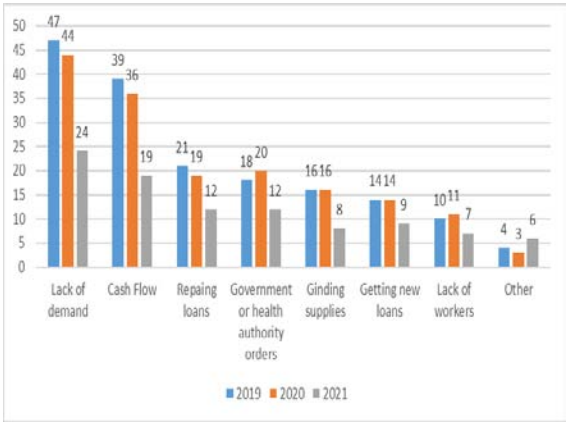

Figure 2 – Main problems of small business worldwide

Another major problem of small businesses is limited markets or considered remoteness from the centers of the world economy, lack of available energy resources, low capacity of the domestic market (Tajik Legal Consortium, 2008).

Issues of activity and development of small businesses are widely studied in scientific circles. The SCOPUS database alone contains 6,587 articles on this topic.

3 Research Results and Discussion

According to the results of theoretical research, the data on the competitive advantages of a small enterprise was summarized, which allowed drawing the following conclusions about them in the conditions of low and middle-income countries. Let's summarize the study in Fig.3.

Price factors of competitive advantage are achieved by reducing the cost of starting a business and its support. The main reducing

costs factors are the financial support of small businesses, which is expressed by obtaining affordable loans, as well as tax benefits, and the ability to enter foreign markets through the effective use of e-commerce quickly. Consider the practice of each of these influencing factors on the example of some low- and middle-income countries. Minor investment to run and the ability to use entrepreneurs' funds. Even with small start-up capital, entrepreneurs can start a small but successful business.

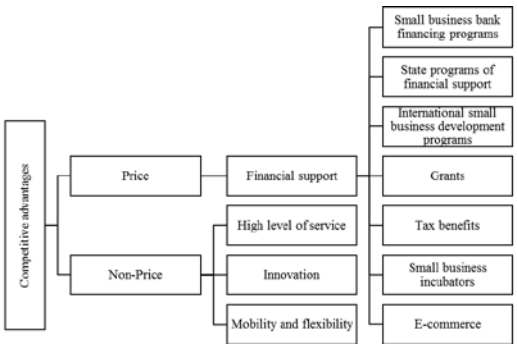

Figure 3 – Competitive advantages of small businesses of low and middle income countries

In most cases, even own savings will be enough to start a small business. As for official regulation, conditional sums are sufficient for creating a small enterprise in some enterprises. In particular, in Ukraine, Belarus, Moldova, Kazakhstan, and Tajikistan, the minimum amount of authorized capital for a small enterprise is not set (League Business, 2016). The absence of the need to attract credit or the need to attract only a small bank loan reduces the cost of finished products or services, making them more competitive, thus reducing the risk of business failure and increasing business success in the market. Levytska et al. (2019) and Akimova et al. (2020) determine the importance of analytical decisions for monitoring the activities of the enterprise and financial activities in particular. Small business does not require the use of expensive information resources for business management. Quite often, there are enough ready-made software solutions on the market to provide full automation of production processes, which in turn also reduces the commercial costs of business support.

Small business bank financing programs. Small business bank lending programs in countries with economies in transition and in low- and middle-income countries differ from ordinary consumer loans to households (on average 24-30% per annum for up to 5-6 years) in contrast to Western countries, where the entrepreneur can get a long-term loan at 2-4% per annum. For example, in Tajikistan, entrepreneurs can only get short-term loans at 26-28% per annum in order to expand their business (Cabar Asia, 2021). In Belarus, to support small businesses in commercial banks, entrepreneurs can get a loan for up to 1 year at 12.1% per annum and for one year at 11.4% per annum (Ministry of Economics of the Republic of Belarus, 2021).

State financial support. Many authorities in different countries stimulate the development of small businesses. Since small business is the basis of the economy of almost any country, its support is fundamental in the activities of all government agencies. That is why in different countries programs for the protection of small businesses are being developed and implemented, which are measures for preferential taxation, providing entrepreneurs with cheap loans. However, these incentive programs are not in force in all countries but are more formal. For example, in Ukraine, the government has introduced the program "5-7-9", which would allow small businesses to take advantage of cheap loans, which can significantly increase the pace of development of small businesses affected by the pandemic (in 2020, stopped or suspended about 20 % of enterprises). In fact, obtaining a loan under the program is almost impossible (Ukrainian Crisis Media Center, 2021). The situation in Belarus is somewhat similar. Here, in accordance with the state program to support small business issued financial assistance in the amount of 3 million rubles from the national budget, 6 million from local, 120 million allocated from the Development Bank of Belarus, 485 thousand rubles from other sources (Council for the Development of Entrepreneurship in the Republic of Belarus, 2016; Ministry of Economy of the Republic of Belarus, 2020). But these funds are not enough for most entrepreneurs who would like to use them. Tajikistan also provides financial support to enterprises from the state budget, local budgets, and other sources (Tajik Legal Consortium, 2008).

Grants. Small businesses can obtain additional capital by receiving grants. These can be grants from the state (for example, a grant from the State Employment Service of Ukraine to the unemployed to start their own business: for this, entrepreneurs need to submit to the service a developed business plan of the project. The grant must be returned, but it is interest-free.

International business development programs. In low- and middle-income countries, international business development programs provide a grant to develop or start a business. For example, since 2016, the EBRD has been providing grant support for small and medium-sized businesses in Ukraine under the EU program EU4Business. To date, more than 1,000 companies have received grant support, mainly from trade and the food industry. Under the terms of the program, an entrepreneur can get 50% of the amount needed to start, which, in turn, can significantly reduce the cost of a product or service and increase its competitive advantage (Build your own, 2021). In Belarus, there is a grant program from the EBRD "BAS". Under this program, small businesses can receive financial assistance of up to 10 thousand euros, and the EBRD's share can reach as much as 75% of the project cost (New Site, 2021).

Tax benefits. Tax breaks are perhaps the most common method of stimulating small businesses in the economies of low- and middle-income countries. This primarily applies to the application of the simplified taxation system, which is used for enterprises in all sample countries.

Incubators for small business development. A business incubator is a specialized organization that provides support to start-up entrepreneurs and promotes small businesses. The main purpose of the small business support incubator is to help businesses gain a foothold in the market and stay firmly on their feet. Thanks to the business incubator, small businesses can get office space, secretarial and correspondence services, professional advice on legal, financial, tax, patent aspects of management, assistance in attracting investment, participation in tenders, competitions, and grant programs (ZHAZHDA, 2021). Belarus provided support to small businesses. It is a network of infrastructure entities, represented by 88 business support centers and 19 small business incubators. The centers provide assistance to beginners and experienced entrepreneurs to get financial, material, and technical resources, participate in exhibitions, establish business contacts, promote products, and train qualified personnel. Also, small businesses can get premises, office equipment, and other property, get advice and assistance in finding business partners, obtaining funding (CED, 2019).

Easy access to the global market in e-commerce. Small businesses, especially when launching a new product, face extremely difficulty compete with large and well-known companies because to promote the product, they need to invest heavily in advertising to start a business. Thanks to e-commerce, the target audience is people from all over the world who have the opportunity to use the Internet. They can start a business with their own advertising on social networks. In order to create a store page on social networks and promote the product, they do not need much money.

All they need is to pay for the services of a professional photographer and spend some time to publish posts with photos and descriptions. It is also necessary to make a one-page site for the sale of goods and advertise it. It is enough to make links on social media pages, where potential buyers could go to it and buy the necessary thing (Azbuka, 2020). As for the impact of e-

commerce as an easy way to enter the market, the situation is quite controversial because in developed countries with medium and high incomes (and education) e-commerce allows not only to stay in the market during the COVID-19 pandemic, but also to expand sales. However, Wynn & Olayinka (2021) research shows that in countries with a low level of development such as Nigeria, e-commerce is not effective due to the lack of technologies, strategies, and skills of e-commerce. In general, this applies to all low-income countries, including and Tajikistan, which we considered in the sample.

Ability to use the local raw materials market, including waste of large production. Another advantage of a small business is the possibility of choosing a business area where the raw material will be waste from the production of large enterprises nearby. In some cases, this allows companies to not pay for raw materials at all, but they receive funds from the enterprise for its utilization. In such a way, entrepreneurs can get free raw materials, but it is also a very high probability that grants from developed countries can support this ecological project. As a result, companies can get equipment for Recycling for free, and in the conditions of a constant gas grade, this is a significant competitive advantage (ECODEVELOP, 2020). However, the issue is also controversial and complementary. In particular, Sukaryavichute et al. (2021) built their research on the proximity of small businesses not only to the resource base but also infrastructure objects. In particular, they showed how developed could be a small business near the railroad knots. Transport nodes (ie, great passenger traffic) allows small businesses to get a sizeable free number of consumers, which usually promotes the development of competitive advantages of small business. Qualitative factors of competitive advantage are based on the creation of a good service using innovative technologies.

Creation of innovative products (new goods). Most innovative products are created as a result of the creativity of one or more people. Homemade HandCraft is a way of launching a small business without excessive expenses. In this case, a businessman-commissioner does not require significant investment but uses the result of his work for earnings. Speaking about the innovation of small businesses in handmade products is interesting to study Vayrakh Yu et al. (2021), which confirm that the creation of unique products in small businesses allows the market to see new goods. But the only way to promote and develop such a sphere is to create a brand and a unique, recognizable image that will be allocated against the backdrop of factory products made on production lines. At the heart of the innovation of any product, according to Dabić (2021), lies the intellectual agility of an entrepreneur, which is easily implemented in a small business. In small businesses, it is easier to ensure that commercial secrecy is more accessible since, in the absence of a large number of hired staff, secrets of innovation remain only in affordable owners, and therefore security management (Kalyayev et al., 2019) is carried out at a high level.

High-quality services due to their business owner. Large enterprises in the manufacture of a product or provision of services are repulsive from statistical data on the needs of a huge target audience. In these studies, the requirements of small parts of the target group are summarized or ignored, so the product or services representing the company can not satisfy the needs of some part of the interested buyers. In turn, a small business can draw attention to the audience, which is deprived of large manufacturers' attention and provides them with better services. Such cooperation can be called an individual approach to a separate customer or a certain group of clients (Unite School of Business, 2021).

The flexibility of responding to changes in the market in a simple organizational structure. Mobility and flexibility are not the main competitive advantages of small enterprises in relation to large ones. Small business enterprises can easily rebuild their business or organizational models for new requirements of the market and promptly adjust the methods of conducting the entrepreneurial activity. The administrative staff of a large enterprise does not compare with the administration of the small. To adopt a decision on a large enterprise, a fairly long period is required to perform all bureaucratic procedures. While at a small enterprise, where its leader is responsible for making decisions, the adoption rate depends only on how fast he will react to market requirements for completing the relevant changes. Another advantage of small businesses in flexibility is that in the case of force majeure circumstances, the location of small trading can easier be changed, unlike major manufactures or large industrial complexes. Furthermore, small businesses react much faster to changes in their customers since more customer-oriented ones.

Many studies in 2021 were carried out in the field of small enterprises and their reactions to COVID-19. The main competitive advantage of small enterprises in 2021 is their flexibility in accordance with the variable environment. This fact could be easily seen in a pandemic on the example of public catering establishments and trade. Large enterprises are seriously affected by quarantine events (especially food establishments). In turn, small cafes set up targeted delivery of ready-made dishes very quickly, which allowed them not to close and save the staff. Confirm the study of Kawaguchi et al. (2021), according to which the number of small enterprises has completely closed due to COVID-19. However, using state support programs and subsidies, enterprises quickly reoriented to working conditions during quarantine and increased their revenues by 19%. Interestingly, the flexibility and mobile of small businesses concerns not only post-pandemic conditions of activity but also such stable industries as construction (Burov et al., 2021). At first glance, it seems that there is no small business chance in this field.

However, the possibility of cooperation, network associations, and effective interaction with other small business representatives creates an opportunity to cover markets and conduct a competitive struggle at the level with large players. Small businesses can become the only way to out of a crisis for big businesses. This idea was shown by Cepec J. and Grajzl P. (2021). They believe that creating a small business is the only correct way of reorganizing large enterprises in the case of bankruptcy. Having established business contacts with buyers, suppliers, and partners, the reorganization will be most appropriate for both business owners and the country. And vice versa, a small business can quickly progress in large (and even restore the activities of a large enterprise). Research Saidi et al. (2021) and Zahorskyi et al. (2020) show that effective strategic directions can easily increase the business value that is easier to implement in small business conditions. Gradually increasing capital, there is an opportunity to move to great entrepreneurship. According to Korneeva et al. (2021), small businesses can take and essentially assume the role of a stabilizer of the economy and is the basis for sustainable development for any country.

4 Conclusion

The competitive advantages of small businesses in low and middle-income countries are determined by price and non-price factors. Small businesses can achieve low prices by reducing the cost of launching a company since many countries have state support, the application of international funding programs, attracting grants for certain types of activities. Entrepreneurs can also reduce the cost of business maintenance by using local natural resources, infrastructure, and advertising costs through e-commerce. Regarding non-price factors, the largest of them is mobility on flexibility, which appears due to a simple organizational structure that allows businesses to change faster in the market environment, respond to a crisis, and be comprehended with other small enterprises to effective networks, etc. Small businesses are often launched by talented entrepreneurs who create innovations, new products, and sales technologies. In addition, directly controlling production and sales processes, business owners genuinely provide the best service for consumers. However, as in any sphere, these competitive advantages are just opportunities that are not

available to every entrepreneur. Small business success depends on a properly built strategy that will help using the appropriate opportunity and provide business development.

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Primary Paper Section: A

Secondary Paper Section: AE

THE IMPACT OF UNIVERSITY EDUCATION ON ECONOMIC DEVELOPMENT COUNTRIES

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Abstract: Governments around the world have noted the importance of educating and training professionals with different skills, expanding education and inclusion, especially at the tertiary level. Among the main reasons is the need to ensure economic growth through improving the skills and quality of human capital. Higher education is seen as a source of innovation, provides increased levels of productivity and economic growth. The aim of the article was to identify the level of economic impact of university education in low-income countries. The article used methods of statistical analysis, correlation analysis, regression analysis to identify a linear relationship between indicators of economic growth CAR, Nigeria and indicators of university education for the years 1980-2020.

Keywords: University Education, Education and Economic Growth, Human Capital and Growth, Low-Income Countries

1 Introduction

The governments of various countries of the world are focused on the importance of education and the formation of professionals with different skills, the expansion of education and inclusion, especially at the tertiary level. Among the main reasons is the need to ensure economic growth by increasing the qualification and quality of human capital. Higher education is regarded as a source of innovation that ensures an increase in the level of labor productivity and economic growth. Moreover, the policy of expansion and accessibility of higher education for all segments of the population is often considered to be a decent public policy through its potential impact on economic growth (Hanushek, 2016). Higher education provides essential benefits and advantages for the population, particularly through the potential for career growth, higher income levels, knowledge and skills. For this and a number of other reasons, the governments of the countries are pushing for an expansion of education through its potential impact on productivity and economic growth. Economic growth depends on the capital knowledge of the country. However, measuring the capital of knowledge using mathematical or natural science tests to assess the success of students does not have a direct impact on economic growth (Hanushek, 2016). The increase in the number of years of study at universities also does not significantly affect the growth of the country (Hanushek, 2016). The structure of specialization of higher education (engineers, electrical engineers, mechanics, etc.) and investment of the country and the population in education are important changes. At the same time, a higher level of skills of students ensures a higher level of economic impact of the university education. The aim of this article is to identify the level of economic impact of university education in low-income countries.

2 Literature review

In the late 1980s and early 1990s, macroeconomists turned to attempts to explain differences in growth rates around the world. A variety of different questions occupied a large part of the theoretical analysis of growth, which developed with the revival of empirical growth analysis. For example, the issue of whether growth should be modeled in terms of income growth rates, or whether it should be modeled in terms of income levels, has been addressed. Early growth models of the economy depending on various factors are usually identified as endogenous growth models (Lucas, 1988; Romer, 1990), while later growth models are usually considered neoclassical growth models (Mankiw et al., 1992). The two different perspectives have substantially different implications for long-term growth and economic income. From the human capital perspective, the focus of research is on how an increase in the quality of human capital provides an increase in income, but does not provide a change in the stationary rate of growth in the neoclassical model. On the other hand, an increase in the quality of human capital in the endogenous growth model would lead to an increase in the long-run growth rate. Theoretical differences have received considerable theoretical attention, although relatively few empirical studies have attempted to provide evidence for a particular form of dependence (Benhabib & Spiegel, 1994; Hanushek & Woessmann, 2016; Holmes, 2013). However, the differences between theoretical approaches to assessing the impact of human capital on countries' economies are not fundamental, whereas measuring the quality of human capital is fundamental. While there are significant differences in how skills affect economies, little of the large body of theoretical work has focused on measuring relevant skills.

This article argues that the issue of measurement-especially when we consider the role of higher education-becomes central to any empirical considerations of the human capital-growth nexus. The historical development of modeling and measuring human capital provides an important basis for understanding the development of contemporary empirical analysis of growth. The importance of workforce skills has entered into one of the oldest economic analyses, and the history of research helps explain a number of issues concerning modern analysis of economic growth. For example, William Petty (Petty & Graunt, 1899), an early economist in public finance, evaluated the economics of war and immigration in terms of the skills (and wages) of individuals. Adam Smith (Smith, 2019) introduced the ideas of different skills of the workers who take a win in the labor market in "The Wealth of Nations," although other notions of specialization of labor outweighed his notions of human capital. Alfred Marshall (Mincer, 1970), however, believed that the concept of human capital lacked empirical correlation, in part because of serious measurement problems. After the collapse of more than half-systematic and influential works of Theodore Schultz (1961), Gary Becker (2009), and Jacob Mincer (1970), and others have developed a century the concept of human capital. Their research gave rise to a rapid growth of both theoretical and empirical application of the concept of human capital to a wide range of issues. The contribution of Jacob Mincer (1970) was particularly important in empirical research on the significance of human capital in economics. The central criticism of the early ideas of human capital was that human capital was an essentially unlovable concept, which lacked ideal indicators of measurement. By confirming that the difference in wages, for example, was caused by a difference in qualification or human capital, we can assume that the measurement of human capital can be made at the expense of stipulated differences in wages, a completely tautological assertion. Jacob Mincer (1970) in a simple, but elegant model reconsidered the individual investment model. He asserted that the main motivation for schooling is to develop the general skills of individuals, and that individuals can be viewed on the basis of a measure of school attendance hours in order to invest in skills that will eventually pay off in the labor market. Therefore, there was an idea to measure human capital by the amount of schooling that individuals received. Jacob Mincer (1970), based on statistical analysis, showed that differences in wages could be explained by school success and, in a more subtle way, by investment in on-the-job training (Mincer, 1970). This notion was universally

accepted and dictated the empirical approach of most empirical analyses in labor economics until today. It is important that success at school was something that was often measured in censuses and inventories, supporting the empirical analysis of scientists. For example, the Mincer wage function has become a general model for wage determination and has been established in more than 100 individual countries (Psacharopoulos & Patrinos, 2004). The desire to expand university education is based on the argument of economic growth due to the increase in the number of graduates. However, empirical studies have shown that an increase in the number of years of education without an increase in the level of cognitive skills has little impact on the economic growth of the country, The difference in cognitive skills (knowledge capital) explains the different rates of economic growth in different countries (Hanushek, 2016; Niessen et al., 2018).

A number of studies on countries with high, medium and low income have shown a positive effect of human capital on the level of economic growth (Qadri & Waheed, 2013; Kruss et al, 2015; Zhu & Li, 2017; Siddiqui & Rehman, 2017; Ogundari & Awokuse, 2018; Ali et al., 2021; Matousek & Tzeremes, 2021). However, there are no studies on the impact of university education on economic growth, and the studies are mainly based on data on primary and secondary education. A review of the literature based on 283 data from various studies revealed a link between the low level of income of citizens, low socio-economic status and the low level of education in most cases (Bulman, Eden & Nguyen, 2017).

3 Materials and research methods

This article uses methods of statistical analysis based on indicators of average value, standard deviation, dilution, minimum and maximum, correlation analysis, regression analysis to show the relationship between the indicators of economic growth CAR, Germany and indicators of university education. World Bank data were used for the years 1980-2020 for both countries, which were available in the database. The dependent variables are GDP per capita growth (annual %), GDP growth (annual %), GDP per capita (constant 2010 US $); the independent variables are School enrollment, tertiary (gross), gender parity index (GPI), School enrollment, tertiary (% gross), School enrollment, tertiary, male (% gross), School enrollment, tertiary, female (% gross), Pupil-teacher ratio, tertiary. The study countries were selected based on the availability of data for low-income countries. The main limitation of the study was the lack of data for comparison for other low-income countries.

4 Results

The World Bank classifies CAR and Nigeria as low-income countries. In CAR, the annual GDP growth rate averaged 1.154% in 1980-2020 with a deviation of 7.323%. In 2020 the GDP growth rate was -1.75%. Per capita GDP averaged $ 450.346 in 1980-2020, down $ 185 from 1980 ($ 562) to 2020 ($ 377). School enrollment, tertiary enrollment was 1.89%, particularly for males 2.951% and females 0.733%, indicating that fewer females are enrolled in tertiary education. The latter trend is also indicated by the gender parity index (GPI) CAR, which averaged 0.224. In addition, the CAR shows nervousness in taking into account women's HEIs. The mean value of the Pupil-teacher ratio CAR was 17 with a deviation of 10 (see Table 1).

Table 1: Descriptive Statistics of Change: Central African Republic 1980-2020

	GDP per capita growth (annual %)	GDP growth (annual %)	GDP per capita (constant 2010 US$)	School enrollment, tertiary (gross), gender parity index (GPI)	School enrollment, tertiary (% gross)	School enrollment, tertiary, male (% gross)	School enrollment, tertiary, female (% gross)	Pupil-teacher ratio, tertiary
Mean	-0,840	1,154	450,346	0,224	1,890	2,951	0,733	17,137
Standard error	1,118	1,144	9,851	0,017	0,115	0,128	0,080	1,629
Median	1,319	3,600	438,456	0,187	1,563	2,694	0,554	17,773
Standard deviation	7,160	7,323	63,080	0,106	0,739	0,820	0,511	10,429
Excess	15,112	17,129	-0,801	-1,226	-1,268	-1,315	-1,321	-1,541
Asymmetry	-3,299	-3,537	0,051	0,472	0,542	0,220	0,637	0,334
Interval	43,536	45,874	228,325	0,377	2,252	2,726	1,480	30,735
Minimum	-36,557	-36,392	334,441	0,062	0,885	1,638	0,121	3,872
Maximum	6,979	9,482	562,766	0,439	3,137	4,364	1,601	34,607
Account	41	41	41	41	41	41	41	41

Source: author's based on World Bank (2021b)

In Nigeria, the average value of GDP growth rates in 1980-2020 was 3.055% with a deviation of 5.388%, and GDP per capita – $ 1784 with a deviation of $ 441. GDP per capita grew by $ 224 from 1980 ($ 2,049) to 2020 ($ 2,273), while the value of gender parity index (GPI) is significantly higher compared to CAR – 0.589 for 1980-2020. For example, the index was 7.07, particularly for men – 8.809 and women – 5.523. There are 19 students per 1 HEIs teacher in Nigeria on average, while there are 17 students in CAR (see Table 2).

Table 2: Descriptive Statistics of Change: Nigeria 1980-2020

	GDP per capita growth (annual %)	GDP growth (annual %)	GDP per capita (constant 2010 US$)	School enrollment, tertiary (gross), gender parity index (GPI)	School enrollment, tertiary (% gross)	School enrollment, tertiary, male (% gross)	School enrollment, tertiary, female (% gross)	Pupil-teacher ratio, tertiary
Mean	0,423	3,055	1784,724	0,589	7,070	8,809	5,523	19,135

Standard error	0,819	0,841	68,910	0,023	0,468	0,442	0,426	0,891
Median	1,278	4,196	1598,820	0,687	7,920	9,176	6,627	16,214
Standard deviation	5,245	5,388	441,241	0,150	2,996	2,832	2,729	5,707
Excess	2,079	2,000	-1,422	-1,066	-1,659	-1,907	-1,772	-0,273
Asymmetry	-0,863	-0,857	0,487	-0,701	-0,254	-0,075	-0,186	0,770
Interval	27,908	28,457	1233,110	0,457	8,649	7,259	6,900	22,556
Minimum	-15,450	-13,128	1317,360	0,324	1,842	4,999	1,771	12,271
Maximum	12,457	15,329	2550,470	0,782	10,491	12,258	8,671	34,826
Account	41	41	41	41	41	41	41	41

Source: author's based on World Bank (2021a).

A correlation analysis of economic growth data and university education indicators for the Central African Republic (Table 3) made it possible to reveal a direct linear relationship between the growth rate of GDP per capita (%) and the gender parity index of enrollment in higher education (0, 11). There is a low correlation between GDP per capita at 2010 prices and the index of gender parity for enrollment in higher education (coefficient -0, 58), involvement to higher education (-0,61), especially of men (-0,64) and women (-0,58), ratio of students to teachers (-0,61) (see Table 3).

Table 3: The correlation of Change: Central African Republic 1980-2020

	GDP per capita growth (annual %)	GDP growth (annual %)	GDP per capita (constant 2010 US$)	School enrollment, tertiary (gross), gender parity index (GPI)	School enrollment, tertiary (% gross)	School enrollment, tertiary, male (% gross)	School enrollment, tertiary, female (% gross)	Pupil-teacher ratio, tertiary
GDP per capita growth (annual %)	1,00							
GDP growth (annual %)	0,99	1,00						
GDP per capita (constant 2010 US$)	0,19	0,23	1,00					
School enrollment, tertiary (gross), gender parity index (GPI)	0,11	0,02	-0,58	1,00				
School enrollment, tertiary (% gross)	0,05	-0,04	-0,61	0,92	1,00			
School enrollment, tertiary, male (% gross)	0,05	-0,04	-0,64	0,87	0,97	1,00		
School enrollment, tertiary, female (% gross)	0,07	-0,01	-0,58	0,97	0,98	0,94	1,00	
Pupil-teacher ratio, tertiary	0,08	-0,01	-0,61	0,95	0,96	0,93	0,96	1,00

Source: author's based on World Bank (2021b).

The correlation analysis of the data of economic growth and indicators of higher education for Nigeria (Table 4) shows a low direct linear relationship between the growth rate of GDP per capita (%) and the gender parity index in higher education (0, 44), enrollment in institutions of higher education (0,49), especially of men (0,44) and women (0,43), ratio of students to teachers (0,33). There is a direct correlation between the rate of GDP growth on the indicators of university education, between GDP per capita and indicators of university education (see Table 4).

Table 4: The correlation of changes: Germany 1980-2020

	GDP per capita growth (annual %)	GDP growth (annual %)	GDP per capita (constant 2010 US$)	School enrollment, tertiary (gross), gender parity index (GPI)	School enrollment, tertiary (% gross)	School enrollment, tertiary, male (% gross)	School enrollment, tertiary, female (% gross)	Pupil-teacher ratio, tertiary
GDP per capita growth (annual %)	1,00							
GDP growth (annual %)	1,00	1,00						
GDP per capita (constant 2010 US$)	0,14	0,15	1,00					
School enrollment, tertiary (gross), gender parity index (GPI)	0,44	0,44	0,60	1,00				
School enrollment, tertiary (% gross)	0,49	0,49	0,73	0,92	1,00			
School enrollment, tertiary, male (% gross)	0,44	0,44	0,77	0,87	0,99	1,00		
School enrollment, tertiary, female (% gross)	0,43	0,43	0,77	0,93	0,99	0,98	1,00	
Pupil-teacher ratio, tertiary	0,33	0,34	0,70	0,66	0,78	0,79	0,80	1,00

Source: author's based on World Bank (2021a).

Thus, while the Central African Republic shows a negative correlation between GDP per capita, in Nigeria there is a direct linear relationship. This can be explained by the fact that in CAR the average value of GDP per capita growth (annual %) was

observed in 1980-2020, while in Nigeria the value of GDP per capita growth (annual %) was additional in 1980-2020. The constructed graphs of the linear relationship between GDP per capita and enrollment in higher education institutions in CAR and Nigeria also indicate a positive link between the variables for CAR, a direct linear link for Nigeria (see Fig. 1-2).

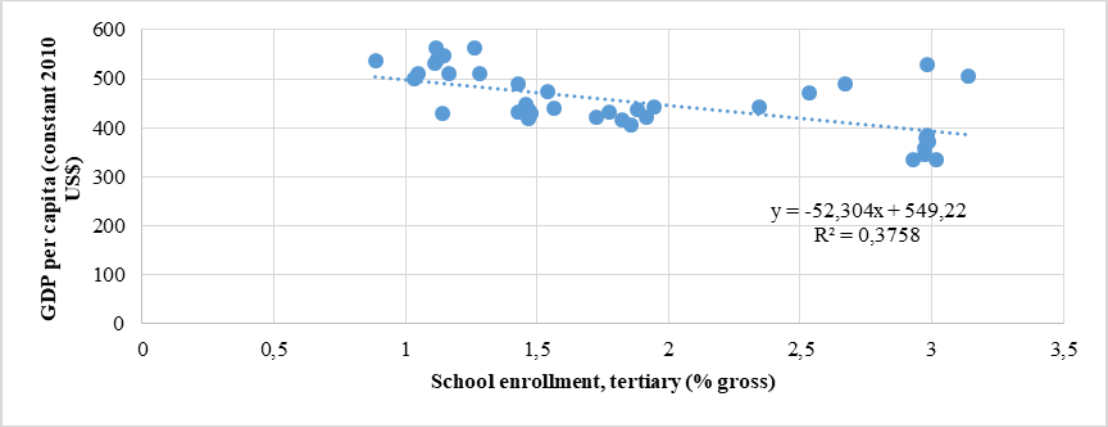

Figure 1 – Linearity between school enrollment, tertiary (% gross) and GDP per capita (constant 2010 US $) in CAR
Source: author's based on World Bank (2021b).

The coefficient of determinacy of the CAR dependence ratio is 0.3758, which indicates that enrollment in institutions of higher education explains 37.58% of the growth of GDP per capita CAR. For comparison, enrollment in institutions of higher education explains 52.67% of GDP per capita growth in Nigeria.

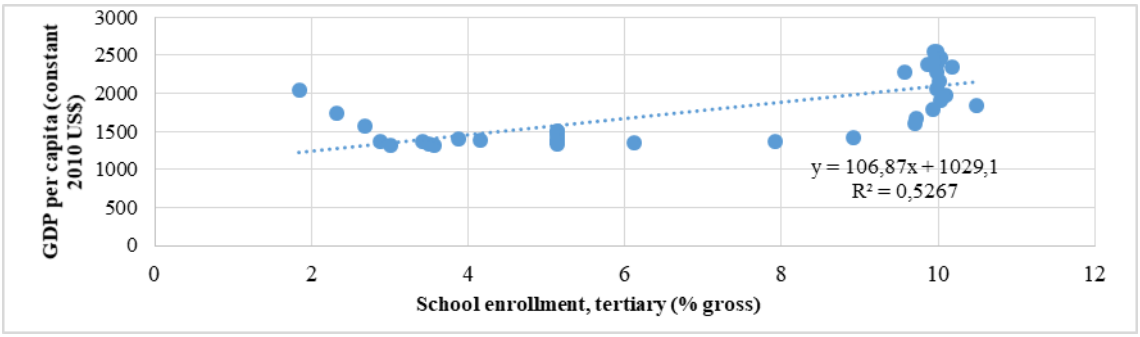

Figure 2 – Linear relationship between school enrollment, tertiary (% gross) and GDP per capita (constant 2010 US $) in Nigeria
Source: author's based on World Bank (2021a)

5 Discussion

Higher education slipped down the international development agenda in the past 25 years as first the education for all goals and then the millennium development goals focused on primary education, at the same time as the overall global development discourse put little emphasis on issues of industry-led growth, technological progress and innovation. Yet since the millennium, governments and populations in the South have largely accepted the discourse of the global knowledge economy and higher education enrolment growth has been phenomenal, with some national systems in Africa expanding more than ten-fold since 2000. Nonetheless, the absence of external support to higher education had a major negative effect on research capacity on education for development in Africa, whilst Northern scholars also largely evacuated the field due to parallel declines in funding. Slowly, research activity on higher education and development is beginning to rebuild internationally. Significantly, our analysis of the two cases stresses the importance of the intersection between the global, national, sectoral and spatial dimensions when thinking about the connection between education and economic development. It shows how these vary considerably and how dynamics at multiple scalar levels work in complex ways to shape possibilities for development. Higher education institutions contribute to economic development, focusing on the evolutionary economy and the approach of national innovation systems.

This gives a different advantage in the conceptual role of higher education development through a focus on the importance of education, skills, labor, innovation and production for economic development. (Kruss et al., 2015). The study by Qadri & Waheed (2013) reveals a correlation between the potential for higher income levels in countries with a low level of income for the conditions of investment in human capital (higher education, among others). Ali et al. (2021) based on a regression analysis of panel data in a sample of 12 low-income countries for 1980-2016, found a correlation between economic growth and human capital. Zhu & Li (2017) found that high-income countries have a higher level of complexity than low- and middle-income countries. The empirical findings of Zhu & Li (2017) reflect the positive impact of economic complexity and different levels of human capital on long- and short-term growth. At the same time, secondary education as an indicator of the level of human capital development has a comparatively greater positive direct effect and a much stronger interactive effect on economic growth. Ogundari & Awokuse (2018) used panel data from 35 African countries to find a positive impact of education as a measure of human capital on economic growth, although the health contribution is comparatively greater than the impact of education.

The study by Siddiqui & Rehman (2017) revealed the dependence of economic growth in the countries of North Asia on primary and secondary education. At the same time, the level of higher and vocational education has a greater positive impact

on economic growth in Central Asia. Siddiqui & Rehman (2017) also reported a positive effect of government spending on education on economic growth in North and East Asia. The differences in the rates of growth in North and East Asia are related to the differences in the progress of education in the regions. This study also revealed a correlation between economic growth and higher education, while in CAR a low HEIs enrollment rate is negatively correlated with GDP per capita, in Nigeria a slight increase in HEIs enrollment rate is positively linearly related to GDP per capita.

6 Conclusion

In CAR the annual GDP growth rate averaged 1.154% over 1980-2020, per capita GDP averaged $ 450.346 over 1980-2020, a decrease of $ 185 since 1980. School enrollment, tertiary CAR was 1.89%, particularly for males 2.951% and females 0.733%, indicating that fewer women are enrolled in higher education. In Nigeria, GDP growth averaged 3.055% at a margin of 5.388% over 1980-2020, and per capita GDP was $ 1,784 at a margin of $ 441, with per capita GDP increasing by $ 224 from 1980. The growth rate was 7.07, particularly for men – 8.809 and women – 5.523. GDP per capita CAR is negatively correlated with HEIs, while GDP per capita in Nigeria is directly correlated with HEIs.

Further research should be directed to the identification of the link between the skills of the population of low-income countries and economic growth.

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Primary Paper Section: A

Secondary Paper Section: AM

HUMAN MENTAL ACTIVITY AND ITS VERBALIZATION

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Abstract: The article presents the problems of improving the efficiency of the learning process in the space of modern higher education. The research aims to establish the effectiveness of applying methods related to the verbalisation of human mental activity in the process of learning and self-organisation, and to the evaluation of teaching methods that apply verbalisation of mental activity by participants of the educational process. This involves considering the features of activating speech skills, clarifying the stages of teaching, analysing the learners' attitude to new approaches, several useful suggestions for teaching and acquiring speech skills, activating a positive attitude to rectitude, self-government, and career growth.

Keywords: verbalisation, mental activity, higher education institutions, cognition, communication skills

1 Introduction

Verbalisation of human mental activity and its role in a self-organised learning process is a topical subject for modern pedagogical thinking and is often considered as part of educational technologies. Practice-centred methods and procedures are developed by the Institute of Cognitive Behaviour (2021). These are 21 methods of "self-verbalisation" designed to develop and provide a strategy for positive thinking. The expression and verbalising assessments should guide the processes of learning, crisis situation resolution, and problem solving. These techniques are the basis of the experimental course called “Philosophy of Serving”.A number of works touch upon the related issues (Jones, 1999; Ivanova, et al, 2020): when studying humanitarian subjects, European students of higher education institutions often expressed unwillingness to participate in verbal communication and refused to create systematic and structured educational texts. Verbalisation as a teaching method is aimed at improving speech and text-forming activities. This way of encoding the received information in regard to its emotional and cultural content also allows one to store and comprehend educational material as well as facilitates orientation in the topic and independent search for the necessary information in the case of independent topic development (Köktürk, 2012).

Verbalisation as an educational means requires a systematic approach to improving the learning process and the ability to use it. It can increase the self-effectiveness of learning since it is designed to increase self-esteem and make one believe in their capabilities. When preparing educational complexes based on the possibilities the verbalisation of mental abilities provides, it is necessary to carefully model actions and educational strategies.

2 Literature review

Pedagogy has developed a number of teaching methods based on communicative and interactive teaching practices (Rababah, 2020; Salgur, 2013) common in the fields where interactive teaching methods are involved. For example, foreign language learning, literary and journalistic activities, linguistics, law, (Patil, 2008; Synorub, 2019; Karpushyna, 2019).

The problems of fluent communication (and especially in foreign languages), the difficulties in creating one's own independent texts, their causes and consequences are considered by many researchers (Ko, et al, 2013). They offer ways to explain, neutralise, and eliminate them (Noon-ura, 2008). A number of researchers have studied the features of verbalisation of individual mental states (Damian, et al, 2017). The phenomenon of multilingualism was considered as a way of learning. Simultaneous use of multiple languages is a way of verbalisation of a person's mental capabilities. Its special core of success is metalinguistic consciousness (Veera, 2018). An important part of the success in applying interactive teaching methods based on human verbalisation capabilities is motivation and its inclusion in the curricula of educational institutions (Sim, 2014; Kiki-Papadakis, 2016). These are motivation to speak several languages, cognitive and communicative competencies, attention to the features of speech memory (verbal, associative), features of crisis thinking in the context of education technologisation (Cavus, 2017; Mason, 2006).

In modern pedagogy, there are 2 main areas of work that analyse the causes of children and youth's struggling with the actualisation of speech activity, unwillingness to participate in debates, group discussions, and crisis meetings (Aronin, 2018). This is a study of the problem of silence (Czarnecki, 2014) and (Bruin, et al, 2014). Various interpretations of silence are highlighted. Their alternative or positive use in the cultural space and education is indicated. The second direction is focused on the necessity to activate the need for self-expression and introspection. In addition to the ability to listen, one should also express themselves, quickly navigate through the educational space, find a problem, verbalise its contents and solve it.
The problem of the complex use of methods of verbalisation of human mental activity was neglected by the researchers. Such complexity is possible within the framework of development courses, academic disciplines dedicated to communication skills, career growth, self-improvement, etc.

2.1 Aims

The research is aimed at establishing the effectiveness of educational innovations that use the possibilities of verbalisation of human mental abilities, in particular linguistic and speech activities, the actualisation of cognitive and communicative capabilities, activation of abilities for learning self-organisation.
Based on the aim, it is planned to perform the following research tasks:

- Assess the effectiveness of activating verbalisation of mental activity at the level of improving students' overall academic performance caused by mastering verbal skills within the framework of the training course dedicated to career growth.
- Describe the degree of the respondents' interest and their positive attitude to the implementation of new educational components, aimed at self-development and improvement of educational skills.

3 Materials and research methods

The experiment involved 62 first-year students of the first (Bachelor's) educational level. They study for the legal specialities in the field of Economics (the faculty of Economics and Law" at Simon Kuznets Kharkiv National University of Economics (Ukraine); the Faculty of Natural Economics» at Kamianets-Podilskyi Ivan Ohiienko National University (Ukraine). All the participants voluntarily agreed to participate in the experiment. All students were divided into four groups. Two of them were experimental (EG1, EG2). They actively used verbalisation during classroom training and independent work as a way to activate mental activity in the course of learning. In addition, a cognitive-communicative approach, methods of self-organisation, and interactive learning methods involving verbality have been applied. In the 1st semester, these groups were suggested to undergo a special academic discipline “Philosophy of Serving”. It belonged to a selective block of disciplines (could be chosen by students) and was intended to familiarise the first-year students with the guidelines and rules of the higher educational institutions on the

policy of academic rectitude, active participation in student self-government, the formation of ethical behaviour of lawyers in the economic field, etc. The very concepts are of an abstract nature. It requires verbal effort and actualisation of communicative contents. The possibilities of verbalisation are widely used as a learning tool. For 2 control groups (CG1, CG2), the curriculum did not provide for the introduction of a selective course "Philosophy of Serving".

The research involves a 3-stage experiment. Before Stage 1 and at the end of it, the initial assessment of the respondents' academic performance was carried out (overall average score of student learning outcomes). Moreover, the questionnaires were distributed, and the questionnaire survey was conducted with the purpose of gathering personal data and determining the attitude of respondents to the offered discipline. Students gave answers voluntarily. The research team guarantees the privacy of surveys, and the personal information received will not be made public by the research team.

Before the experiment started, as well as at Stage II (at the end of the semester), each group was assessed for their academic performance. We refer to the average score for all subjects. However, at the beginning of the experiment, the results of the school certificate are taken as a basis. The data has been collecting from September 2020 to April 2021 at Kamianets-Podilskyi Ivan Ohiienko National University (Ukraine) at the Faculty of Natural Economics and Simon Kuznets Kharkiv National University of Economics (Ukraine) at the Faculty of Economics and Law.

At Stage II, the methods of observation and survey were used. The research team collected and analysed data, which was planned to be used later as the answers to the questions suggested by the study. At Stage III, the obtained results underwent the final analysis. The data was processed and used in such a way that it could serve as the basis for determining the effectiveness of the implemented experiment, and the answer to problematic research questions.

To have a comprehensive understanding of the analysis, the research team resorted to a number of methodological developments and theoretical studies as references. Their goal was to answer the problem questions covered in the study such as verbalisation of mental activity, introspection and self-organisation of the educational process, cognitive abilities and activation of all forms of linguistic and speech activity. The results of the experiment are presented as statistics descriptions. The survey data was taken into account.

4 Results

In our opinion, an important stage of the research is determining the content and role of the verbalisation process in the structure and methodological organisation of developing training courses in communication and speech development, career orientation. This is due to the verbal component being a priority part of this type of course. It is generally known that speech activity and verbalisation provide a strategy of expression. They guide in the course of solving crisis or problem situations. Moreover, they contribute to identifying a problematic issue – clarifying, naming, and understanding the requirements for the successful implementation of tasks.

In the educational process, verbalisation of mental activity is designed to facilitate the learning process and simplify dealing with problematic issues and crises. The use of verbalisation also makes it easier to understand the content of such abstractions as rectitude, ethics, vocation, and behavioural patterns. Verbalisation of abstract concepts is a modern method of teaching career positions. This method is aimed at deepening students' understanding of the depth of the basic concepts of rectitude and the peculiarities of the profession, cultural features, ethical and moral attitudes. Verbalisation is a method that involves applying a set of educational approaches (see Fig. 1).

Figure 1 – A set of educational approaches involving a method of verbalisation in the structure of the training course

During the development of the discipline for first-year students and before starting the experiment, the research team had relied on a number of mandatory research guidelines.

First, a problem-based approach to learning should be applied. Then should come planning of a general strategy for solving the problem, and specifying the main steps to the solution through verbalisation. Secondly, it is worth focusing on the formulation of problem questions and answers to them. Such s cognitive-communicative approach helps to choose the most optimal solutions to problems after analysing all possible answers. Thirdly, when the range of problems is solved, one should resort to self-reviewing, verbalise the suggested solutions for their correct implementation and use opportunities to fix incorrectly completed tasks. Before starting the experiment, the research team evaluated the academic performance of first-year students based on their school certificates (see Table 1).

Table 1: Assessment of academic performance in experimental and control groups (based on school certificates)

	Unsatisfactory	Satisfactory	Good	Excellent
EG1	10%	39%	41%	20%
EG2	6%	42%	40%	20%
CG3	8%	42%	48%	10%
CG4	9%	44%	43%	13%

At the end of Stage I, which coincides with the end of the 1st semester, knowledge control and analysis of the overall performance level of the respondents were carried out (see Table 2).

Table 2: Assessment of academic performance in experimental and control groups at the end of Stage I

	Unsatisfactory	Satisfactory	Good	Excellent
EG1	5%	34%	44%	17%
EG2	7%	35%	40%	18%
CG3	6%	36%	46%	12%
CG4	6%	38%	41%	14%

As it can be seen, after completing half of the course "Philosophy of Serving", the performance of the experimental group is higher than the one of the control group. The largest number of positive ratings, that is 61%, belongs to EG1 and 68% – to EG2.

Stage II aimed at control measuring of students' academic performance and identifying changes, if any, in the course of training and while continuing teaching the "Philosophy of Serving" discipline to experimental groups. The definition of the average score of students' academic performance was held at the end of the 2nd semester (see Table 3).

Table 3. Assessment of academic performance in experimental and control groups at the end of Stage II

	Unsatisfactory	Satisfactory	Good	Excellent
EG1	4%	30%	50%	20%
EG2	5%	34%	39%	30%
CG3	4%	28%	48%	13%
CG4	5%	30%	39%	17%

After completing the entire training course, positive grades were received by EG1 – 70%, EG2 – 69%. In addition, general students' performance increased by 5% on average. In CG1 and CG2, academic performance increased by an average of 2%.
Stage III. The final stage. The final assessment consisted of a number of indicators. These are the results of performance. Control tests made it possible to measure the level of verbal proficiency while expressing thoughts and during cognitive processes. Thus, a student's academic performance is an indicator of the level of proficiency in an arsenal of anti-crisis skills and the ability to introspect. Here also belong the ability to convert cognition into a set of statements and the ability to use the entire arsenal of text-forming skills. Another indicative criterion is the variety of speech techniques and idiomatic expressions used by a person. The ability to conduct a constructive dialogue, make speeches, translate texts (written and audio), and have a wide range of topics for discussion was also taken into account.

At the final stage, all respondents were offered a questionnaire containing the question: which methods do you find the most effective? The answers to closed questions were “yes” or “no”. The results are presented in percentage terms.

While studying the discipline, the students had to focus on acquiring a number of skills and abilities, as well as assessing the importance of these opportunities for them. 7 positions were submitted for consideration by respondents.

- Awareness and attention. Awareness of the existence of positive and negative thoughts about one's personality expressed by their colleagues. Hence the ability to listen and receive information about oneself, listen to the colleagues' opinions about your personality and adjust your activities if necessary.
- Self-regulation of one's own speech activity. The ability to form independent utterance in any situation. There are times of crisis when it is important to keep your reaction under control. Changes in the course of the author's monologue speech from negative to positive are an effective way to manage stress.
- Letting go of problems through discussion. Re-thinking of negative impressions. Discussion of unpleasant complicated and difficult-to-understand topics, the search for existing positive moments.
- Ability to listen, support through silence. The perception of the problem as the loss of many prospects can be eliminated, In this regard, the fact that sometimes our desires, dreams, and fears should be let go and new goals should be set should be discussed.
- Support through silence. The ability to listen. The ability to produce silent speech, and then pronounce this text, Plus, the ability to listen and analyse the statements of others.
- Self-instruction, regulated utterance. A self-regulating statement that is aimed at solving a problematic issue. Actually training instruction to oneself, determining the algorithm of actions for successful solving the problem.
- Ability to respond effectively in an unexpected situation. Unpredictable situations are a good way to teach verbalisation and self-verbalisation. One should demonstrate themselves as an effective speaker with the inclusion of cognitive capabilities (see Table 4).

Based on the results of the survey, it can be assumed that positive assessment of one's own capabilities and willingness to use methods of learning and improvement through verbalisation of mental activity were increased by an average of 10% among members of experimental groups.

Table 4: Questionnaire on the assessment of the methods used by the participants of the experiment within the framework of the discipline “Philosophy of Serving” (author's development)

Verbal means of mental activity activation	EG1 Yes	EG2 yes	CG1 yes	CG2 Yes
Awareness and attention.	32%	34%	25%	20%
Self-regulation of one's speech activity	27%	29%	20%	18%
Letting go of problems through discussion	38%	37%	20%	20%
Ability to listen, support through silence.	48%	40%	25%	25%
Self-instruction, regulated utterance.	60%	59%	44%	42%
Ability to respond effectively in an unexpected situation.	58%	53%	42%	38%

Activation of verbality in educational activities makes it possible to realise one's potential to form communication skills, the skills of independent work, purposefulness, critical thinking, creative abilities, and communicative competence.

The cognitive-communicative approach as a way of verbalising a person's mental activity contributes to the growth of academic performance. It also facilitates the process of solving problematic issues, the ability to introspect and self-edit texts. Taken together, these aspects activate intellectual activity, cultivate independence in decision-making. Verbalisation of mental activity is a multi-layered system process, in which the right approach to learning, a system of speech scenarios and an emotional and cultural component are valuable.

5 Discussion

According to the research by Goh, & Burns (2012), a methodology for activating and improving speech activity has been developed. Its key components are verbality, focus on self-improvement and self-organisation, cognitive and communicative skills, and speech strategies. In the course of our research, we've found out that the introduction of innovative in content and nature disciplines, constant consolidation and development of cognitive abilities through verbalisation, the use of the ability to form dialogical and monologue internal speech, correction of one's verbal skills in crisis situations, in particular, play a significant role. All this increases a positive attitude to the development of verbal abilities, communication skills, etc. by 10%.

The research team found that the introduction of developmental in nature courses (verbal-centred ones) will enable to achieve a number of training goals: motivate students to plan their own development, improve speech skills; constantly prepare students for active participation in cultural and speech scenarios, conversational activities.

In general, the style of communication depends on the characteristics of the language, the discursive practice involved, the cultural scenario in the communication situation, the distribution of roles, that is, the features of verbalisation of thoughts and feelings that arise and are realised in the process of communication (Hapsari, 2018). These problems regularly become the subject of analysis by the world pedagogical community (Kostikova, 2019). Sometimes difficulties in the process of verbalising one's own thoughts and feelings are represented as the disjointedness of linguistic and cultural traditions of communication and actually those expectations that are planned during the implementation of educational technologies (Iyobe, 2014).

Verbalisation is implemented in the course of training as an observation. The teacher instructs on verbalising intentions, models of action, and focuses students' attention on a certain

choice as part of the suggested course. Verbalisation should help you code and maintain successful models of professional and career types. Verbalisation in the educational and creative processes can be an effective means of nominating simulated events that are stored in memory and determine behaviour. In the course of the research, it has been established that a number of skills that are based on the process of verbalisation, also strengthen motivation. They turn one to positive thinking, and a positive assessment of their own actions and opportunities has a good effect on academic performance. And this is a solid basis for self-education.

An important cognitive mechanism that influences learning and behaviour is the perception of one's own performance. It also helps form personal beliefs about organisational change and achieving a planned professional level. High self-esteem and academic performance influence the choice of activities in the future (Kostikova, et al, 2019). In our opinion, the main goal of the educational community should be to find ways to improve the self-esteem of students, so that they are more and more willing to participate in active forms of learning, solve problems, cultivate perseverance and make efforts to achieve their goals.

This research has many limitations. First of all, we should point out the duration of the project (1 academic hour), limited resources, and the inability to conduct a long-term in-depth analysis with focus groups and in-depth interviews, in particular.

6 Conclusion

Active verbalisation of individual mental activity in learning and promotion of self-expression is important for successful learning and further career growth. The educational system should contribute to the development of such values and the formation of positive-minded citizens. Some of the emphasis are put on the development of speech skills at different levels, and correct use of verbality in critical and problematic situations.

The experiment has proven the effectiveness of this technique, which helps to make the learning process more efficient. The academic performance of the experimental groups has increased by an average of 5%. Meanwhile, the positive attitude towards interactive learning personalities in the experimental group has increased by an average of 10%. This enabled us to describe the degree of the respondents' interest and their positive attitude to the implementation of new educational components, aimed at self-development and improvement of educational skills.

The practical significance of the research consists in determining a positive impact on the overall academic performance of students caused by the introduction of developmental courses into the curriculum, as well as using educational methods and their complexes in the teaching process, based on verbalisation as a way to activate human mental activity, especially when mastering abstractions, ethical and moral attitudes and activating the actual social and independent activity of students.

The problem of further promotion and introduction of advanced methods for the development of verbal communication into educational practice, strengthening the field of teaching verbality, studying the conditions for creating communicative and educational situations that encourage students to be speech-active remains open.

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FINANCING UKRAINIAN HEALTH CARE SYSTEM UNDER COVID-19 PANDEMIC

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Abstract: With the spread of COVID-19 disease, Ukraine is in the second stage of reforming the health care system and the transition to direct reimbursement of medical expenses to institutions in the industry. The aim of the study was to identify trends and challenges in financing the health care system in Ukraine in the context of COVID-19. The research used a qualitative and quantitative methodology to study the effectiveness of direct financing of the health care system in Ukraine based on data from the World Health Organization Health System Response Monito and the National Health Service of Ukraine. The correlation analysis of connection of relative indicators of financing and morbidity and mortality in regions is carried out.

Keywords: Health Care Financing, Coronavirus Pandemic, Covid-19, Health Care Providers.

1 Introduction

The health care system of Ukraine in the context of the spread of COVID-19 is in the second stage of reforming (starting from April 2020). The reforms provide a new funding model that should theoretically provide a rapid response to the spread of COVID-19 coronavirus. The second stage of the reform envisages the integration of the list of free medical services based on the program of medical guarantees. Medical facilities receive funding from the National Health Service based on an agreement that provides for direct funding of municipal medical facilities, depending on the level of the pandemic in different regions of Ukraine. This requires a research of the effectiveness of the new model of financing the health care system.

The aim of the article is to identify trends and challenges in financing the health care system in Ukraine in the context of COVID-19. To achieve this aim, the following tasks are defined:

1. Assess the amount of the health care system funding in Ukraine by various actors at the international, national and regional levels.
2. Identify the features of financing the health care system in Ukraine in the transition to a direct mechanism for providing medical institutions with financial resources depending on the level of morbidity and mortality.

2 Literature review

The scientific literature examines the issue of medical capacity and mortality of patients with coronavirus disease depending on health care costs and cost structure (Khan et al., 2020): the level of potential of the health care system, including costs (current health expenditure as a percentage of GDP), and mortality rate. Stribling et al. (2020) found no link between health care spending and UK mortality. For example, the United States has the highest spending rate (17.1% of GDP) and the highest mortality rate, while Thailand has the highest spending rate of 3.8% and one of the lowest mortality rates (Stribling et al., 2020). Similar findings were found in Moris & Schizas (2020), where a correlation analysis revealed a lack of relationship between costs and mortality rates. The example of Greece shows that Greece's limited financial resources are not an obstacle to preventing the spread of COVID-19 (Moris & Schizas, 2020). In the work of Elola-Somoza et al. (2021) also found no correlation between public health expenditure per capita and mortality from COVID-19 among European countries or the Spanish Autonomous Communities. Khan et al. (2020) explains this paradox by the following reasons: the level of centralization of government, which determines the effectiveness of distancing measures, cultural and social factors (public compliance with distance measures regardless of population density), the government's ability to implement health measures that affect treatment outcomes; mortality, the level of government control over measures to combat the spread of coronavirus, the proportion of the population aged 65 and over (especially in developed countries, which is the biggest risk factor). Stribling et al. (2020) distinguishes clusters of countries by the level of health care expenditures from GDP and mortality: 1) Spain, Italy, Great Britain with expenditures of 8.8% – 9.6% and mortality of 55.57 – 66.16 inhabitants per 100 thousand persons; 2) France and Sweden with expenditures of 11% of GDP and mortality of 44 and 52 inhabitants per 100 thousand people, respectively; 3) The Netherlands, Ireland and the United States as excellent countries (mortality of 39 inhabitants per 100 thousand people) with spending rates of 10.1%, 7.2% and 17.1%, respectively. Verelst, Kuylen & Beutels (2020) found that countries with higher health potential (expanding, training and optimizing material and human resources) address workloads more effectively, especially during periods of increased morbidity.

Prante, F. J., Bramucci & Truger (2020) argue that the reduction in the financial resources of Italy's public hospitals over 30 years due to the government's tight fiscal policy has reduced the capacity of medical institutions to provide adequate protection to the population. Significant budget constraints have made it difficult to overcome the negative effects of the pandemic. Similar conclusions were made in the research of Armocida et al. (2020): prolonged fragmentation and reduced funding for Italy, human and technical resources have led to a crisis in the health care system during the spread of the pandemic. An additional negative factor for the success of overcoming the negative consequences of the pandemic was the local responsibility of the authorities for the organization and provision of medical services, the regional location of the National Health Service, the weakness of strategic crisis management (Armocida et al., 2020).

This means, that decentralization of health care management has a negative impact on the success of counteracting the negative effects of the pandemic. Such conclusions were also made in the study of Sharma, Borah & Moses (2021), who proved the positive relationship between the centralized management structure and reactive strategies to overcome the effects of coronavirus. In addition, reactive and proactive coping strategies for COVID-19 depend on funding for health system infrastructure (Sharma, Borah & Moses, 2021).

Thus, the literature considers the health care systems financing in the context of widespread pandemics in the context of the ability of the system and its potential to provide a rapid response to the disease, which depends on the volume and structure of costs, the level of centralization of management and the ability of the government to formulate measures against the spread of the virus and measures to reduce the mortality rate. Currently, there is no direct link between the financing of the medical system and mortality.

3 Materials and research methods

This study is based on a qualitative and quantitative methodology for analyzing the financing of the health care system of Ukraine in the context of the spread of coronavirus disease. The qualitative analysis is based on the study of legislative initiatives as a basis for providing the health care system with additional financial resources to respond quickly to

the spread of the virus and morbidity. For the qualitative analysis we used the database of the World Health Organization Health System Response Monitor for the quantitative analysis we used the database and information of the National Health Service of Ukraine, which contains information about: 1) the number of diseases and mortality for the period of 01. 01.2020 – 28.06.2021 in real time (The National Health Service of Ukraine, 2021a); 2) Monthly information on testing and inpatient treatment of patients with COVID-19 on the basis of reports of medical care providers from March 2020 to June 2021 (The National Health Service of Ukraine, 2021b); 3) information on payments to providers of medical services by region for emergency and hospital medical aid for 2020 (The National Health Service of Ukraine, 2021c).

4 Results

In Ukraine, current health expenditures in 2018 amounted to 7.72% of GDP (for example, in the EU 9.85% of GDP in 2018, in Poland – 6.33% of GDP in 2018) Bank, 2021). The mortality rate from COVID-19 for the period 01.01.2020 – 28.06.2021 amounted to 52.3 thousand people (National Health Service of Ukraine, 2021a).

Due to the spread of the pandemic, the health care system of Ukraine began to receive additional funds in February-March 2020 with the distribution of state and local budgets. As of April 3, 2020, only UAH 1.25 billion was allocated from the state (central) budget for measures to prevent and combat coronavirus infection. (about 45.2 million US dollars), which are sent in an emergency. According to the decision of the Cabinet of Ministers of March 25, 2020, most of the allocated financial resources (UAH 905.8 million/USD 32.8 million) went to local budgets in the form of subsidies from the state budget. These funds are intended to provide medical institutions that provide secondary (specialized) and tertiary (highly specialized) care during the COVID-19 pandemic. In particular, the funds are directed to infectious diseases hospitals in order to ensure the continuous provision of medical services to the population. The Ministry of Health sent UAH 67.1 million (USD 2.4 million) for the centralized procurement of medical devices to prevent the spread of coronavirus and the regional distribution of purchased products. The Ministry of Internal Affairs, the Ministry of Justice and the Ministry of Health received UAH 249.3 million (USD 9 million) for the purchase of personal protective equipment (PPE) and medical equipment. On March 23, 2020, the Cabinet of Ministers of Ukraine introduced hourly wages for doctors and other medical workers who provide direct assistance to Ukrainian citizens with COVID-19. On April 2, 2020, the president signed a law on additional payments to doctors and other health care workers (who are most at risk in the fight against COVID-19) in the amount up to 300% of salary, while the salary of social workers who provide services at home was increased to 100% of the salary.

At the local level, local authorities allocated funds for the support of medical workers. On April 13, the parliament approved amendments to the budget for 2020 and established the Coronavirus Fund with a budget of 64.7 billion UAH (USD 2.4 billion) to fight the COVID19 pandemic and its consequences. The government approved the procedure of distribution of funds on June 22, 2020. The fund must provide financial support for the health sector, in particular, it is about additional payments to the medical personnel (up to 300% of the salary), purchase of medical equipment, examination tests, PCR analyzers, lung ventilation devices, and PPE, as well as funding of social protection measures of Ukrainian citizens. On May 6, 2020, the government approved a decision to allocate UAH 3.132 billion (USD 116.12 million) for the fight against COVID-19 for, the following related expense items:

- supply of PPE to medical institutions and emergency departments;
- ensuring procurement (works, services) necessary to ensure preparedness for COVID-19 outbreaks and appropriate response measures;
- payment of salaries to health care workers and staff. In addition to the establishment of the Fund to Combat COVID-19, the parliament redistributed expenditures within the state budget for 2020, allocating UAH 15.8 billion (USD 585.6 million) for the provision of medical services to patients with suspected coronavirus or confirmed diagnosis of COVID-19 under the Medical Guarantee Program (PMG).

On April 25, 2020, the Cabinet of Ministers approved a decree approving three separate packages of funding for medical services provided to patients with suspected diagnosis or confirmed diagnosis of COVID-19 under the Medical Guarantee Program. These funding packages include paying for mobile teams that perform tests at home, providing hospitalization assistance, and outpatient treatment for patients with COVID-19.

NHSU (National Health Service of Ukraine), the only provider of medical services, enters into contracts with medical professionals and pays for the provision of medical services to patients with COVID-19. Funding includes payments of up to 300% of the salary for medical staff and medicines for the treatment of patients in hospitals. The additional funding package provided for a one-time payment of 1 month (in April) to hospitals that receive patients with COVID-19 in the absence of a list of institutions that have been retrained to provide medical services to patients with COVID-19.

Amendments to the Law "On the State Budget" for 2020 allowed allocating additional funds for social protection measures:

- UAH 29.7 billion (USD 1.1 billion) received by the Pension Fund;
- UAH 19.5 billion (USD 723.1 million) – Ministry of Social Policy for the needs of citizens who lost their jobs during the epidemic.

As a part of the additional financial resources allocation to combat COVID-19, part of the funds was directed to other sectors: UAH 5.1 million (USD 0.1846 million) sent to the Ministry of Infrastructure to cover the costs associated with the evacuation of Ukrainian citizens from China and Italy; UAH 3 million (USD 0.1089 million) – to the Ministry of Internal Affairs to cover the costs of observing Ukrainian citizens evacuated from China; UAH 4.69 million (0.16682 million USD) – to the Ministry of Defense to cover the costs of delivery of medical products from China; UAH 49.89 million (USD 1.78 million) – to the Security Service of Ukraine for the acquisition and implementation of the Verint NowForce system, necessary for the implementation of measures to prevent the spread of acute respiratory disease COVID-19.

At the regional level, local authorities also provide funding for countering the pandemic. More than UAH 1.78 billion was allocated from regional and municipal budgets (USD 64.6 million) for the purchase of ventilators, test systems, medicines, PPE, disinfectants, resuscitation and intensive care equipment, infectious diseases units and boxes. In addition, a part of these funds is used to increase the salaries of medical workers, for example, the Kyiv administration has allocated almost UAH 10.8 million (0.40 million USD), due to which the salary of medical staff increased 9 times.

The Accounting Chamber of Ukraine has developed an information panel to report expenditures in connection with the distribution of COVID-19 from the state, local and other budgets (trust funds, deposits). The data are based on information on payments made by the State Treasury Service of Ukraine. The purpose of financial transactions is analyzed daily using machine algorithms, due to which the identification of target funds, which are directed to measures to combat the spread of COVID-19. As of April 29, 2020, a total of UAH 1.35 billion was spent on the fight against COVID-19 (USD 49.96 million), including UAH 0.5 billion (USD 18.5 million) from the state budget, UAH 0.8 billion (USD 29.7 million) from local budgets and UAH 0.046 billion (USD 1.69 million) from other sources.

On April 9, the Government and World Bank delegation agreed to the World Bank Assistance Package of 135 million dollars USA to modernize the health care sector and overcoming the consequences of the distribution of COVID-19 pandemic, with 35 million dollars USA is directed straight to the relevant response measures to COVID-19. Ukraine received an additional 150 million dollars USA from the World Bank, in particular, 50 million dollars USA for support of vulnerable population groups during the COVID-19 epidemic and 100 million dollars USA to improve the social protection system. In Ukraine, a "plan of humanitarian response to the COVID-19 pandemic is created by 2020 in Ukraine". According to this plan, by the end of the year from the United Nations, Ukraine received 165 million dollars USA to prevent pandemic and fight against it. These funds are aimed at the needs of the health care system and improvement of the socio-economic situation. In April 2020, the European Commission decided to allocate 190 million euros as a package of financial assistance to Ukraine to support the health care system, its economics, small and medium-sized enterprises, as well as the protection of vulnerable population groups. In addition, the EU sent 13 million euros to meet the humanitarian needs of the Donbass. On April 22, 2020, the President of Ukraine announced an additional decision of the European Commission to allocate 1.2 billion euros to combat coronavirus. The Government of the Republic of Korea has been financed with 700 000 dollars USA to counteract the COVID-19 pandemic. The funds are aimed at acquiring Korean laboratory test systems and support for the Global Humanitarian Response Plan of the United Nations. In addition, powerful financial support provides private sector: enterprises sacrifice funds and equipment for hospitals. For example, a modern laboratory for conducting PCR tests on COVID-19 has been opened in Chernigov's efforts of private business and local authorities. Private companies will break medical workers free of charge, rising fuel ambulances, provide telecommunication services (pay telephone calls from abroad to state hot lines on COVID-19). International partners, including WHO, also provide Ukraine with humanitarian aid.

Ukraine has launched the Anti-CoVID-19 Fund (Anti-COVID-19 Fund, 2021) to fight the SARS-CoV-2 coronavirus and its consequences in order to finance additional payments for health and social expenses arising in the context of the virus spread. The Ministry of Finance of Ukraine makes a disclosure of information about the financial position of the Fund, and the state audit Service provides a continuous control over the use of funds in order to avoid money laundering aimed at the Fund.

The Ministry of Health has been financed at the expense of the Fund's funds in the amount of UAH 20,468,596,6 thousand. As at 31.12.2020 (28% of the total financing of all spheres in the conditions of overcoming the consequences of pandemic). The list of measures to be financed is determined by the decisions of the Cabinet of Ministers of Ukraine. From the general fund budget of Ukraine to the Anti-COVID-19 Fund allocated UAH 20.5 million, in particular: supplies with medical workers (27%), implementation of the Program of State Medical Guarantees for Population Service (26%), Ensuring Restraining and Response System of Public Health on flashes of acute respiratory disease COVID-19 (26%), acquisition of equipment for receiving departments of support healthcare facilities (11%), subvention from the state budget to local budgets to ensure the supply of oxygen for health care institutions (7%), subvention from the state budget local Budgets to provide support establishments of health care in hospital districts by medical equipment 5% (Fig. 1).

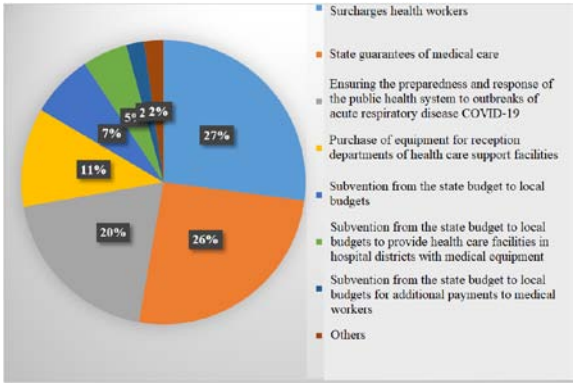


Figure 1 – Health care funding structure in 2020: Anti-COVID-19 Fund expenditures
Source: calculated by the author based on the Ministry of Finance of Ukraine (2021)

According to the NHSU, payments to health care providers under the program of medical guarantees for inpatient care for patients with acute respiratory disease COVID-19 amounted to UAH 8.231 billion for 2021 or 14.1% of the amount of payments for all provided medical services (National Health Service of Ukraine, 2021c).

The amount of payment to medical institutions for the provision of emergency medical care amounted to UAH 1.495 billion in 2021 or 2.6% of payments for all medical services. This means that the expenditures from the Anti-COVID-19 Fund, which were received by the Ministry of Health and distributed under budget programs, to finance the services of medical institutions amounted to a total of UAH 18.547 billion for 2020 and UAH 9.725 billion for 2021 (inpatient care UAH 11.406 billion and emergency care UAH 7.140 billion) (National Health Service of Ukraine, 2021c). At the same time, the Ministry of Finance (2021) estimates that UAH 5.265 billion will be allocated to Anti-COVID-19 Fund for financing the CPVC 2308060 "Implementation of the Program of State Guarantees of Medical Services to Population" in 2020. A total of UAH 18,030 billion were allocated to regions to pay for medical services for emergency and inpatient care for COVID-19 patients (Table 1).

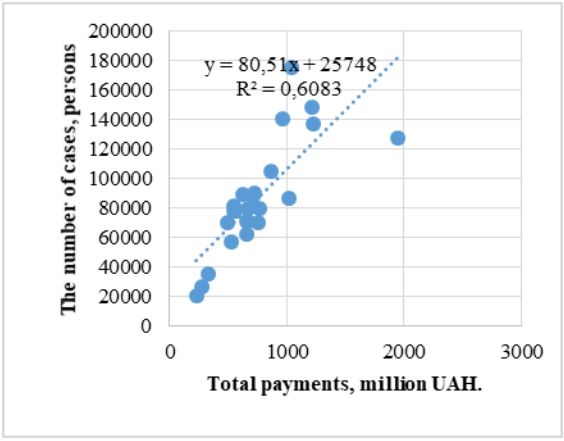
Table 1: The amount of payments to health care providers under the program of medical guarantees in terms of regions of Ukraine in 2020 (for emergency and inpatient care for patients with COVID-19)

	Emergency medical care, UAH million	Inpatient medical care, UAH million	Total medical care, UAH million
1. Vinnytsia region	234,053	431,206	665,259
2. Volyn region	223,561	430,517	654,078
3. Dnipropetrovsk region	446,685	594,062	1040,747
4. Donetsk region	327,652	394,228	721,88
5. Zhytomyr region	220,466	486,836	707,302
6. Transcarpathian region	267,917	392,124	660,041
7. Zaporizhzhya region	260,351	608,374	868,725
8. Ivano-Frankivsk region	329,793	684,033	1013,826
9. Kyiv region	984,403	965,601	1950,004
10. Kirovograd region	134,728	95,545	230,273
11. Luhansk region	109,327	166,578	275,905
12. Lviv region	552,704	672,985	1225,689
13. The Nikolaev area	175,776	316,579	492,355
14. Odessa region	456,842	510,202	967,044

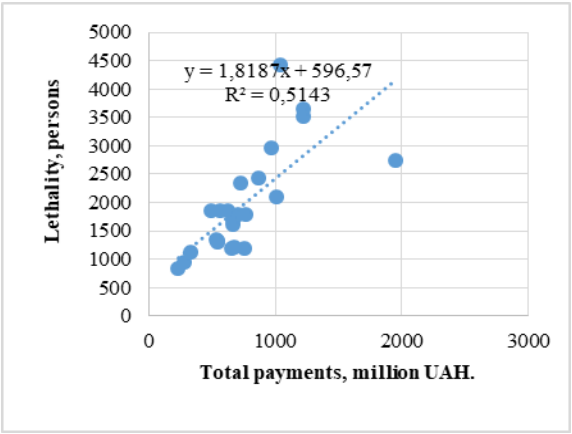
15. Poltava region	198,621	361,196	559,817
16. Rivne region	291,003	383,088	674,091
17. Sumy region	184,097	362,17	546,267
18. Ternopil region	240,889	513,684	754,573
19. Kharkiv region	560,172	659,83	1220,002
20. Kherson region	134,238	197,931	332,169
21. Khmelnytsky region	226,924	400,568	627,492
22. Cherkasy region	195,3	350,751	546,051
23. Chernivtsi region	251,605	516,581	768,186
24. Chernihiv region	172,542	356,246	528,788
Total	7179,6	10850,9	18030,6
Average value	299,2	452,1	751,3
Standard deviation	190,6	187,6	364,4

Source: National Health Service of Ukraine (2021c).

The average value of payments for services under the program of medical guarantees was UAH 751.3 million with a significant difference for UAH 364.4 million depending on the region, which means that regional peculiarities of the spread of the pandemic were taken into account. For example, the number of medical service providers affected by COVID-19 is different in different regions of Ukraine: the average value at the end of December 2020 was 19.8 service providers with a difference of 5.3 units. By comparison, at the end of April 2020, the average number of providers of medical services was 9.6 with a difference of 4. This allows making an assumption about the link between the financing of medical institutions under the program of providing medical guarantees and the regional capacity of medical institutions to organize specialized providers of medical services for patients with COVID-19. In addition, there is a middle level of link between payment for medical services and mortality: regions with higher level of funding have higher mortality rates (Figure 2). This could mean that the providers of medical services received financial resources for emergency and specialized assistance to patients in the event of increased morbidity, and as a result – a higher mortality risk. Accordingly, the direct mechanism of reimbursement of funds for the services of medical institutions is effective, as it allows to direct resources to the regions with the highest level of consumption and pressure (see Fig 2a,b).



a)



b)

Figure 2 – Relationship between funding of health care providers under the health guarantee program and morbidity (a), mortality (b) from COVID-19 in the regions of Ukraine, 2020

Source: calculated by the author based on the National Health Service of Ukraine (2021a; 2021c).

The identified relationship between funding depending on the level of morbidity indicates a positive effect of reforming the health care system, which during the crisis meets the needs of medical institutions in financial resources depending on the load. From April to December 2020, the number of medical institutions for the treatment of patients increased by 245 units (Table 2), respectively, increased the number of medical teams from 908 in April 2020 to 2535 in December 2020.

Table 2: Information on medical service providers for patients with COVID-19, medical teams of service providers, detected cases of illness and mortality in the regions of Ukraine, 2020

	Total payments, UAH million	Number of providers, April 2020	Medical teams April 2020	Number of providers December 2020	Medical teams December 2020	Cases were identified (01.01.2020-28.06.2021), persons	Mortality (01.01.2020-28.06.2021), persons
1. Vinnytsia	665,259	9	39	25	115	71078	1690
2. Volyn	654,078	9	41	19	109	70798	1196
3. Dnepropetrovsk	1040,747	11	45	28	147	175599	4428
4. Donetsk	721,88	12	8	25	115	90570	2348
5. Zhytomyr	707,302	12	50	21	131	88409	1785
6. Transcarpathian	660,041	6	25	17	94	62083	1603
7. Zaporizhzhya	868,725	19	68	21	130	104568	2436
8. Ivano-Frankivsk	1013,826	13	99	26	160	86654	2097
9. Kyiv	1950,004	9	48	21	109	127302	2742
10. Kirovograd	230,273	5	19	7	39	20614	839

11. Luhansk	275,905	5	23	10	50	26560	941
12. Lviv	1225,689	11	42	23	169	137395	3650
13. Mykolayiv	492,355	8	22	18	92	69944	1846
14. Odessa	967,044	7	30	18	91	140557	2975
15. Poltava	559,817	10	30	24	109	77817	1855
16. Rivne	674,091	5	27	15	94	79471	1205
17. Sumy	546,267	9	25	17	86	77857	1318
18. Ternopil	754,573	16	62	27	119	70023	1199
19. Kharkiv	1220,002	17	57	22	109	148500	3522
20. Kherson	332,169	9	22	11	52	35738	1133
21. Khmelnytsky	627,492	3	6	23	123	88887	1859
22. Cherkasy	546,051	6	26	21	96	81719	1307
23. Chernivtsi	768,186	13	68	19	112	79940	1792
24. Chernihiv	528,788	7	26	18	84	57519	1344
Total	18030,6	231.0	908.0	476.0	2535.0	2069602.0	47110
Average value	751,3	9.6	37.8	19.8	105.6	86233.4	1962.9
Standard deviation	364,4	4.0	21.5	5.3	31.4	37620.9	924.3

Source: calculated by the author based on the National Health Service of Ukraine (2021a; 2021b).

This data allows us to assume that the financing of the health care system, in particular the legislative establishment of additional payments to health care workers, Legislative establishment of funding of measures for rapid response to the spread of the pandemic (medications, protective equipment, etc.) contributed to better organization of medical institutions and teams within the institutions and their growth.

The average provider of medical services to patients with coronavirus in 2020 received UAH 37.9 million, depending on the level of the disease in the region, and one team received UAH 7.1 million of the costs. At the same time, the average number of cases per medical facility was 4285 cases and per medical team – 806 cases. One hospital had an average of 99 coronavirus-related deaths, and one medical team had 19 deaths (Table 3).

Table 3: Relative indicators of efficiency of financing of health care system in the conditions of pandemic spread in the regions of Ukraine, 2020

Region	Ratio of payments to the number of providers, UAH million / provider	Ratio of payments to the number of teams, UAH million / provider	Number of cases / number of providers	Number of cases / number of teams	Mortality / number of providers	Mortality / number of teams
1. Vinnytsia	26.6	5.78	2843.1	618.1	67.6	14.7
2. Volyn	34.4	6.00	3726.2	649.5	62.9	11.0
3. Dnepropetrovsk	37.2	7.08	6271.4	1194.6	158.1	30.1
4. Donetsk	28.9	6.28	3622.8	787.6	93.9	20.4
5. Zhytomyr	33.7	5.40	4210.0	674.9	85.0	13.6
6. Transcarpathian	38.8	7.02	3651.9	660.5	94.3	17.1
7. Zaporizhzhya	41.4	6.68	4979.4	804.4	116.0	18.7
8. Ivano-Frankivsk	39.0	6.34	3332.8	541.6	80.7	13.1
9. Kyiv	92.9	17.89	6062.0	1167.9	130.6	25.2
10. Kirovograd	32.9	5.90	2944.9	528.6	119.9	21.5
11. Luhansk	27.6	5.52	2656.0	531.2	94.1	18.8
12. Lviv	53.3	7.25	5973.7	813.0	158.7	21.6
13. Mykolayiv	27.4	5.35	3885.8	760.3	102.6	20.1
14. Odessa	53.7	10.63	7808.7	1544.6	165.3	32.7
15. Poltava	23.3	5.14	3242.4	713.9	77.3	17.0
16. Rivne	44.9	7.17	5298.1	845.4	80.3	12.8
17. Sumy	32.1	6.35	4579.8	905.3	77.5	15.3
18. Ternopil	27.9	6.34	2593.4	588.4	44.4	10.1
19. Kharkiv	55.5	11.19	6750.0	1362.4	160.1	32.3
20. Kherson	30.2	6.39	3248.9	687.3	103.0	21.8
21. Khmelnytsky	27.3	5.10	3864.7	722.7	80.8	15.1
22. Cherkasy	26.0	5.69	3891.4	851.2	62.2	13.6
23. Chernivtsi	40.4	6.86	4207.4	713.8	94.3	16.0
24. Chernihiv	29.4	6.30	3195.5	684.8	74.7	16.0
Total	37.9	7.1	102840.3	19351.7	99.0	18.6
Average value	37.7	7.1	4285.0	806.3	99.0	18.6
Standard deviation	14.9	2.7	1404.1	261.6	174.2	29.4

Source: calculated by the author based on the National Health Service of Ukraine (2021a; 2021b; 2021c).

These relative indicators of health care system financing indicate that institutions with a higher level of financing accordingly had a higher level of burden.

Correlation analysis of significant indicators of health care system financing and morbidity, mortality based on data from Ukrainian regions in 2020 (Table 4) shows a high direct correlation between the level of payments to providers and the level of morbidity (the correlation is 0.703), the level of mortality (the correlation is 0.501). The correlation analysis reveals a direct correlation between funding and mortality.

Therefore, the main trend in the financing of the health care system in the context of the spread of the pandemic is the effective distribution of financial resources for the provision of emergency and hospital medical care by specialized medical institutions.

Table 4: Correlation analysis of relative indicators of financing the health care system and morbidity, mortality based on data from the regions of Ukraine for 2020

	Ratio of payments to the number of providers, UAH million / provider	Ratio of payments to the number of teams, UAH million / provider	Number of cases / number of providers	Number of cases / number of teams	Mortality / number of providers	Mortality / number of teams
Ratio of payments to the number of providers, UAH million / provider	1,000					
Ratio of payments to the number of teams, UAH million / provider	0,945	1,000				
Number of cases / number of providers	0,703	0,642	1,000			
Number of cases / number of teams	0,604	0,673	0,920	1,000		
Mortality / number of providers	0,596	0,531	0,799	0,716	1,000	
Mortality / number of teams	0,501	0,564	0,724	0,796	0,922	1,000

Source: calculated by the author based on the National Health Service of Ukraine (2021a; 2021b; 2021c).

5 Discussion

Control of health care costs affects the level of system capacity and mortality of the population because of the coronavirus disease. A fair distribution of financial resources reinforces the ability of the nation to protect itself from the effects of the pandemic. Khan et al. (2020) found that countries with higher budgets for health care more accurately detect the incidence of disease and mortality and provide more tests per million people. This study found that assistance from developed countries and international organizations ensures a rapid response to the spread of the pandemic, efficient allocation of funds for various countermeasures and dynamic control of the disease. At the same time, a new model of direct financing was found to be able to allocate costs among regions depending on the level of disease incidence and the needs of health care providers. Khan et al. (2020) found "the significant positive association between national expenditure on healthcare and COVID-19 fatalities. The proportion of healthcare expenditure did not insulate nations from negative COVID-19 outcomes". This is explained by the structure of expenditures: for general health care (medicines and medical supplies, prevention of infections), research. Another reason is the level of government control over financial costs (Khan et al., 2020). However, this study revealed the dependence between the need for funding and the amount of funding. Accordingly, this correlation encourages providers of medical services to provide emergency and hospital medical care more efficiently, to respond to cases of illness more quickly and to provide direct financing of services.

Onofrei et al. (2021) argue that under the conditions of modernization of the health care system the pressure on the state budget is growing, and that the spread of the pandemic is particularly detrimental to the budgetary capacities and the ability to respond effectively to the disease. This research has shown an increase in pressure on the state and local budgets due to the growth of the disease, but the pressure has been reduced due to the international financing of the health care system.

Despite the fact that Ukraine has a low level of current spending on health care, in the conditions of pandemics and crisis the allocation of additional financial resources at the national and local level will ensure the growth of the health care system capacity to respond to the disease. Although there is no direct link between ensuring reduced mortality and costs (Khan et al., 2020; Stribling et al., 2020; Elola-Somoza et al., 2021), costs in a crisis environment are important for reducing the workload, stimulating the organization of work of health care providers and medical teams. While Moris & Schizas (2020) showed the absence of a correlation between costs and mortality rates based on correlation analysis, this study examines the correlation between financing and the level of morbidity and mortality. This is due to the need of medical institutions to ensure payment for medical teams: a higher level of morbidity leads to a greater pressure on the work of medical staff, and therefore requires a higher level of remuneration of labor. According to Moris & Schizas (2020), which found that even with limited resources, Greece was able to prevent the spread of COVID-19 (Moris & Schizas, 2020), this study also revealed a quick response of the government to the spread of the pandemic and the provision of funding for medical institutions.

As Verelst, Kuylen & Beutels (2020) found, countries with high potential in the field of health care (expansion, training and optimization of material and human resources) are more effective in solving the problems of pressure, especially during periods of increasing incidence. This research also revealed an increase in the level of the health care system's potential due to the national centralized and local funding and solving the problems of imposition by directing funds to the organization of health care providers.

6 Conclusion

The study revealed the tendencies of financing the health care system in Ukraine in the context of the spread of coronary diseases. First, funding is provided at the international, national and local levels, which has ensured the capacity of medical institutions to counteract the disease. Second, the model of direct financing of the cost of emergency and hospital care ensured the distribution of funds depending on the level of morbidity and mortality, which determined the level of pressure on the system as a whole. This reallocation of funds enabled medical personnel to be paid for one year at a time and stimulated the organization of specialized medical care for coronavirus patients at the regional level. Thirdly, the study showed no link between funding and mortality: the funding of interventions does not ensure a reduction in morbidity and mortality. However, a direct link has been revealed: the level of morbidity determines financing: the level of payments to providers of medical care for coronavirus patients is increasing due to the increased burden on medical staff.

Further research should be aimed at identifying financing mechanisms at the national and local level in the context of the spread of coronavirus disease.

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Primary Paper Section: A

Secondary Paper Section: AH, AQ

THE METHOD OF NEUROLINGUISTIC APPROACH IN STUDYING UKRAINIAN AS A FOREIGN LANGUAGE: TECHNIQUES AND METHODS OF USE

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Abstract: A number of studies on the ways of introducing neurolinguistic programming in foreign language teaching show the presence of methodological problems and lack of awareness of the full educational potential of neurolinguistic programming methods. The aim of the research is to establish the influence of the theory of neurolinguistic programming learning on the level of success, motivation and anxiety of students studying Ukrainian as a foreign language, i.e. improving the learning process and improving learning performance. The hypothesis of the study is that those pedagogical approaches to learning Ukrainian as a foreign language using neurolinguistic programming technologies can help foreign students learning Ukrainian achieve their goals, increase the quality of knowledge and reduce anxiety.

Keywords: Neuro Linguistic Programming, language-learning techniques, language skills.

1 Introduction

From the beginning of the XXI century education used methods of neurolinguistic programming in schools and universities, focused on the communicative aspects of foreign language learning, the integrated implementation of discursive practices (Bandler, Grinder, 1975). Ukrainian as the main language of communication in Ukraine and the language of studying is a prerequisite for a comfortable stay of foreigners in Ukraine, their education and training. Traditional approaches to the study of grammar, vocabulary, translation skills, and, especially, the implementation of successful communication are insufficient for the rapid acquisition of speech experience, basic communication skills, etc. (Pujeri, Sai, 2020). Neurolinguistic programming methods allow filling this gap; they can help foreign students to learn Ukrainian quickly enough at a sufficient level for communication and learning. Techniques neurolinguistic programming is an interpersonal communication system that works with the involvement of three integrated areas: neurology, linguistics and pragmatics (programming). The neurological aspect determines the interaction of thought processes related to physiology and way of thinking, i.e. determines the interaction of mind and body. The linguistic aspect is defined as responsible for speech patterns of behavior, correlations of language and thinking, such as those used in the process of speech communication. Programming determines the ways of learning: how to activate thinking by activating speech processes and activating the analysis of behavior patterns, i.e. to improve the level of understanding and make communication as effective as possible. As a learning approach, neurolinguistic programming consists of a set of principles and various techniques aimed at achieving specific goals in the development of personality and communication skills. This trend was initiated in the 70s of the twentieth century in the works of R. Bandler and J. Grinder (Bandler and Grinder, 1975), where the term "neurolinguistic programming" reflected the principle of looking at a person as a combination of neurological processes, the system of language units and the use of behavioral strategies. An important for the study of Ukrainian as a foreign language was the thesis about the possibility of understanding the way of thinking (mental specificity) depending on the language spoken by the speaker. The pragmatic approach, carried out with the help of neurolinguistic programming, makes it possible to influence the motivation and anxiety of students through the impact on students and change the attitude to learning a particular language by accepting the influence of neurolinguistic programming techniques (Pujeri, Sai, 2020). Neurolinguistic programming techniques are based on factors such as reliance on results, relationships, acuity, and flexibility of thought. These factors are useful for improving students' communication skills and behavior.

1.1 Aims

The aim of the research is to establish the influence of neurolinguistic programming methods on the efficiency and quality of learning Ukrainian as a foreign language.

To achieve this goal, the following tasks should be solved:

- to establish the level of influence of neurolinguistic programming methods on the attitude to the problems of learning Ukrainian as a foreign language, reducing the anxiety of students learning Ukrainian as a foreign language;
- to determine how the introduction of neurolinguistic programming methods improves learning outcomes.

2 Literature review

The body of the key concepts of neurolinguistic programming is the core of a set of teaching methods used in teaching practice in the study of foreign languages (Craft, 2001). Among them is the method of mirroring, construction, metamodeling and stimulation for the future (Gilakjani, 2016). Learning and teaching a foreign language using neurolinguistic programming is based on research in the field of neurology (Craft, 2001) and communication studies (Hapsari, Wirawan, 2018;Salgur, 2013). Teachers of Ukrainian as a foreign language can also use the experience of colleagues to learn to take into account the differences in the perception of different people of the same information and learning styles. Teachers can develop individual optimal learning solutions and learning styles that are more effective for them (Ko et al., 2013).

Neurolinguistic programming (NLP) is one of the resources in educational practice used to improve the efficiency of foreign language learning (Das, Kumar, 2017). Followers of the theory of neurolinguistic programming in pedagogy (Hapsari, Wirawan, 2018) argue that the learning approaches developed on its basis, improve teacher-student communication, optimize the attitude to the course and motivation, increase self-esteem during learning, promote personal growth of students through academic success as a communicative process (PACTE, 2018). Neurolinguistic programming techniques have often been used as additional techniques in second language learning and multilingual learning (Zhao, 2018; Köktürk, 2012): this approach allows you to achieve a high level of learning (Senthilkumar, Kannappa, 2017), it is better to adapt in society, cross-cultural environment (Yarosh, 2015; Jones, 1999). Practitioners and researchers conducting pedagogical experiments using elements of neurolinguistic programming considered neurolinguistic programming as a factor in shaping the concept of teacher success (Flek, Prince, 2014; Zhernova, 2018), which led to attempts to build a model of effective teacher behavior based on the theory of neurolinguistic programming. , teacher (Kuzmina, 2020).

A number of researches of neurolinguistic programming techniques have been aimed at studying the algorithm of speech recognition and subsequent translation using neurolinguistic programming methods, modern discoveries in the context of postmodern pedagogy (Kiraly, 2015).

Problems and prospects of learning Ukrainian as a foreign language began to be actively explored quite recently, at the beginning of the XXI century and continue today (Bilianska, 2021). That is why it is important to consider the specifics of modern and effective methods of learning a foreign language, which may take into account the specifics and features of teaching Ukrainian as a foreign language.

3 Methods

The research experiment was conducted during the 1st semester of the 2019-2020 academic year (September - December 2019 academic year). The survey method was used; it was conducted using Google Drive forms. This study is a consistent continuation of similar studies conducted based on studying a foreign language course. In the context of similar experimental studies close to the topic proposed in the article, the basics of such a technique were developed. Given the presented context, the settings based on the theory and research theses of neurolinguistic programming and the experience of teaching Ukrainian as a foreign language were investigated.

The proposed study is observational, so the method of observation is used as an empirical method. This will determine the difficulties, the degree of anxiety, and the level of motivation of foreign students studying the Ukrainian language. It is also involved in order to determine changes in the level of success in the control and experimental study groups.

40 foreign students from Central Africa, who studied at preparatory courses at Lviv National Medical University named after Danylo Halytsky (Lviv, Ukraine), were randomly grouped into two groups of 20 people each with similar specialties and professional needs, experience, with the same level of education. All respondents studied Ukrainian as a foreign language at the first (bachelors) level in preparatory courses. EG (experimental group) of 20 people studied in the experimental group, which uses methods of neurolinguistic programming. The CG (control group) of 20 people were studying according to a long-term curriculum and traditional methods.

In the experimental group, Ukrainian was taught as a foreign language using neurolinguistic programming methods. The control group studied without the involvement of neurolinguistic programming methods. In order to determine the impact of neurolinguistic programming methods on student motivation and reduce anxiety for two groups at the initial stage in the form of a preliminary text, foreigners, and regular surveys and interviews conducted a survey on groups' attitudes to learning, motivation to learn Ukrainian with facilitators, who conducted in these groups the course "Ukrainian as a foreign language". After the implementation of the training program, which lasted during the 1st semester of the 2019 academic year (September to December), a final survey was conducted, changes in the level of anxiety, stress and success of respondents were identified.

The corpus of questionnaires, which were compiled for the implementation of the research goal, was adapted to the capabilities of foreign students. The survey of respondents was conducted and, in fact, the experiment can be divided into 3 stages. Stage 1. Assessment of the level of anxiety and motivation of foreign students to study the Ukrainian language as a foreign language. Conducting a survey on the list and rating of difficulties in learning a foreign language. Stage II. Testing of two groups on the level of knowledge and skills in Ukrainian as a foreign language. The equator of the experiment. Monitoring the level of knowledge and grades received by students during the first 3 weeks of study. Stage III. Determining the success and changes in the level of anxiety (if any) of the final rating positions in 2 groups at the end of the school year. Determining the changes that occurred in the ratings during the experiment.

Disadvantages and difficulties observed during the experiment: the identification of the reasons for preferences (choice) is not foreseen, it takes a long time (during the semester), the research group takes a passive position of an observer; does not have the opportunity to conduct in-depth qualitative research.

Regarding the interpretation of data, qualitative and quantitative approaches were used to establish and compare the frequency of responses and transform it into rating items. Respondents agreed to take part in the survey and their anonymity was maintained.

4 Result

Teaching methods of neurolinguistic programming can actually be presented as an actualization of the most developed communication channels in the individual. Among such types it is accepted to allocate audials (educational information is better perceived by means of hearing), visuals (perceive educational material best through visual images); kinesthetic (information is perceived through movement, touch, smell, etc.); discrete (information is assimilated through logical reasoning, construction of inferences and patterns) (see Fig. 1). That is why the methods of neurolinguistic programming in teaching Ukrainian as a foreign language provided for the inclusion of an individual approach, selection and combination of different approaches to one topic, which would facilitate all groups to acquire knowledge, updating the most developed communication channels.

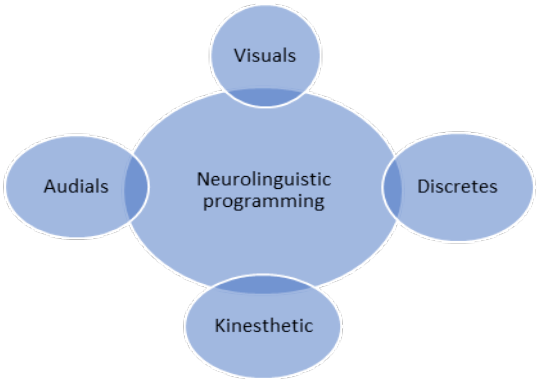

Fig. 1. Structural components of neurolinguistic programming theory

Stage 1.
Before the start of training, a preliminary survey of students from 2 groups who participated in the training experiment was conducted. To the question: "In your opinion, what are the main problems that will prevent you from learning the Ukrainian language?" there were given the following options:

A. I do not learn languages well (uncertainty and complexity of the Ukrainian language system);
B. I do not speak Ukrainian in everyday life and studies, because everyone around speaks other languages;
B. Too much workload in other disciplines, I cannot pay attention to the Ukrainian language;
D. I cannot improve my knowledge of Ukrainian outside the university (there are no non-formal education courses, I do not communicate with Ukrainians on social networks, I do not use Ukrainian movies and media products).

At the previous stage, students responded as follows (see Table 1).

Table 1. Difficulties that, according to the students, they will face during learning a language

CG		EG	
A	46%	A	48%
B	54%	B	50%
C	72%	C	70%
D	34%	D	38%

According to the survey results, the level of assessment of difficulties is quite high in both groups; students see the biggest

problem in the large amount of workload, which will not allow much time to spend on the Ukrainian language. This problem directly correlates with the belief that the Ukrainian language is complex. All this causes anxiety and reduces motivation.

Stage 2. At the 2nd stage of the experiment in the experimental group were actively used exercises that increase motivation. An individual approach to the students of the course was used; the emphasis was on such exercises that are better perceived. Thus, the impression of successful and easy overcoming of difficulties in learning the language was created; the efficiency of learning the Ukrainian language was increased.

After 3 weeks of classes in the course, "Ukrainian as a foreign language" was a study of student performance in the form of intermediate control testing, which also, in our opinion, shows changes in attitudes to learning, motivation and anxiety of students in the experimental group (see Table 2).

Table 2. Statistics of student performance in the experimental and control groups

№	Method	The number of articles	Average rating	Rating "unsatisfactory"
Test 1	Neurolinguistic programming	20	3.9	4 people
Test 1	Traditional	20	3.6	5 people

To establish better contact with students, the teacher addressed everyone by name. Each topic was presented as new with a subsequent question/answer method. The teacher paid special attention to the individual characteristics of each, as some students were willing to communicate, talked a lot and were generally positive. The teacher had to use eye contact, facial expressions and gestures with others. This improved the effectiveness of training, created a comfortable atmosphere for all participants in the learning process.

At the final stage of the experiment, the final testing was performed. The improvement of the level of knowledge and skills was assessed with the help of control tasks performed by students in both groups. Teachers also conducted surveys of students in the group to find out how students evaluate their own success and whether it is associated with neurolinguistic programming methods used by foreigners to study the Ukrainian language. This additional criterion shows the effectiveness of the methodology and the correctness of the teacher (see Table 3).

Table 3. Statistics of student performance in the experimental and control groups

№	Method	The number of articles	Average rating	Rating "unsatisfactory"
Test 1	Neurolinguistic programming	20	4.6	1
Test 1	Traditional	20	4.0	3

According to the results of the study, the evaluations of the students of the experimental group increased from the mark "sufficient level" to the mark "good level". The number of assessments decreased unsatisfactorily to one.

At the final stage, teachers conducted a survey to assess the difficulties at the end of the semester and study the course "Ukrainian as a foreign language". Under the guidance of the teacher in the experimental group, students began to pay more attention to the educational process, thus improving the level of their attitude to the Ukrainian language. This is a process of reprogramming, just declared by the ideologues of neurolinguistic programming -approach. Even more often, students were called by name, contacts were reviewed for more comfortable ones, and constant encouragement and positive evaluation of those students who demonstrated innovative, non-standard approaches to performing their tasks was introduced.

Finally, a survey was conducted on the difficulties encountered during the study of Ukrainian by foreign students and their level of anxiety (see Table 4).

Table 4. Difficulties faced by students in the group

CG		EG	
A	46%	A	32%
B	54%	B	39%
C	72%	C	54%
D	34%	D	21%

In general, in the experimental group, the level of difficulty assessment decreased by 20% on average. In both groups, there is a positive trend, the assessment of the problems and complexity of learning the Ukrainian language becomes less alarming. In the experimental group, the level of problems is lower by a total of 15%. This testifies to the effectiveness of the system of neurolinguistic programming methods that increase the level of knowledge and help solve problems that arise when learning Ukrainian as a foreign language.

5 Discussion

Basic concepts neurolinguistic programming as a means of more effective foreign language learning, a tool to improve communication (Siddiqui, 2018). A series of experiments conducted by researchers in the field of pedagogy, methods of learning foreign languages, showed that the techniques and strategies of neurolinguistic programming contributed to language learning and universalization of teachers by creating opportunities to organize the process of learning a foreign language more focused and productive. It also contributes to greater motivation and gradual growth of students' competence, reducing their overall anxiety. According to the researcher (Siddiqui, 2018), productivity increased 1.5 times, and the negative reaction to external influences decreased by a total of 40%. These results were confirmed in the proposed study, as the level of anxiety of students in the experimental group to the problems of learning the Ukrainian language decreased by an average of 15%, and productivity increased by 20%.

Studies of this nature (Lashkarian, Sayadian, 2015) concluded that teachers and educators who use neurolinguistic programming in their teaching are creative, skilled and fair in assessing knowledge and assessing the personal qualities of students. In addition, one of the main tasks of a teacher who uses neurolinguistic programming technology is the functions of the facilitator. Among the qualities that a teacher should be endowed with are the desire for creativity, a high level of professionalism and pedagogical skills, flexibility in teaching, a friendly attitude and a sense of humor. Importantly. Digital literacy of both students and teachers has also been a component of Ukrainian and foreign language learning success (Mason, 2006). In fact, our research has shown that the teacher must be actively involved in the process is well aware of the individual characteristics of students and must constantly monitor the moods, difficulties, fears of foreign students and quickly and effectively correct the situation. In a special study (Elizabeth et al., 2007) it was determined that pupils, students endow an effective teacher with such qualities as friendliness, ability to listen and understand their audience.

In the Ukrainian educational context, the issues of the influence of the teacher's personality on the application of teaching methods are insufficiently researched neurolinguistic programming component. Further research on the use of neurolinguistic programming factors in education, in the process of learning foreign languages, the extent to which the context of learning and teaching changes during language learning, which causes increased motivation and reduced stress, the progress of students to the ultimate goal.

6 Conclusion

Learning approaches using neurolinguistic programming methods is a practice known to foreign language teachers around the world. Techniques and strategies of neurolinguistic programming can make the study of Ukrainian as a foreign language, the actual teaching process interesting and exciting for both teachers and students. From such positions, the Ukrainian language teacher for foreigners acts as a facilitator who can find out and use those personal characteristics of the student that will promote the formation of a harmonious personality, the acquisition of skills of intercultural communication and interpersonal communication. This will help students to orient themselves well in the other country where they study, to feel confident.

The use of neurolinguistic programming methods helps to reduce the level of anxiety and increase motivation to learn Ukrainian as a foreign language, which, in turn, will help increase student achievement.

Consideration of the study remains open foreign languages with the use of neurolinguistic programming methods for polylingual teaching practices. This situation is typical of university study groups, where there are usually people of different nationalities who speak different languages. Thus, the situations are quite complex and contribute to the formation of stress in novice students. A set of methods, neurolinguistic programming it may make the learning process more comfortable, but the ways and forms of such an approach require further careful consideration.

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Primary Paper Section: A

Secondary Paper Section: AI, AM

DIGITAL DISCOURSE TO THE ENGLISH-LANGUAGE FICTION

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Abstract: The development of modern literature, particularly English-language fiction, cannot be imagined without the influence of digitalization on these processes, as more and more access to English-language fiction is provided through digital media. The aim of this article is to determine the influence of digital media on the development of English-language fiction on the example of support of publishing houses Bloomsbury Publishing and Sourcebooks. The proposed approach to determine the impact of digital media on the development of English-language fiction reveals the importance of the impact of the support of publishing companies, using Bloomsbury Publishing and Sourcebooks as examples, on the development of English-language fiction through digital media.

Keywords: Digital Media, Digitalization, English-Language Fiction, Modern Literature, Publishing House.

1 Introduction

The modern development of English-language fiction, as well as foreign fiction, takes place in the context of digital discourse under the influence of digitalization. The role of digitalization in the development of English-language fiction is manifested in the fact that it makes the features of English-language fiction better known; as access to works of English-language fiction becomes more open not only to English speakers, but also to others. Thus, it is possible to read English-language fiction not only for English speakers but also for others, using various on-line translators.Access to English-language fiction is much easier now than it was before the digital revolution. Users can read English-language literary fiction both in paper (book) form and in online using various ICTs. The digitalization of libraries plays an important role in the development of English-language fiction, through which a list of literary works available in a particular library can be obtained. Besides digitalization of usual libraries, the place in development of the English-speaking fiction is occupied by online libraries, which every Internet user has an access to. Publishers (publishing houses) play an equally important role in the process of development of English-language fiction, because thanks to them existing literary works are republished and new ones are issued, in particular works from English-language fiction.

2 Literature review

Mangen (2016) notes that the current stage of literary development is not without the influence of digitalization. The number of users who read literary works online or with the help of various ICTs is increasing. Such trends, according to the scholar, act as determinants in the development of literature. Skains (2019) also notes that an important milestone in the development of fiction under the impact of digitalization is the use of modern technology to write literary works of fiction. Al-Sharqi et al. (2020), looking at the impact of modern technology on the development of English-language fiction, note that the genre of short stories, that is, short stories based on a new English-language dialect, is developing at a fairly rapid pace in English-language fiction and simultaneously due to the impact of digitalization. This genre, according to scholars, acts as a new stage in the development of English-language fiction under the influence of digitalization. Parkin A. (2019) explores the impact of digital technology on the development of fiction, drawing on his own experience as a writer. The researcher and writer simultaneously notes that the digital revolution, which began in the late twentieth century, has positively affected the development of fiction. One of the positive effects of digitalization on the development of fiction, according to Parkin, has been the shift from typed literary texts to digitized literary texts. Straub (2021) notes that under the influence of digitalization, works of English-language fiction are not only being created faster by their creators, but are also spreading at a faster rate than when the first phase of the digital revolution was not yet underway.

Tonra (2020) examines the development of Ireland's literary heritage in the context of the digitalization of works of fiction. The scholar notes that digitalization has a multifaceted impact because on the one hand, it enriches and on the other hand, it degrades the value of the tangible work of English-language fiction. Rippl et al. (2021), exploring the particularities of the digitalization of books, including works of fiction, pay particular attention to the particularities of digital editing and cataloging of manuscripts from the Middle Ages. Bode (2019) also holds that the development of literature depends on the impact of digitalization on these processes. Pianzola et al. (2020) highlight the importance of the influence of the Wattpad platform on the development of literature, as this platform allows literary works to be read digitally, including online. Egnal (2013), looking at the characteristics of the development of novels as a genre form of English-language fiction in the United States, notes that they can be accessed through the Ngram database. This online accessibility indicates that English-language fiction in the United States is evolving under the influence of modern technology. Gardner et al. (2017) examine the impact of digitalization on the development of English-language fiction through the digitalization of the ballad of Mary Hamilton, composed back in the sixteenth century by an anonymous author in Scotland. Sanford (2019) explores the characteristics of the development of fiction in England and notes that the literary works of early eighteenth-century England are already digitized and are in digital archives. Apurva (2016) explores the specifics of the digitalization of English-language works in India and notes that the development of English-language fiction in this country has been more rapid due to digitalization than, for example, the development of foreign-language fiction in this country due to those means of digitalization. Biyana (2017) also shares the position of the positive impact of digitalization on the development of English-language fiction and emphasizes the importance of the use of ICT in the development of English-language fiction in India.

Riddell et al. (2020) point out that the digitalization of libraries is important in the development of English-language fiction. The more English-language fiction is available online, the greater and simultaneously positive impact such processes have on the development of English-language fiction. Okeke et al. (2015) note that the digitalization of university libraries, including those institutions of higher education whose profile focuses on the development of fiction, is important for the development of fiction. Underwood et al. (2020) also examine the development of English-language fiction in the context of library digitalization. The scholars examine the characteristics of the development of English-language fiction between 1700 and 2009 using the example of the HathiTrust digital library, which, according to the scholars' research, has 210,266 works of English-language fiction. Sharma (2021) notes that digitizing libraries is necessary to preserve rare works. Therefore, following such a thought, the scholar argues that all libraries should start the process of digitization, as it will not only provide an opportunity in the long run to preserve works of literature, in particular rare among them, but also increase the number of users of such works, in turn, directly affecting the development of literature.

Focusing on the general aspects of the development of English-language fiction, we note that the issues of development of English-language fiction under the influence of digitalization on these processes remain insufficiently disclosed.

The purpose of this article is to determine the impact of digital media on the development of English-language fiction, using the example of the support of the publishing houses Bloomsbury Publishing and Sourcebooks. In order to achieve the aim of the research, we will conduct a correlation and regression analysis of the variables that allow us to show the impact of digital media on the development of English-language fiction.

3 Materials and research methods

The research uses: 1) methods of theoretical analysis, induction, deduction and abstraction - to present theoretical and practical aspects of the development of English-language fiction under the impact of digitalization on these processes; 2) methods of measurement, observation, comparison, description, hypothesis, generalization - to determine the impact of digital media on the development of English-language fiction. While determining the impact of digital media on the development of English-language fiction will be carried out on the example of Bloomsbury Publishing (Bloomsbury Publishing plc., 2021a), which is one of the largest publishing houses in the UK and specializes in publishing English-language fiction, and Sourcebooks (Sourcebooks, Inc., 2021), which is one of the largest publishing houses in the United States and also specializes in publishing English-language fiction. These two publishing houses are chosen from the list of publishing companies represented by Publishersglobal (2021).

The following indicators form an information base of the research:

- Bloomsbury Publishing's revenue from the sale of English-language fiction book products through digital media (including E-books, Audio, BDR and other digital revenues) (Bloomsbury Publishing plc, 2021b, 2020, 2019, 2018, 2017);
- Bloomsbury Publishing's total revenue from the sale of English-language fiction book products (Bloomsbury Publishing plc, 2021b, 2020, 2019, 2018, 2017);
- Sourcebook's income from the sale of English-language fiction book products through digital media (Sourcebooks, 2021);
- Total income of Sourcebooks from the sale of English-language fiction book products (Sourcebooks, 2021).

4 Results

We can acknowledge that the increase in the volume of the realization of book products of English-language fiction through

digital media directly affects the development of English-language fiction as one of the literary trends. Turning our attention to the theme of the research, the independent change in the correlation and regression analysis will be the change in income from the sale of book products of English literature through digital media, and by a relative change - the change in the total income from the sale of book products of English-language fiction. With the help of these indicators we will show how digital media influence the development of English-language fiction, based on the hypothesis that that the increase in the volume of sales of book products from English-language fiction through digital media, as a means of current digitalization, has a positive impact on the development of English-language fiction.

Because Bloomsbury Publishing sells English language art books not only in Great Britain, but also in the United States, Australia and India, We will use the example of this publishing company to show how English-language arts literature in Great Britain, the United States, Australia, and India is evolving due to the impact of digitalization.

Information about the income from the sale of English-language fiction book products through digital media and the total income from the sale of English-language fiction book products by Bloomsbury Publishing is presented in Table 1.

Table 1: The revenue of Bloomsbury Publishing from the sale of English-language fiction book products through digital media and the total revenue from the sale of English-language fiction book products, thousands of sterling pounds

Types of income/Countries where book products are sold	Period				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Income from the sale of English-literature book products through the digital media					
Great Britain	4,194	4,925	5,112	5,625	8,867
United States of America	2,502	2,441	2,792	2,895	5,481
Australia	0,780	0,791	0,824	0,893	1,247
India	0,197	0,240	0,316	0,388	0,339
Total income from the sale of English-language book products					
Great Britain	46,664	59,957	56,112	55,535	65,934
United States of America	27,832	29,721	30,637	28,579	40,727
Australia	8,684	9,623	9,035	8,821	9,263
India	2,194	2,920	3,470	3,835	2,436

Source: calculated and systematized by the authors based on Bloomsbury Publishing plc, 2021b, 2020, 2019, 2018, 2017

In view of the absence of data on the income from the sale of English-language fiction books through digital media and the total income from the sale of English-language fiction books by the publishing house Sourcebooks, we sent a list to the electronic mail to this company to provide information about the income from the sale of book products of English-language fiction through digital media and the total income from the sale of books of English-language fiction. Having obtained the necessary information from Sourcebooks and systematized it, we will present the income from the sale of books of English language fiction through digital media and the total income from the sale of books of English-language fiction by the publishing house Sourcebooks in Table 2.

Table 2: Sourcebook's income from the sale of book products of English-language fiction through digital media and the total income from the sale of book products of English-language fiction, $ million. U.S.

Types of income	Years				
	2016	2017	2018	2019	2020
Income from the sale of English-language fiction book products through the digital media	65,895	66,261	64,129	67,562	66,986
Total income from the sale of book products of English-language fiction	158,478	147,526	145,257	151,587	153,298

Source: calculated and systematized by the authors based on information received from the Sourcebooks, 2021

According to the results of the correlation and regression analysis, we obtained the appropriate values of the correlation coefficient (Table 3, Table 4). To make a qualitative assessment of the link between the change in total revenues from the sale of book products of English-language fiction and the change in the size of the total revenues from the sale of English-language fiction. The relationship between the total incomes from the sale of book products of English language fiction through digital media is determined by the Cheddock's scale.

The analysis of Table 3 suggests that there is a direct relationship between the variable of total revenue from English-language fiction book sales.

Table 3: Results of the correlation analysis according to Bloomsbury Publishing

Countries	Linkage and correlation	The correlation coefficient
Great Britain	Direct link, high correlation	0,824491
United States of America	Direct link, high correlation	0,973527
Australia	Direct link, low correlation	0,195833
India	Direct link, middle correlation	0,692069

Source: calculated by the authors

In terms of the level of relationship density, then a high level of relationship density between the variables under consideration is present for countries such as the United Kingdom and the United States. This indicates that publishing house Bloomsbury Publishing's total revenue from English-language fiction book sales is highly correlated with revenue from English-language fiction book sales through digital media in the United Kingdom and the United States. Such results, in turn, indicate that in the United Kingdom and the United States (as derived from the publishing house Bloomsbury Publishing analysis), digital media have a significant impact on the development of English-language fiction in those countries. Given the significant relationship between the variables, the publishing house Bloomsbury Publishing by increasing book sales through digital media, increases total book revenue. The results indicate that the more consumers use this company's book products through digital media, the greater will be the impact of digital media on the development of English-language fiction.

In other countries, for example, the level of correlation density between the variable of total income from English-language fiction book sales and the variable of income from English-language fiction book sales via digital media is weak in Australia, where the publishing house Bloomsbury Publishing sells book products, and medium in India. These results suggest that the impact of digital media on the development of English-language fiction supported by Bloomsbury Publishing in India is not significant, but slightly higher than in Australia.

Focusing on the results of a correlation analysis based on data from Sourcebooks, which sells book products in the United States, then it is found that there is a direct relationship between the variable total income from English-language fiction book sales and the variable income from English-language fiction book sales through digital media, but the level of density of this relationship is moderate. This indicates that the impact of digital media on the development of English-language fiction in the United States supported by the publishing house Sourcebooks Publishing is not significant (Table 4).

Table 4: Results of the correlation analysis according to Sourcebooks

Linkage and correlation	The correlation coefficient
Direct link, middle correlation	0,446201

Source: calculated by the authors

The analysis of the coefficient of determinacy obtained by Bloomsbury Publishing shows, that the variation in total revenues from the sale of English-language fiction book products is due to the variation in revenues from the sale of English language fiction book products through digital media in Great Britain by 67, 97%, in the United States by 94.77%, in Australia by 3.83%, and in India by 47.89%. These results indicate that the digital media through which English-language art books are sold to consumers in the United States is having a significant impact on the growth of English-language art literature. Here we note the significant impact of digital media on the development of English language fiction in the United States, supported by Bloomsbury Publishing.Taking into account the coefficient of determinacy according to the regression analysis of Great Britain and India, we should note that the impact of digital media on the development of English-language fiction according to the obtained results is not high or moderate.

Regarding the coefficient of determination based on the results of the regression analysis of Australia, our assumptions about the significant influence of digital media on the development of English-language fiction (based on data from Bloomsbury Publishing) for this country are not confirmed. Although it is acknowledged that, the official language of Australia is English, unlike in India, where the official language is Hindi and digital media with the support of Bloomsbury Publishing are developing English-language arts literature.

The coefficient of determination calculated by the Sourcebooks publishing company indicates that that the variation in total income from the sale of English-language fiction book products is due to the variation in income from the sale of English-language fiction book products through digital media in the United States by 19.90%. This result indicates that the overall income from the sale of English-language fiction book products is not strictly dependent on the income from the sale of English-language fiction book products through digital media. Therefore, according to this data, we can say that digital media does not significantly influence the development of English-language fiction through the support of Sourcebooks Publishing Company in the United States.

5 Discussion

In the course of revealing the purpose of the study, the particular relevance of the problem of the influence of digital media on the development of English-language fiction is revealed. In particular, Mangen (2016), Skains (2019) and Al-Sharqi et al. (2020) noted that digitalization, using modern ICTs, constitutes a particular influence on the development of literature, including the development of English-language fiction. We quite agree with the position of these scientists, because, as practice shows, the availability of literary works, in particular works from English-language fiction online, as well as because of the use of ICT, gives to many people, who are interested, an opportunity to read these works at a convenient time and in a convenient place.

Digital discourse as a strand of English-language fiction provides:

- The transition from typed literary texts to digitized literary texts (Parkin A., 2019);
- Not only the rapid creation of literary works by their creators, but also the rapid dissemination, since, thanks to modern technology, literary works are available online faster in libraries than in book form (Straub, 2021; Pianzola et al.,2020; Egnal, 2013);
- Digitalization of libraries and the creation of online libraries (Riddell et al., 2020; Okeke et al., 2015; Underwood et al.,2020; Sharma, 2021).

While we should certainly agree with the conclusions in the research studies mentioned above, let us note that publishing companies (publishers) also play a special role in the development of English-language fiction. Because of the use of modern ICTs, in particular digital media created in the context of digitalization, English-language fiction essays are not only quickly issued, but also sold to end users.Given the importance of the influence of publishing companies on the development of English-language fiction in the context of digitalization, we chose to study digital discourse as a direction of development of English-language fiction, based on the definition of the impact of digital media on the development of English-language fiction. Thus, to determine the impact of digital media on the development of English-language fiction, we conducted a correlation and regression analysis between the dependent variable of total book revenue from English-language fiction and

the independent variable of book revenue from English-language fiction through digital media.

The results of our correlation and regression analysis showed that in the United States of America, supported by Bloomsbury Publishing, digital media significantly influences the development of English-language fiction in this country. For example, in the United States, the variation in total book revenue from English-language fiction is driven by a 94.77% variation in book revenue from English-language fiction through digital media. The impact of digital media on the development of English-language fiction supported by Bloomsbury Publishing in the United Kingdom is found to be somewhat lower than in the United States, as the variation in total English-language fiction book revenue is driven by the variation in English-language fiction book revenue through digital media in this country of 67.97%. The influence of digital media on the development of English-language fiction supported by Bloomsbury Publishing in India is determined to be not significant, but slightly higher than in Australia. The impact of digital media on the development of English-language fiction in the United States supported by Sourcebooks Publishing is found to be insignificant, as the variation in total English-language fiction book revenue is only 19.90% due to the variation in English-language fiction book revenue through digital media in this country.

6 Conclusion

We found that digital media have a positive impact on the development of English-language fiction. To determine the impact of digital media on the development of English-language fiction, a correlation-regression analysis based on data from one of the largest UK publishing companies, which specializes in publishing English-language fiction, i.e. Bloomsbury Publishing, and is one of the largest publishing companies in the United States, also specializes in publishing English-language fiction, i.e. Sourcebooks. The results of the correlation and regression analysis allow us to note the particular importance of the influence of digital media on the development of English-language fiction in the United States with the support of Bloomsbury Publishing.The practical significance of the information obtained from the results of the correlation and regression analysis is that the proposed approach to determining the influence of digital media on the development of English-language fiction reveals the importance of the influence of the support of publishing companies, using the example of Bloomsbury Publishing and Sourcebooks, on the development of English-language fiction through digital media. The approach to determine the impact of digital media on the development of English-language fiction by correlation and regression analysis is universal, as it can be used to determine the impact of digital media on the development of English-language fiction with the support of libraries, as they also act as actors providing not only the development of English-language fiction, but also other literary trends. In the perspective of further research, it is planned to determine the impact of digital media on the development of English-language fiction supported by libraries.

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PRECEDENT NAMES IN THE LANGUAGE OF MODERN UKRAINIAN JOURNALISM

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Abstract: The problem of precedent is one of the most relevant for modern linguistics. Its theoretical design and development, including the development of the basics of terminology and metalanguage, the development of mechanisms, and methods of analysis of specific test material chronologically initiated in the 1980s. In the proposed article, the main subject of consideration is the precedent name. This basic variety of precedent phenomena belongs to the sphere of cultural and linguistic competence, which enables self-identification of a person as a representative of a certain ethnic group and bearer of the corresponding culture to a certain culture by recognizing its values, norms, ideas, priorities, tastes, traditions, etc.

Keywords: Journalism, Precedent Names, Linguistics, Language

1 Introduction

Communicative-pragmatic and functional-semantic features of the use of precedent names in different types of discourses are subjects of constant linguistic interest and coverage: artistic (G. Siuta, A. Berestova, L. Mialkovskaya, O. Malenko, I. Degtyareva), journalistic, and political (N. Kondratenko, I. Zavalyunyuk, M. Mamich, O. Levchenko, M. Stepanenko, G. Syuta, O. Ilchenko, A. Petrenko), scientific (M. Kotyurova, O. Bazhenova, O. Salimovsky), epistolary and memoir-autobiographical (I. Sirko, V. Halych, N. Shchaslyva), and religious one (J. Koloiz, G. Syuta, A. Berestova). In numerous articles, as well as in works of monographic and dissertation nature, we trace the common understanding of the nature of precedent phenomena as “components of knowledge, designation, and content of which are well known to representatives of a particular ethnocultural community, relevant and used in cognitive and communicative terms” (Selivanova, 2011).

In general, it can be stated that the basis of the corpus of precedent names of the modern Ukrainian language in all its genre and style varieties are formed by the names of famous modern figures, historical figures, literary heroes, movie characters, cartoons, and more. That is, genetically, these names must be related to a known text that belongs to the precedent or to a situation that is well known to native speakers. On this basis, Gudkov (1998) argues that precedent names belong “to the core of linguistic means of recording and transmitting cultural information,” materializing “key concepts of national culture”. At the same time, Karaulov (2000) emphasizes the mental affinity of precedent names with metaphors and – in part – with symbols. In all cases, it is a figurative conceptualization in the semantic structure of the language unit of a certain defining archetype: Einstein – 'genius', Hercules – 'very strong man', Herod – 'cruel man', Croesus – 'rich, wealthy man', Venus, Aphrodite – 'beauty; extremely beautiful woman', Solomon – 'sage', Othello – 'jealous', mother Teresa – 'kind, merciful woman, protector of the offended', Schumacher – 'lover of fast driving', James Bond – 'spy' and many more. Based on the recordings of such precedent names recorded in the language of Ukrainian journalism, it is possible to state both the stability of the preservation of the content-forming archiseme and its additional connotative increase under the contextual conditions of re-actuation of the precedent name: (Example) Poland was hit hard by an information bomb, gaining the opportunity to join the secrets of military intelligence – the Military Information Services (WSI). Last Friday, President Lech Kaczynski issued a decree publishing a report with a comprehensive analysis of the activities of the Polish “James Bonds” of the communist edition (Ukraina Moloda, February 22, 2007); Bond. Sherlock Bond (Ukraina Moloda, October 21, 2015); I'm Bond. Theo James Bond (Ukraina Moloda, 06/08/2016).

The above list of precedent names clearly illustrates the legitimacy of V. Krasnykh's conclusion about the expediency of distinguishing between two types of precedent names – terminological (which denote a certain feature, character trait, or appearance, i.e. have a kind of "terminological" meaning and serve as formulaic nominative and evaluative means of characterization) and polysemy ("can serve as a symbol not only of the image but also of the situation") (Krasnykh, 2002). Units of both types in specific journalistic texts act as translators of culturally significant information inherited from the precedent text or precedent situation, perform nominative, emotionally expressive, phatic, characterological, and other functions.

2 Literature Review

It is well known that, Yu. Karaulov introduced the term precedent into the scientific linguistic metalanguage. Having first outlined this problem in the report “The role of precedent texts in the structure and functioning of linguistic personality” at the VI MAPRYAL Congress (1986), the researcher continued to develop it productively in subsequent works, which formulated a basic understanding of the concept of precedent and its implementation in language practice – precedent text, precedent name, precedent statement, precedent situation. In particular, concerning precedent texts, he defines a set of the following differential features: and contemporaries, and, finally, such, (3) the appeal to which is repeated repeatedly in the discourse of this linguistic personality” (Karaulov, 2007). On this basis, the mental-cognitive and identification-password significance of such texts is stated: their knowledge confirms the author's belonging to a certain epoch and its culture, while ignorance is an indicator of separation from it (Karaulov, 2007).

The works of N. Burvikova, D. Gudkov, I. Zakharenko, V. Kostomarov, V. Krasnykh, and G. Slyshkin evidenced further intensive theoretical and methodological development of the concept of precedent. At the same time, linguists emphasize that despite the popularity and active use, the term precedent "cannot yet be counted among the unambiguously stable" (Krasnykh, 1997). This is due not only to the complexity of the key concept itself but also to the different theoretical approaches to the study of this precedent phenomenon. These approaches actualize the conceptuality of the main questions as to which linguistic facts can be qualified as precedent, by which parameters the functional significance of precedent phenomena can be traced, and so on. The multifaceted study of the problem of precedent, on the one hand, correlates with the complex psycholinguistic, linguistic-mental nature of this phenomenon, and on the other hand – motivates the active development of the functional-terminological field with the core “precedent”.

In general, the analysis of current views on the nature of precedent and linguistic units by which it is "measured" is realized in Ukrainian texts of various genres and styles, gives convincing reasons to state the longevity of linguistic and cultural traditions, including the accumulation, storage, and retransmission of intellectual and sensual content, acting as carriers of linguistic and cultural memory and linguistic and cultural knowledge.

These approaches to the study of the phenomenon of precedent heuristically enrich modern linguistic theory and allow for their integrative consideration within the framework of cognitive linguistics, linguoculturology, ethnolinguistics, psycho-linguistics, communicative linguistics, and other related areas of philological knowledge.

Deepening the basic theses of the theory of precedent, formulated in the works of Yu. Karaulov, researchers specify the understanding and interpretation of the basic features of linguistic phenomena, the presence of which can state their precedent nature: "a certain phenomenon, the cultural object can claim 1) is a fact; 2) differs in recurrence; 3) endowed with markings; 4) has reflexivity (strong or weak); 5) is clichéd (strong or weak); 6) is a collapsed associative chain; 7) has a scale of assessments" (Krasnykh V.V., Izotov A.I., 1998). Krasnykh offers a detailed interpretation of precedent phenomena as linguistic units, which: "1) are well known to all members of the national-linguistic and cultural community (in other words, have a superpersonal character, do not depend on individual reception); 2) are relevant in cognitive; 3) appeals to which are constantly renewed in the language of representatives of a national-linguistic and cultural community" (Krasnykh, 2002). Ukrainian scholars understand precedent in the same way (O. Selivanova, O. Malenko, G. Syuta, O. Perelomova, V. Kalashnyk, T. Kalchenko, I. Sirko, L. Myalkovska, I. Degtyareva, and A. Petrenko).

The basic four-component classification of precedent phenomena (precedent name, precedent text, precedent statement, precedent situation (Krasnykh, 1997) "is today significantly supplemented by other subspecies of precedent phenomena, precedent, precedent – defined in the works of foreign and Ukrainian linguists style, precedent genre, precedent image, precedent sound, precedent image" (Vysotskaya, 2013). This corpus also complements the term precedent sign – "a verbal and non-verbal sign that appeals to the previous example, activates it in the mind of the speaker/listener as a precedent" (Naydyuk, 2009). In addition, in works on the problems of precedent, there are numerous cognate derivative terms and two-component terminological phrases: precedent, case unit, case contents, case connotation, case assessment, case genre, case meaning, precedent concept, case-nomination/name, case agent, case structure, etc.

3 Materials and research methods

The methods of scientific research are used in the work, such as: scientific generalization, analysis and synthesis, induction and deduction. The method of content analysis was used to analyze individual literature sources. Methods of synthesis, generalization, structuring and system analysis, historical method are also used.

4 Results

Analysis of the nominative-evaluative and communicative-pragmatic potential of precedent names in the language of modern Ukrainian journalism confirms such a conceptual property of precedent phenomena as their temporal stability (temporality) or temporal variability of existence and recognizability within a certain (longer or shorter period). For example, a significant number of precedent names belong to the so-called universal precedent. They have timeless semantics; remain recognizable to representatives of at least several generations of speakers. Usually, the following units are genetically related to the texts of the classical world and national culture, history: Jeanne d'Arc – "a woman capable of self-sacrifice for the public interest"; Cinderella – "a girl who has too much and hard work"; Thumbelina – "miniature woman", Mowgli – "uneducated, unsocialized child" and others. The popularity of their use in modern Ukrainian journalistic practice is connected with the semantics fixed for them, which motivates their unambiguous recognizability and cognitive ability to serve as nominative-evaluative models, means of emotionally resonant linguistic description.

At the same time, numerous precedent names retain precedent only for a short time. These include those that are "inscribed" in the ideological context of the era, i.e. clearly related to ideological values and depend on the degree of their significance for society (Slyshkin, 2000) or those that are mentally produced by texts of temporary, short-lived popularity. For example, ideologically marked units in the language of Ukrainian journalism are represented by the name "International" (the name of the anthem is not relevant today for Ukrainian politics of the Communist Party, so it is usually used with ironic or negative connotations), names Lenin, Stalin, Brezhnev, etc. One of the productive approaches to the stratification of the corpus of precedent names recorded in modern Ukrainian journalistic discourse is to identify the source areas of precedent. According to this approach, precedent names of literary and non-literary origin are determined. Within the names of literary origin, precedent names are singled out, which are genetically related to the texts of world and national culture.

The basis of the corpus of precedent names, which mentally appeal to the texts of world culture, are formed by precedent phenomena (in our case – names) from the field of ancient culture, in particular from the texts of ancient Greek, Roman mythology – the so-called precedent mythonyms or mythoprecedent names. Precedent mythonyms Icarus, Orpheus, which are the bearers of precedent meanings "free man, not tied to earthly values" and "sweet-sounding singer or poet" are recorded in the Ukrainian mass media. (Koval A., Koptilov V., 1975). Example: Ukrainian Icarus (Uriadovyi Courier, January 6, 2017); Maryanivsky Orpheus: 115 years since the birth of Ivan Kozlovsky (Uriadovyi Courier, March 21, 2015). Their presence in modern Ukrainian artistic and journalistic language practice testifies not only to the intellectual language of modern Ukrainian journalists, to the active presence in their cultural memory of mythological texts, but also the productivity of the practice of appealing to universal cultural experience, which is an important component of collective cognitive consciousness.
A separate self-sufficient micro-corpus in the dictionary of precedent phenomena are precedent names of the biblical origin or precedent biblionames. The researcher A. Zelenska, who described the precedent biblical toponyms Babylon, Eden, Sodom and Gomorrah, and others, stated the urgency of their use in the language of the Ukrainian mass media. The functionality of these units is traced on the material of journalistic articles on cultural issues in publications "Ukraina Moloda", "Den'", "Dzerkalo Tyzhnia" (Zelenska, 2013).

According to our observations, an additional factor in the active use of precedent biblionames in the language of journalism is the characteristic of this type of discourse focus on the general reader, on the field of general cultural knowledge relevant to most speakers. Therefore, it is natural and logical to re-actualize recognizable biblical and sacredly marked proper names. Most of them are universalized in the cognitive-linguistic consciousness as names-symbols (according to the above terminology of V. Krasnykh – terminological precedent names). Among them, we single out: the names of the characters: Moses ("prophet, spiritual guide"), Goliath ("a very physically strong man"), Leviathan ("big, threatening, dangerous monster"), example: Will we wait for football Moses? (Uriadovyi Courier, June 23, 2016); Goliath or dystrophic? (Ukraina Moloda, January 24, 2018); Russian Leviathan strangles his own (Uriadovyi Courier, January 30, 2015); the names of places: Golgotha ("the place of superhuman suffering; the path of incredible trials"); Garden of Gethsemane (a place of reflection on the inevitability of certain events), example: To Golgotha - for Ukraine (Uriadovyi Courier, August 23, 2018); Donbas Garden of Gethsemane (Uriadovyi Courier, January 21, 2017).

Many journalistic contexts contain the names of characters from the precedent texts of the classics of world literature. These include, firstly, the precedent-onomastic pair of Romeo and Juliet (the proto text is Shakespeare's tragedy of the same name). In the context of Romeo and Juliet from the Maidan (Ukraina Moloda, 11/25/2015) the re-actualization of these names fully retains the meaning formed in the precedent text "young couple

in love". A separate detailed and component-filled micro-corpus of the dictionary of precedent proper names, relevant for the language of modern Ukrainian journalism, consists of names that genetically are derived from the texts of a national literature – both folklore and authors.

The urgency of folklore, Ukrainian folk art as a source of production of various precedent phenomena, including precedent names, convincingly argues S. Yermolenko: "Due to the aesthetic nature of folk poetry in it the longest preserved world of poetic ideas of the people, which excites the artistic creativity of writers of all times". The researcher states that units of folklore language enter the collective linguistic consciousness, enrich it with ethnocultural memory concentrated in them, and at the same time remain the basis for the creation of new images. The productivity of appealing to folklore precedent sources in journalistic texts is connected with this aesthetic nature. Among the folklore precedent names recorded in the language of the researched journalistic sources "Uriadovyi Courier" and "Ukraina Moloda", the most significant are the names of the characters of Ukrainian folk tales Kolobok, Baba Yaga, Kotyhoroshko, Zmiyuchka (snake) Olenka. Example: How Kolobok fled to Ukraine (Uriadovyi Courier, December 27, 2014); The newest Zmiyuchka Olenka of Ukrainian politics (Ukraina Moloda, March 12, 2007). Given the fact that folk tales are one of the first texts of human socialization, we emphasize their didactic and mental-conscious role in the formation of personality – its psychology, moral and ethical values and so on. Therefore, appeals to relevant texts and genetically rooted precedent names are logical and pragmatically justified methods of intellectualization and expression of any text, including journalistic.

Interesting varieties of precedent names learned from the texts of national literature are the names of the literary works themselves. Many of them are recognizable to Ukrainian speakers, so the authors of journalistic articles actively appeal to their nominative and evaluative content. Among the most popular are the titles of works by the famous Ukrainian impressionist writer Mykhailo Kotsyubynsky, "Horses Are Not Guilty", "Shadows of Forgotten Ancestors", and "Fata Morgana". Given the recognizability, even a certain symbolism in the Ukrainian language practice, in the language of journalism; they are re-actualized without additional author's comments, even in cases of their transformed use. Thus, the statement of the horse is not guilty is a formulaic journalistic carrier of axiologically marked content "hypocritical unwillingness to see the real culprits of something (to remove the guilt from the guilty)" (Koval A., Koptilov V., 1975). Due to the comfortable two-member subject-predicate lexical-syntactic structure, the precedent title of the work is easily transformed following the communicative-pragmatic conditions of use in a particular journalistic text. In this case, the subjective component of the horse is usually replaced (substitution), while the predicate part remains the threshold of recognizability, which is a reference to the precedent text of the short story by M. Kotsyubynsky. Example: Scandal within the regulations or Schools are not to blame (Uriadovyi Courier, 07/12/2017); Bees are not to blame (Uriadovyi Courier, June 20, 2018); Ducks are not guilty (Uriadovyi Courier, April 22, 2016). Instead, the title of the story by the same author "Fata morgana" is consistently used in its own-quoted, untransformed format, retaining the precedent of "unfounded expectations that vanish without a trace in the face of reality; an unattainable dream" (Koval A., Koptilov V., 1975). Example: "Fata Morgana Registration" (Uriadovyi Courier, April 2, 2014); Fata morgana of youth housing construction (Uriadovyi Courier, October 30, 2014); Neither ancestors nor "Shadows" are forgotten (Uriadovyi Courier, 14.04.2016). The precedent names of famous historical figures, such as Jeanne d'Arc, Archimedes, Einstein, and many others, represent a completely different field of knowledge. They appeal to the field of general knowledge, often associated with known precedents and statements of Jeanne d'Arc – burning – "I feel sorry for you, Rouen", Archimedes – scientific enlightenment – "Eureka!", designed to quickly decode implied in them content and value.

The precedent names of historical figures Caesar and Napoleon are well-known and therefore receptively comfortable: About Napoleon, the bees and Aunt Elizabeth (Uriadovyi Courier, August 18, 2018); Homegrown Caesar and Napoleon occasionally occur in many parliaments, but that so often ... Saw eyes what they chose ... saw something, but not much, and see if that Caesar or Napoleon suddenly popup somewhere "from" like Philip of hemp (Uriadovyi Courier, 04.01.2002). These illustrations confirm that the perception of inclusiveness in the journalistic and political context of precedent names remains an important criterion of their recognizability, information. Only under this condition can these language signs be adequately decoded. Especially when they are used as a secondary evaluation nomination in the context of the characteristics of a particular political leader, political phenomenon, event, situation, etc. Special attention should be paid to historically mark national-precedent proper names, which have a close factual and mental-evaluation connection with precedent situations of national history.

These include, for example, the toponyms Pereyaslav, Kruty, Babyn Yar, which semantically and connotatively appeal to precedent historical events Pereyaslav Council, the battle of Kruty, mass shootings in the tract Babyn Yar during World War II. Example, re-actualization of their corresponding documentary-historical content in several indicative in journalistic headlines: How not to repeat the new Berestechko… (Uriadovyi Courier, July 3, 2015); Pereyaslav Council: from fraternization to occupation (Uriadovyi Courier, March 22, 2014); Echoes of Babyn Yar is in the hearts of millions (Uriadovyi Courier, September 28, 2016); Kruty teach to look to the future (Uriadovyi Courier, January 30, 2015). The use of such precedent units in the position of a journalistic title restores in the minds of speakers knowledge of history, as well as aims at a proper understanding of the current events described in the publication.

The appearance of unprecedented names is connected with the events of modern history and the current state of Ukrainian society. Today's journalistic language practice convincingly testifies to their intense semantic and connotative load and gives grounds to assert that politics is the most active sphere-source of production of neo-precedent names. This type of professional activity is associated with the entry into the collective language consciousness of an extremely wide range of names. For example, for modern Ukrainian speakers, the most relevant and recognizable are the names of such figures as L. Kravchuk, V. Yanukovych, P. Poroshenko, V. Klitschko, V. Zelensky, and Yu. Tymoshenko, O. Lyashko, and others. In language, they gradually become secondary nominations of dominant personality traits of politicians or the main landmarks or signs of their public, state activities: L. Kravchuk – cunning, V. Yanukovych – limited, unpatriotic, with a dubious past, Yulia Tymoshenko – manipulator, adaptive to the situation, etc. The negative connotation and axiology, which is often evidenced by such unprecedented names in journalistic texts, is associated with a sharply critical attitude of Ukrainian society to their biography, behavior, and activities. Example: "Father", they try: what are the prospects for the case of treason against Yanukovych (Ukraina Moloda, 10/11/2017); "Tymoshenko and Yanukovych – two boots from one pair" (Ukraina Moloda, 08/14/2018).

Coverage of the issues of modern world politics in the mass media actualizes the significance for the linguistic consciousness of Ukrainians of the unprecedented names of foreign politicians – A. Merkel, D. Trump, Merkozi, D. Tusk, and others. Example: To each America on the Trump: presidential elections in Brazil were won by the far-right politician (Ukraina Moloda, 10/30/2018); "Czech Trump": the government will be headed by a scandalous billionaire of right-wing views (Ukraina Moloda. 10/24/2017). Also noteworthy are the unprecedented names that appeal to the field of modern visual culture. It is firstly about entering into the active journalistic dictionary of universally precedent names of feature films – "Mission Impossible", "Titanic", and "Matrix. Reboot", etc.; National Bank: mission

impossible? (Uriadovyi Courier, April 7, 2015); Mission feasible (Uriadovyi Courier, January 11, 2018); ACMH (condominiums): communal "Titanic" or light at the end of the tunnel? (Uriadovyi Courier, May 25, 2016).

5 Discussion

The most commonly used in the language of journalism national precedent name in the field of contemporary visual art – the opening words of a series of the favorite by many Ukrainians cartoons "How Cossacks…" (product of the Ukrainian studio "Kyivnaukfilm" – 1967-2016). Given their popularity, the fullness of journalistic discourse with such headlines as: "How a Cossack saved Russia" (Uriadovyi Courier, October 13, 2018) seems logical; "How the Bila Tserkva Cossacks are stepping into wealth" (Uriadovyi Courier, September 16, 2015). They are designed for unambiguous recognizability and comfortable adequate decoding of pragmatic content "inventiveness".
The historically marked national-precedent proper names considered above, which have a close factual and mental-evaluative connection with precedent situations of national history (Berestechko, Pereyaslav, Kruty, etc.) give access to the sphere of knowledge of the national-precedent corpus of precedent phenomena (including names) in the language of the Ukrainian media.

In the theory of precedent, national precedent phenomena have the status of those that reveal linguistic and mental connections with a certain national (not necessarily native). It is noteworthy that one precedent phenomenon may have different semantics and value in different national cultures (Krasnykh, 2002). It is logical to emphasize that in Ukrainian linguistics the definition of national-precedent phenomenon is used about language units that are mentally connected with Ukrainian ethno culture, explicate ethno-marked associative-textual connections. At the same time, precedents are considered informative carriers of national and cultural information – anthroponyms (names, surnames, and nicknames, pseudonyms of precedent personalities, whose activity was or is significant for the Ukrainian socio-cultural, socio-political, intellectual life), toponyms, etc.

The most significant precedent anthroponym for Ukrainian ethno culture is Taras Shevchenko and his lexical concretizers – Kobzar and Taras. Example: Kobzar personally talks to them here (Uriadovyi Courier, October 28, 2014); Kobzar's words came to life in French (Uriadovyi Courier, October 13, 2017); Princess who fell in love with Kobzar (Uriadovyi Courier, July 28, 2018). Notable for these and other re-actualizations is the consistent preservation of the venerable connotation and high meaning of this name-symbol, which in Ukrainian culture is associated with the meaning "spiritual leader of the nation, founder of modern Ukrainian literary language and literature".
The microcorpus of nationally marked precedent toponyms is formed by precedent names of geographical, topographical, hydronymic, etc. realities that belong to the geographical space of Ukraine and have historical-cultural, socio-psychological, expressive, and evaluative significance for Ukrainian speakers. In the language of journalism, for example, they are represented by the names Ukraine, Kyiv. Example: Ukraine will not put another cheek (Uriadovyi Courier, September 17, 2016); The first results of visa-free travel have been summed up in Kyiv (Uriadovyi Courier, July 22, 2017). It is worth noting the positive evaluation of such contexts in comparison with those that contain the Kremlin nomination as a metonymy of the name Russia: Ljubljana picks up the key to the Kremlin's logic (Uriadovyi Courier, May 12, 2018).

The most prominent axiologically marked national precedent toponym is Chernobyl. It has become a precedent in connection with the relatively recent (35 years ago) situation of man-made disaster – the accident at the Chernobyl nuclear power plant, which had irreversible devastating consequences not only for the ecology of Ukraine but also for Europe: The Chernobyl fire is burning with renewed vigor (Uriadovyi Courier, April 26, 2014); After Chernobyl, we became different people (Uriadovyi Courier, April 28, 2016); Where to go from Chernobyl (Uriadovyi Courier, April 26, 2017); Chernobyl bells are still ringing for them (Uriadovyi Courier, April 26, 2016), etc. Illustrated journalistic headlines update not only historically reliable information about the causes, facts, results of understanding the Chernobyl disaster, but also the intellectual and emotional content of this nomination, which has already become a precedent.
Another toponym, the neo-precedent of which will be formed during the last seven years of Ukrainian history, is Crimea. In modern publications, this is a nomination with the meaning "disputed territory", the subject of political confrontation: "Tell me whose Crimea, and I'll tell you who you are (Uriadovyi Courier, January 17, 2015); If you go quietly, you will be further from the Crimea (Ukraina Moloda, 05/29/2015).
Summarizing the consideration of national precedent names, we note that the criterion of the sphere of origin (to which precedent text the unit refers), the synchronous-diachronic criterion (belongs to the corpus of established or is neo-precedent) but the criterion of evaluation and evaluation positive or negative assessment).

4 Conclusion

Precedent is the general ability of a man in his communicative practice to rely on the texts of the previous culture, to actualize previous linguistic and cultural experience. In specific texts of different genres and styles, including the language of journalism, such verbalization of previous experience occurs due to the contextual actualization of precedent phenomena – texts, statements, names, and situations. In the proposed study, the textual productivity of precedent names is traced on the material of publications in the national publications "Ukraina Moloda" and "Uriadovyi Courier" (as two representative examples of modern Ukrainian journalism). In their corpus, the following are singled out: a) names of real historical, socio-political, cultural figures and b) names of literary, cinematographic, cartoon characters. The text-forming productivity of such titles of literary and multi-genre works is also stated. In the texts of the surveyed publications, their use is motivated by the intention of the authors to express a subjective attitude to the described, to verbalize not rational but emotional assessment.

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PREVENTING CORRUPTION IN PUBLIC PROCUREMENT IN EUROPEAN UNION

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Abstract: This article highlights the organization, methodology, and practice of public monitoring and control of public procurement to counteract corruption. The object of the study is the EU countries and their agencies, which are engaged in the control of public procurement. The purpose of the study is to evaluate the work of monitoring organizations and control of public procurement in the direction of combating corruption. The results obtained showed that different countries have their own characteristic techniques of corruption in different directions. Based on the study results, conclusions about methods of improving public monitoring and control over public procurement were made.

Keywords: Public Procurement, Corruption, Public Monitoring

1 Introduction

Every country has a limited number of spending funds ways to carry out its functions and achieve its goals. One such tool is public procurement, used to attract commercial market companies to fulfill state and municipal plans. For this reason, the efficient spending of budgetary funds becomes the main task on the way to becoming a state that provides quality services and ensures a high standard of living for the population. According to the Organization for Economic Cooperation and Development, government procurement accounts for 13% of total GDP in member countries. However, through the fact that public procurement always takes place for large sums, the system is most prone to fraudulent and corrupt practices. Thus, according to the World Bank, the volume of world bribes and inappropriate spending in the system of contractual relations is estimated at $1 trillion per year. As the practice of European countries shows, the modern model of public partnership implies the participation of citizens in monitoring and taking active measures in the sphere of state and municipal orders. Public monitoring and control allow the creation of effective tools to counteract corruption (Carausan, 2017; Basheka, 2009; Ksonzhyk & Dubinina, 2017). Today, it is safe to say that public monitoring systems work in a more sophisticated way in developed countries, which reduces the level of corruption. In turn, developing countries, which are characterized by a sufficient level of corruption in all government structures, have such a problem in the process of public procurement. In order to transfer the experience of more successful countries, which have found their tools to counter corruption, it is necessary to analyze methods to combat corruption and evaluate their effectiveness. As a result, it can help to make a model of adaptation and reorganization of corrupt public procurement models into more effective ones, saving public funds and developing the economy on equal competitive terms.

2 Literature review

Before conducting a study of anti-corruption instruments in EU public procurement, it is necessary to understand the essence of these instruments. To this end, we will study the categories of "monitoring" and "control". The Oxford English Dictionary defines the verb "monitor" as "to observe". According to this dictionary, the root of the verb comes from the Latin "monit", which means "warned" (Hellawell, 1991)

Monitoring makes sense only when the desired condition is predetermined if there are planned indicators. The role of monitoring is to assess whether such goals have been met. Monitoring and control are different methods of evaluation and analysis. Thus, monitoring consists of repetitive research using a standard methodology over some time. Monitoring activities can provide valuable information but do not determine whether the goals or standards have been met. For the purposes of this study, "monitoring of public procurement" includes absolutely all systematic observations of the public procurement system, based on the evaluation of the functioning and development of this system and the achievement of the goals set by the authorities of the states.
There is no definition of the term "monitoring" in the EU Public Procurement Act. Current EU directives on public contracts do not provide specific requirements for the monitoring of public procurement. The only reference to monitoring in the text of the Public Sector Directive is in the title of Article 81 – "Monitoring mechanisms". This article states: "Under Council Directive 89/665/EEC of 21 December 1989 on the harmonization of laws, regulations and administrative provisions relating to the application of control procedures, Member States shall ensure, through effective mechanisms, implementation of this Directive.

For that purpose, they may set up independent bodies to monitor public procurement. For this purpose, the organizers of public procurement shall prepare reports for:

- Organizers of tenders – duties to prepare separate reports on specific procurement procedures;
- EU Member States – duties to submit statistical data on contracts awarded during a given year to the European Commission.

The issues of organization of monitoring of public procurement have not only sufficient regulation system at the legislative level. Problems are well studied at the scientific level as well. The issue of the anti–corruption significance of public procurement is a hot topic for many researchers. In particular, many studies are devoted to e-procurement, which will take place on specialized sites with the possibility of public monitoring (Neupane et al., 2014). The relevance and necessity of monitoring are also sufficiently covered in the studies of Carausan, 2017; Ksonzhyk & Dubinina, 2017; Mamedova, 2015; Basheka & Bisangabasaija, 2009; Harland et al.,2009; Fazekas & Blum, 2021 and other researchers. Despite the fact that the issue of public procurement has been studied widely enough, the issue of monitoring and control of corruption is not highlighted enough. This makes it possible to form the purpose of our study.The purpose of the research is to study the effectiveness of instruments of public monitoring and control over corruption in public procurement of EU countries.

3 Materials and research methods

As a rule, the monitoring of public procurement includes such activities as data collection, analysis, dissemination of information on various aspects of public procurement (such as its transparency, openness, competitiveness, and efficiency). The monitoring results provide the basis for an empirical study of the procurement system's functioning, particularly for recommendations and proposals for its further development. As a result of the analysis of these reports, information on the

effectiveness of regulatory authorities in the field of public procurement was obtained. This information was systematized and grouped according to standard features. As a result of the analysis by the method of average values, a ranking of states by the level of corruption in public procurement was compiled.

4 Results

In order to examine the tools of anti-corruption in public procurement, first, it is necessary to assess the main types of corruption. The main areas of corruption related to public procurement are shown in Fig. 1.

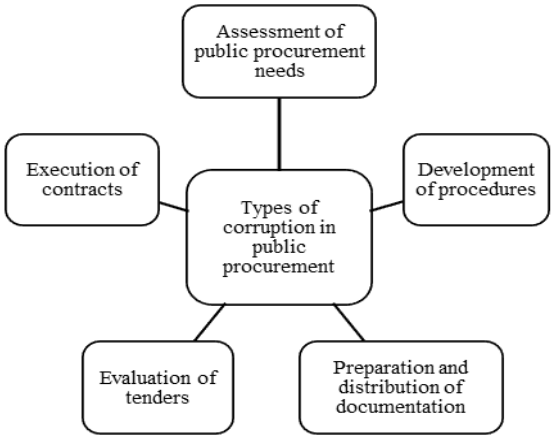

Figure 1 – Corrupt Practices in EU Public Procurement

Let us consider each area of corruption in more detail.
Exaggeration of actual needs. Procurers may order goods and services that are unnecessary for them or products in excessive amounts and quantities compared to actual need (Heggstad & Froystad, 2011). Shaping needs in favor of a particular supplier's products. Purchasers can order goods and services in a form or with unnecessary qualities to meet actual needs, creating advantages for a specific supplier (International, 2006; World Bank, 2007).

Procurement thresholds and exemptions. In Europe, the application of public procurement laws and various procedures depends on a set threshold of expected contract amounts and some predetermined exceptions. The formation of exceptions is a field for the development of corruption (OECD, 2010).

Formation of selection criteria for individual participants. This method of corruption is one of the most widespread. Evaluation criteria are selected in such a way as to exclude unwanted tenderers, although, according to all requirements, they could become such tenderers. This fact can significantly hinder fair competition. (Báger, 2011; Grodeland, 2010; Heggstad & Froystad, 2011; Papanek, 2009; Soreide, 2006).

Excessive or specific requirements for bidders. Each bidder company must meet official requirements. They may be tailored to the specifics of a particular company that is a participant in the corruption scheme (Báger, 2011; Grodeland, 2010; Papanek, 2009).

Ignoring the most favorable price in favor of product quality. Purchasers usually select the winning bidder based on the price factor. But they have the right to select the winner not only based on the price offer but also on the quality of the products offered. Since the quality criterion cannot be traced back to documents, this creates room for corruption schemes (Lengwiler & Wolfstetter, 2006; Piga, 2011; Papanek, 2009). Selective provision of information. Some participants can obtain more information on demand and gather the necessary documents to satisfy the customer's request for goods or services (Goldman et al., 2012; Grodeland, 2010; Papanek, 2009; Piga, 2011).

Lack of bid notification and reduced notification period. The invitation to participate in public procurements may be published in various places or not published at all. It reduces the number of participants in the procurement and makes participants with preliminary agreements the winner. Also, the shorter is the period of notification of the bidding starts, the fewer bids will be submitted. Thus, only prearranged companies will be able to prepare for the tender (Kenny & Musatova, 2010; OECD, 2007).
Intentional modification of invitations to tender. Intentional changes in the invitation reduce the number of bidders to the required number because the others will not be able to prepare a complete package of documents or will not receive information about changes in requirements.

Paid documentation package. If there is a fee to access the documentation, some potential bidders may lose interest in the competition. In principle, the high price of the tender documentation package may be justified; however, it may exclude even very high-quality suppliers from the competition.
Deliberate mistakes in the publication of tender documents. Even a small mistake or omission of information can have serious consequences. For example, an erroneous categorization of an invitation to tender according to the Unified Procurement Classification may exclude quality suppliers from the tender (OECD, 2009).

Intentional cancellation of a tender. If a certain company wins a tender with which no prior agreement has been reached, there are procedures for canceling the tender, which involves the formation of a new procedure. This is allowed in a number of countries (OECD, 2007). Repeated violations of the rules and regulations of public procurement procedures. Violation of laws and other regulations governing the public procurement procedure is the simplest and grossest type of corruption. Unless such violations are committed on a large scale, they may remain undisclosed, and as a result, the results of the tender appear to be perfectly legally correct (Ware et al., 2007).

Intentional contract modifications. The results obtained after a contract are often very different from what was originally intended when the contract was concluded. For example, corrupt rents can be obtained by increasing the prices included in the contract, extending the deadlines for performance, and reducing quality. All of these methods are regularly observed in a number of countries (Heggstad & Froystad, 2011; Kenny & Musatova, 2010; Ware et al., 2007).

Abuse of supplemental contracts or contingency reserves. After a contract award, there may be a need for additional goods or services related to initially provided in the contract. This serves as a basis for awarding one or more additional contracts. (Papanek, 2009). Breach of contract in the course of implementation. If the organizer of the tender and the contractor belong to the same corrupt group, it is quite easy to secretly deviate from the contractual obligations and make an additional profit as a result. This type of corruption violates the principle of accountability and can be observed in many countries (Papanek, 2009; Transparency International, 2006). Manipulation of payment terms. Companies with corrupt ties may have a much higher level of confidence that they will be paid on time, even in circumstances in which the public organization does not have sufficient funds to pay all other suppliers on time.

In fact, in many countries, public monitoring organizations can trace the results of a tender and find the presence of corrupt schemes in each of them since the procurement takes place electronically. Today, most of the violations in the EU countries are related to the presence of one participant in the bidding, the lack of publications to attract more participants, and limiting access to different organizations. Let us consider the statistics on these facts of corruption schemes in Fig. 2.

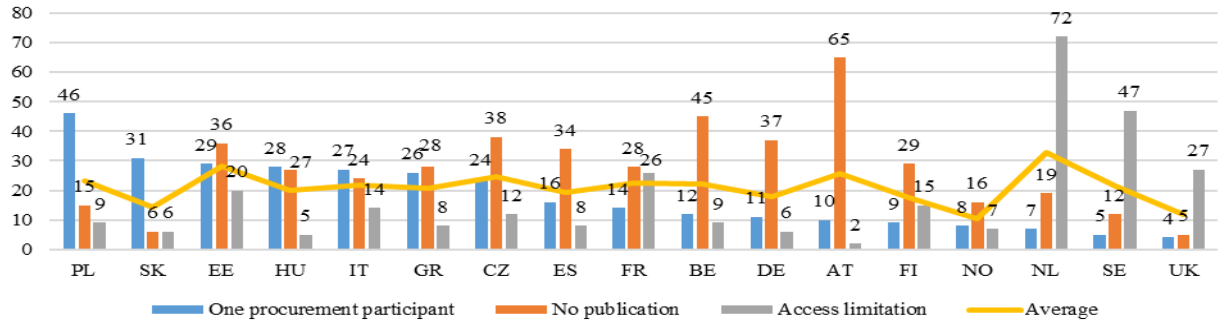

Figure 2 – Main violations in European public procurement during 2016-2019, %
Source: systematized by the author based on EC, 2019

From the statistics obtained, we can conclude that the largest number of violations associated with the participation of one participant in the procurement was recorded in Poland, Slovakia, Estonia. The largest number of violations in the area of lack of announcement was recorded in Austria, Belgium, the Czech Republic. In the Netherlands, Sweden, and the UK, most violations are related to the access restriction of procurement participants. Thus, by calculating the average of the compiled violations, we can identify the countries with more and fewer overall violations in public procurement (Fig.3)

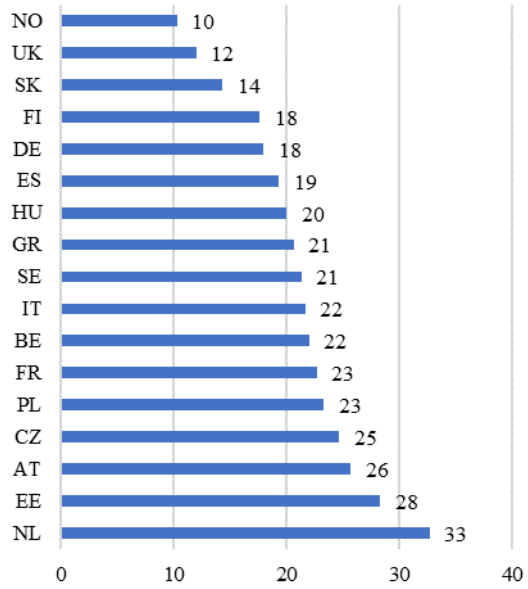

Figure 3 – Ranking of EU countries in the field of violations of public procurement procedures during 2016-2019

The least corruption factors are observed in Norway. Here the average number of violations is 10%. In the UK, the average figure is 12, Slovakia – 14. The highest figures are fixed in the Netherlands, Estonia, Austria, Czech Republic, and Poland.
In order to reduce corruption rates in European countries, the level of monitoring and control over public procurement needs to be increased. All the facts of monitoring are carried out by specially created organizations in different countries, which analyze procurement announcements and monitor the results of their implementation. Let's look at the work of the agencies in some countries.

Poland. In Poland, the Public Procurement Office prepares annual reports on the work of the procurement system, which are posted on the website of the GPO after their approval by the Council of Ministers. The results of the analyses are on www.uzp.gov.pl.

Spain. In Spain, the Public Procurement Observatory disseminates information concerning public procurement from both a domestic and international perspective, publishes the opinions and points of view of the experts participating in the Observatory, and develops and distributes newsletters containing proposals resulting from analyses and debates carried out by experts. Information is published at www.obcp.es.

Italy. The Office of Public Contracts Oversight oversees the entire public procurement system at the state and regional levels. Through spot checks, it monitors the proper application of laws, verifies the compliance of contract award procedures with regulations, and the effectiveness of contract performance. Every year this agency reports to Parliament on its work. The reports can be viewed at www.avcp.it.

Portugal. The Public Works Observatory is able to produce indicators, reports, and statistics based on the results of data processing, thus improving the level of awareness of the nature of the functioning of the procurement sector. The database collected in the Observatory is usually compiled on the basis of the reports submitted by the tender organizers.

Today, there are three forms of monitoring, which are actively used in the EU countries by almost all supervisory organizations: compliance audit, performance evaluation, compliance monitoring. Let us consider each form in more detail.

Compliance audits. Such monitoring is carried out through checks on the legality of actions taken by the organizers of tenders (e.g., qualification of business entities or determination of the winning bidder) or their inactivity (e.g., failure to publish a contract when the law requires such publication). Such inspections are not concerned with evaluating public expenditure in terms of good governance, efficiency, effectiveness, and impeccability. In addition, audits or inspections are not concerned with monitoring the implementation of government procurement rules. Nevertheless, carefully and correctly conducted audits can help achieve the objectives defined by the regulations of the law. Bulgarian Public Procurement Agency, the Polish Public Procurement Bureau, the Public Procurement Bureau in Slovakia, and the Romanian National Agency for Public Procurement Regulation and Monitoring are agencies conducting compliance audits.

Performance Evaluation. This type of monitoring focuses on assessing the procurement system's performance in terms of efficiency and effectiveness. The analysis of indicators provide information that allows the monitoring body to conclude the transparency of procurement, compliance with competition rules, the efficiency of procurement, procurement control, development of the public procurement system.

Compliance monitoring. At the central level, monitoring is usually carried out by public procurement bureaus (departments/bodies). One of their general functions is to monitor the compliance of tender organizers with the public procurement law. In particular, they check the compliance of specific procurement procedures with legal requirements. In turn, regulatory authorities do not usually get involved in the

systematic monitoring of public procurement. Their main function is an objective and independent review of appeals (complaints) filed during procurement procedures against the decisions of tender organizers. The task of the monitoring body is to resolve the dispute between the two parties (the organizer and the bidder whose rights are violated). However, even when supervisory bodies are not involved in monitoring public procurement, their decisions may be helpful in monitoring events in public procurement since they concern the same actions or inaction of tender organizers.

Let us look at practical examples of state-level monitoring on the model of some European countries.

Poland. The Polish Public Procurement Office is obliged to provide the Council of Ministers with annual reports on the performance of the public contracting system. These reports include statistical data on the procedures, a description of the activities of the procedures, and a description of the legal framework adopted.

Spain. The Bureau provides the public with statistical documents, a list of companies excluded from public procurement, and certified companies.

France. In France, there are at least two agencies at the central level with monitoring functions. The Directorate of Legal Affairs (Direction des Affaires juridiques – DAJ) is the Ministry of Economy and Finance division. The Department of Public Procurement under the DAJ is responsible for developing primary legislation and regulations, standard tender documents, and standard forms of contracts. In addition, it is in charge of drafting procurement rules and preparing related manuals and instructions. Monitoring at the level of tender organizers ensures the efficiency and effectiveness of their work, identifies weaknesses and strengths in the procurement system's work and determines the priorities for its development. In addition, it is a critical element of strategic and operational planning and management of the state customer

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Thus, in general, we can say that the EU countries have created a code of regulations, which would allow effective control and monitoring of public procurement. But it is safe to say that the level of corruption in tender procurement generally depends on the level of corruption in the state. Therefore, corruption can be solved not only by involving the controlling state bodies but also the public. Furthermore, with the use of available means of information dissemination, it is possible to quickly summarize information about violations in public procurement and thus bring the problem of local corruption to the authorities.

5 Discussion

According to many researchers of public procurement in the EU (Ksonzhyk & Dubinina 2017; Carausan, 2017) the existing monitoring system is not perfect in many EU countries. It is still under reform and requires further improvement. One of the most effective ways is automated open monitoring, which is possible through special platforms and websites (Mamedova, 2015; Neupane et al., 2014). In most developing countries, there is a problem of openness of information on budgets. Public officials are reluctant to provide it, justifying it by the secrecy of information. It creates the conditions for corruption in the public procurement process. The organization of monitoring and communication is the primary tool to improve ethics in public procurement (Basheka, 2009).

In order to carry out public monitoring at an effective level, every interested subject should receive publicly available information about the use of public funds (Fazekas & Blum, 2021). At the same time, to reduce corruption and motivate the public to be interested in public procurement, it is necessary to:

- identify a range of public officials who could cooperate in the direction of obtaining information. Such people should support the initiative of the public to get information about the use of funds of citizens of the country or residents of the municipality.
- develop regulatory legislation that would authorize the public to participate in public procurement.
- create a common information resource where interested bodies could get information about current public procurements and the result of tenders. For example, such sites should provide information on the number of applications submitted, eligibility requirements, and selection results using key parameters that were used to evaluate bidders.

But even if countries are willing to improve the level of public monitoring, information requests from the public may face many limitations, in particular, they may relate to national security.

6 Conclusion

Today, the procedure of electronic public procurement in many countries has become one of the most effective ways to combat corruption. But at the same time, in countries where the level of corruption is quite high at all levels of government and business, there always will be legislative bottlenecks that can be exploited for corruption. Despite the fact that in most EU countries, public procurement is regulated at a sufficiently high level, including establishing state controlling organizations that monitor budget spending efficiency, corruption is still present. At the same time, five main corruption channels and about 20 corruption schemes have been identified, which are related to the exaggeration of the needs of public organizations, imperfect procedures, problems with documentation, evaluation of bids, and contract performance. Such issues are recorded in the public procurement of almost all EU countries. At the same time, analysis of statistical information has shown the weaknesses of each country, which could be eliminated by directing public monitoring to this very problem. At present, the controlling state bureaus and agencies do not work efficiently enough in some countries. Thus, if the authorities wanted to fight corruption, the issue of control could be shifted to public monitoring by organizing tenders in electronic form with the possibility to control public procurement at all stages: preparation of the state request, evaluation of the list of participants, their documentation and proposals, justification of the choice of the winner, and control over the implementation of contracts. Such platforms should be created at the state's initiative with open access to such information for individual control groups. Public organizations interested in controlling public funds could quickly disseminate information through open channels, including social networks, involving the media and other controlling organizations in the procurement process. Thus, the improvement of the control of public procurement in the area of corruption would be most effectively accomplished through public monitoring.

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Primary Paper Section: A

Secondary Paper Section: AE

THE GLOBAL COMPETITIVENESS OF NATIONAL ECONOMIES

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Abstract: The spread of the pandemic and the resulting economic recession forced countries to reconsider the factors of growth and productivity, economic systems that require the integration of the sustainability principles. The World Economic Forum revised the directions of economic growth: the transformation of the enabling environment, human capital, markets, and the innovation ecosystem is new growth factors. The aim of the article is to assess the global competitiveness of national economies, in particular in the direction of human capital, based on the digitalization indicators of 25 European Union (EU) countries. The research methodology included methods of correlation and cluster analysis of Growth development product (GDP) per capita, labor productivity, and indicators of digitalization of the economy as new key factors of competitiveness.

Keywords: Global Competitiveness, National Economy, Productivity, Competitiveness, Digital Economy

1 Introduction

The spread of the pandemic and the resulting economic recession have forced countries to reconsider the factors of growth and productivity, economic systems that require the integration of the principle of sustainability. The World Economic Forum's report The Global Competitiveness Report (GCR) 2020 provides recommendations for ensuring economic sustainability in the following key areas: transformation of the enabling environment; 2) transformation of human capital; 3) transformation of markets, 4) transformation of the innovation ecosystem (World Economic Forum, 2021).

The favorable environment for economic growth involves eliminating the erosion of institutions and ensuring transparency in their functioning with an emphasis on the digitalization of public services and the development of information communication technologies (ICT), reducing the level of public debt and inequality. The transformation of human capital involves eliminating the imbalance of the competence of the workforce to the needs of the labor market, which has been accumulating over the past ten years. The problem of imbalance is intensified by the dynamism of ICT development, which requires workers to develop digital skills that will ensure future productivity growth and can be the basis of growth. In this context, labor laws need to be revised to accommodate the new technological, digital economy.

Transformation of markets involves addressing the liquidity and corporate debt risks of the financial system, ensuring the sustainability and inclusiveness of investments, reducing the concentration of markets through high productivity and profits of the largest companies in various industries, reducing the openness of trade and international migration. Transforming the innovation ecosystem involves fostering an entrepreneurial culture, especially in developing countries, through second-hand regional transportation district (RTD) investments, encouraging venture capital, and promoting technology diffusion and creativity. The Global Competitiveness Report (GCR) 2020 assesses the level of preparedness of countries in these areas of economic sustainability, inclusiveness and productivity.

Taking into account the new directions of ensuring the competitiveness of national economies, it is advisable to assess the indicators of sustainability of countries in the direction of human capital transformation. Despite the focus of the World Economic Forum on the importance of digital skills (skills in the use and design of technology) through their scarcity, this study examines the competitiveness of national economies on the level of development of digital skills on the example of EU countries. The aim of the article is to assess the global competitiveness of national economies.

2 Literature review

The scientific literature evaluates the global competitiveness of national economies based on the Global Competitiveness Index of the World Economic Forum, which evaluates the development factors of countries: infrastructure, institutions, macroeconomics, health, education, technological readiness, domestic markets, etc. (Kordalska & Olczyk, 2015; Palei, 2015). The World Economic Forum report presents the factors of sustainable economic growth of countries: institutions, policies and productivity factors (Cammack, 2006; Sala-i-Martin et al, 2007; Porter et al, 2008). Auzina-Emsina A. (2014) found weak links between productivity growth and economic growth in the pre-crisis period; however, productivity growth during the crisis ensures economic growth after a certain period of time (Auzina-Emsina, 2014). Lall (2001) argues the fallacy of the World Economic Forum methodology bias and overly broad definitions of competitiveness factors, and the weakness of the theoretical and practical basis for calculating the Index. Schwab (2018) presents a new Global Competitiveness Index 4.0 methodology, the development of which arose in the wake of the fourth industrial revolution and the 2008 crisis. The new methodology puts forward new requirements for economic growth: resilient countries, agile or fast adaptability, an innovation ecosystem, a human-centric approach to economic development. Palei (2015) explores the infrastructure factor of competitiveness through an assessment of the quality of roads, rail infrastructure, air transport and electricity supply. Yunis et al. (2012) investigate the impact of ICT maturity on national economies through cluster analysis and structural equation modeling. Paraušić et al. (2014) conducted a correlation analysis of cluster development and competitiveness of economies, finding high levels of innovation and productivity within clusters. Krstić, Krstić & Antonović (2019) investigated innovation and innovation development indicators (particularly science) in competitiveness (Krstić, Krstić & Antonović, 2019). Dima et al. (2018) the impact of knowledge economy indicators (innovation, education and lifelong learning, R&D) on EU competitiveness. Mihaela, Claudia & Lucian (2011) identify the influence and relationship between cultural dimensions (power distance, individualism, masculinity, avoidance of uncertainty) and national competitiveness of countries, in particular a significant influence of cultural dimensions on national competitiveness is found. Şener & Sarıdoğan (2011) proved that countries focused on science, technology and innovation strategies of global competitiveness have sustainable competitiveness and long-term growth.

Thus, scientific literature based on mathematical methods of research studies the influence of various factors of competitiveness of national economies. However, taking into account the updated methodology of the Global Competitiveness Index of the World Economic Forum due to new developments, strengthened by pandemics and the formation of new areas of competitiveness (favorable environment, human capital, markets and innovative ecosystem) there is a need for research on the impact of these tensions on competitiveness. This research proposes an assessment of the competitiveness of national economies in 25 EU countries based on GDP indicators,

productivity (dependent changes) and digitalization factors, which mainly reflect the quality of human capital and its compliance with the needs of the digital economy.

3 Materials and research methods

This study uses correlation analysis to identify the linear relationship and directions of the relationship between labor productivity, the growth rate of GDP per capita and indicators of development of the ICT sector of countries and digital skills. For the correlation analysis, the average values of the indicators for 2012-2020 from the Eurostat database, broken down by 25 countries, were used.

The significance of the correlation coefficients was assessed using a p-value of 5%. Not all EU member states are included in the analysis due to the lack of data for certain periods for certain countries. In the second stage, the construction of a tree diagram and cluster analysis was carried out to identify groups of countries according to the level of productivity and sustainability of economic growth. The tree diagram served as the basis for visualization of the potential number of country clusters and their subsequent clustering. Cluster analysis was carried out based on k-means method. The global k-means algorithm is the next.

The k-means algorithm 2nds locally optimal solutions with respect to the clustering error. A fast iterative algorithm has been used in many clustering applications. A point-based clustering method starts with the cluster centers initially placed at arbitrary positions and proceeds by moving at each step the cluster centers in order to minimize the clustering error. The main disadvantage of the method lies in its sensitivity to initial positions of the cluster centers. Therefore, in order to obtain near optimal solutions using the k-means algorithm several runs must be scheduled in the initial positions of the cluster centers (Likas, Vlassis & Verbeek, 2003).

Suppose we are given a data set $X = \{x_1, ..., x_N\}, x_N \in R^D$. The M-clustering problem aims at partitioning this data set into M disjoint subsets (clusters) $C_1, ..., C_M$, such that a clustering criterion is optimized. The most widely used clustering criterion is the sum of the squared Euclidean distances between each data point x_i and the centroid m_k (cluster center) of the subset C_k which contains x_i. This criterion is called clustering error and depends on the cluster centers $m_1, ..., m_M$:

$$E(m_1, ..., m_M) = \sum_{i=1}^{N} \sum_{k=1}^{M} I(x_i \in C_k) \| x_i - m_k \|^2,$$

where I(X) = 1 if X is true and 0 otherwise.

4 Results

Beginning with the 2008 crisis, economic growth in the EU countries has accelerated, and the policy is focused on stimulating innovation, human capital development, mainly through lifelong learning and popularization of the importance of digital competencies to meet the needs of the digital economy.

The average value of GDP per capita as a share of GDP per capita EU-27 in the 25 EU countries was 96.5% for 2012-2020 (see Table 1) with a significant deviation at the rate of 66.86%. This means that the GDP per capita in some countries was higher than in the EU countries as a whole, while in others it was lower, as a result reflecting the level of the quality of life. The real labor productivity level averaged 100.24 for 2012-2020 with a deviation of 2.01, which means the absence of changes in the real labor productivity of the EU-27 countries (Table 1).

Table 1: Descriptive statistics

#	Indicator	Mean	Minimum	Maximum	Variance	Std.Dev.
1	GDP, % of EU27 total per capita, current prices	96,5038	24,52000	329,4300	4470,738	66,86358
2	Real labor productivity per person, Index, 2015=100	100,2412	95,47000	103,9100	4,067	2,01663
3	Employed ICT specialists – total % of total employment	3,6550	1,92000	6,5200	1,227	1,10755
4	Enterprises that provided training to develop/upgrade ICT skills of their personnel, % of enterprises	21,0199	5,12500	37,5000	63,040	7,93976
5	Large enterprises (250 persons employed or more) provided training to their personnel to develop their ICT skills, without financial sector, % of enterprises	65,3929	27,50000	87,5000	182,129	13,49551
6	Enterprises that employ ICT specialists, % of enterprises	21,4952	10,87500	31,5000	24,568	4,95662
7	Large enterprises (250 persons employed or more) that employ ICT specialists, without financial sector, % of enterprises	76,0721	40,25000	86,3750	94,378	9,71482
8	Enterprise recruited/tried to recruit personnel for jobs requiring ICT specialist skills (reduced comparability with 2007), %	8,4856	3,62500	12,7500	6,543	2,55791
9	Enterprise had hard-to-fill vacancies for jobs requiring ICT specialist skills (reduced comparability with 2007), %	4,2147	1,50000	7,7500	3,356	1,83184
10	Individuals who have low overall digital skills, % of all individuals	25,4647	16,00000	35,2500	27,642	5,25760
11	Individuals who have basic overall digital skills, % of all individuals	24,9647	17,50000	34,7500	21,221	4,60659
12	Individuals who have above basic overall digital skills, % of all individuals	29,8654	9,50000	50,2500	109,176	10,44874
13	Individuals who have basic or above basic overall digital skills, % of all individuals	54,9038	28,50000	80,5000	170,685	13,06466
14	Percentage of the ICT personnel in total employment, %	2,7014	1,39750	4,3690	0,438	0,66159
15	Percentage of the ICT sector in GDP, %	4,0766	2,11625	7,3730	1,098	1,04776

Source: Eurostat (2021)

The share of those employed in the ICT sector was 3.65% in 2012-2020, with a decrease of 1.11%. The share of enterprises that provided their employees with ICT skills training or development programs was 21.02% with a decrease of 7.94% by country in 2012-2020. At the same time, large enterprises had a greater share of those who conducted ICT skills development trainings – 65.39% with a 13.49% difference. The number of enterprises employing ICT specialists was 21.49% with a 4.95% reduction in 2012-2020. Among large companies, the indicator was 76.07%. 8.48% of companies tried to hire ICT specialists, and 4.21% of companies had difficulties hiring specialists with ICT skills. Within 25 countries, 25.46% of people have low levels of digital skills with a deviation of 5.26%; 24.96% have basic digital skills with a deviation of 4.61%; 29.86% have more than basic skills with a tolerance of 10.44% per country; 54.9% have basic or more than basic digital skills with a tolerance of 13.06%. The share of ICT personnel was 2.7% of all employees in 25 EU countries. The share of ICT sector in GDP was 4.07% with a deviation of 1.05%.

Table 2 presents a correlation matrix of indicators. GDP per capita is directly linearly related to the following indicators: employed ICT specialists, enterprises that provided training to develop/upgrade ICT skills of their personnel, large enterprises

provided training to their personnel to develop their ICT skills, enterprises that employ ICT specialists, enterprise recruited/tried to recruit personnel for jobs requiring ICT specialist skills (reduced comparability with 2007), enterprise had hard-to-fill vacancies for jobs requiring ICT specialist skills (reduced comparability with 2007), individuals who have basic overall digital skills, above basic overall digital skills, basic or above basic overall digital skills. The GDP per capita share in the GDP of the EU-27 per capita is correlated with the index of real work productivity, individuals who have low overall digital skills. The index of real work productivity is linearly related to such factors: GDP per capita, enterprises that provided training to develop/upgrade ICT skills of their personnel, enterprises that employ ICT specialists, enterprise recruited/tried to recruit personnel for jobs requiring ICT specialist skills (reduced comparability with 2007), enterprise had hard-to-fill vacancies for jobs requiring ICT specialist skills (reduced comparability with 2007).

The correlation analysis reveals the impact of the ICT sector development, the development of ICT skills of the companies' employees and the digital skills of the EU population on the economic growth and labor productivity. It is also worth noting the link between the factors. For example, a portion of enterprises that conduct ICT skills development training, including large ones, is negatively related to the low level of digital skills of individuals, but positively related to basic or more basic digital skills of the population.

The share of ICT employees in the total employment is positively correlated with the basic or higher level of digital skills of the population. The share of the ICT sector in GDP is positively correlated with employed ICT specialists, enterprise recruited/tried to recruit personnel for jobs requiring ICT specialist skills (reduced comparability with 2007), enterprise had hard-to-fill vacancies for jobs requiring ICT specialist skills (reduced comparability with 2007), percentage of the ICT personnel in total employment.

Table 2: Correlations, Marked correlations are significant at p < ,05000, N=26 (Casewise deletion of missing data)

	1 – GDP	2 – RLPI	3 – EICTS	4 – ETICTS	5 – LETICTS	6 – EEICT	7 – LEEICT	8 – ERPFJ	9 – EHTFVICT	10 – ILODS	11 – IBODS	12 – IABODS	13 – IBABODS	14 – ICTPE	15 – ICTSGDP
1 – GDP	1,00	-0,48	0,70	0,57	0,48	0,52	0,26	0,59	0,68	-0,43	0,41	0,71	0,71	0,24	-0,02
2 – RLPI	-0,48	1,00	-0,27	-0,50	-0,38	-0,67	-0,36	-0,52	-0,46	0,14	-0,01	-0,30	-0,24	-0,19	-0,28
3 – EICTS	0,70	-0,27	1,00	0,71	0,67	0,57	0,39	0,65	0,76	-0,45	0,43	0,79	0,78	0,66	0,41
4 – ETICTS	0,57	-0,50	0,71	1,00	0,90	0,71	0,69	0,61	0,65	-0,43	0,41	0,64	0,66	0,39	0,22
5 – LETICTS	0,48	-0,38	0,67	0,90	1,00	0,62	0,85	0,46	0,57	-0,47	0,60	0,62	0,71	0,37	0,14
6 – EEICT	0,52	-0,67	0,57	0,71	0,62	1,00	0,62	0,74	0,67	-0,25	0,21	0,50	0,47	0,37	0,36
7 – LEEICT	0,26	-0,36	0,39	0,69	0,85	0,62	1,00	0,34	0,39	-0,42	0,45	0,49	0,55	0,27	0,06
8 – ERPFJ	0,59	-0,52	0,65	0,61	0,46	0,74	0,34	1,00	0,83	-0,33	0,17	0,66	0,59	0,53	0,47
9 – EHTFVICT	0,68	-0,46	0,76	0,65	0,57	0,67	0,39	0,83	1,00	-0,48	0,41	0,74	0,74	0,66	0,53
10 – ILODS	-0,43	0,14	-0,45	-0,43	-0,47	-0,25	-0,42	-0,33	-0,48	1,00	-0,53	-0,73	-0,77	-0,16	0,09
11 – IBODS	0,41	-0,01	0,43	0,41	0,60	0,21	0,45	0,17	0,41	-0,53	1,00	0,43	0,70	0,19	-0,13
12 – IABODS	0,71	-0,30	0,79	0,64	0,62	0,50	0,49	0,66	0,74	-0,73	0,43	1,00	0,95	0,55	0,22
13 – IBABODS	0,71	-0,24	0,78	0,66	0,71	0,47	0,55	0,59	0,74	-0,77	0,70	0,95	1,00	0,51	0,13
14 – ICTPE	0,24	-0,19	0,66	0,39	0,37	0,37	0,27	0,53	0,66	-0,16	0,19	0,55	0,51	1,00	0,82
15 – ICTSGDP	-0,02	-0,28	0,41	0,22	0,14	0,36	0,06	0,47	0,53	0,09	-0,13	0,22	0,13	0,82	1,00

Source: author calculation in Statistica based on Eurostat (2021).

The correlation analysis enabled us to see a significant linear relationship between the indicators of development of the digital economy and the GDP per capita, the real productivity of labor. This means that countries can be clustered into groups depending on the rate of economic growth and real productivity of labor, indicators of digitalization. The tree diagram makes it possible to nominally distinguish three groups of countries with different distances depending on the values of the analyzed indicators of competitiveness (Figure 1).

The first group of countries with the distance between them for the level of competitive capacity is within 10-20; the second group of countries with the distance between them for the level of competitive capacity is within 20-30; the group of countries with the distance between them for the level of competitive capacity is over 30.

Table 3 shows the average values of indicators of competitiveness of countries in each cluster.

The third cluster of countries is characterized by the highest average values of economic development indicators: the highest share of GDP per capita; the highest share of ICT professionals employed (4.64%); the highest share of companies conducting ICT skills development trainings (28.29%); the highest share of companies with ICT professionals (24.96%), etc. The first cluster of countries in terms of competitiveness is characterized by medium development values, the second – by the lowest ones. However, the index of real productivity does not vary significantly within the clusters.

Table 4 shows Euclidean Distances between Clusters, which indicate the distance of each group of countries depending on the level of development. Thus, the first group is 9.99 away from the second group and 20.89 away from the third. The second group is 99.96 away from the first group and 30.52 away from the third group. The third group is distant from the first – by 436.73, from the second – by 931.58.

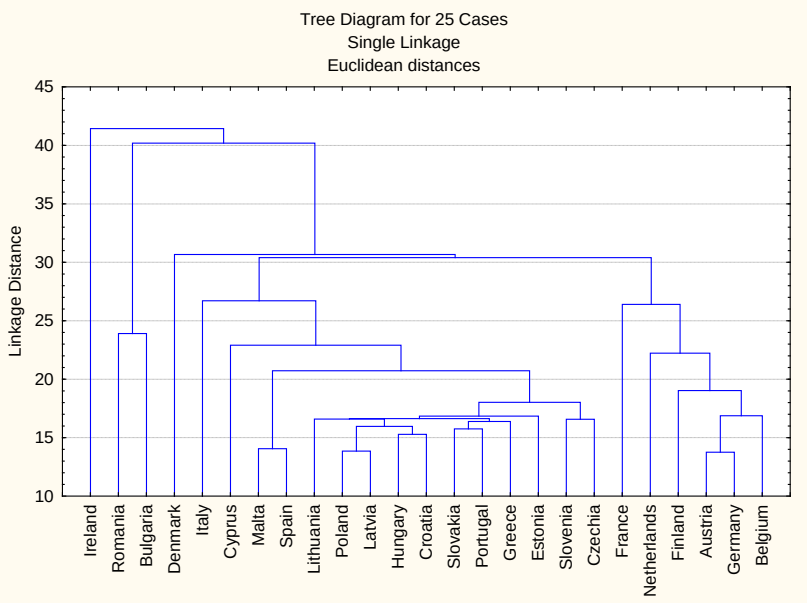

Figure 1. – Tree Cluster Diagram of Countries
Source: author calculation in Statistica based on Eurostat (2021).

Table 3: Cluster Means

Indicators	Cluster 1	Cluster 2	Cluster 3
GDP, % of EU27 total per capita, current prices	71,37600	39,2486	148,8963
Real labor productivity per person, Index, 2015=100	99,66400	102,1729	99,5362
Employed ICT specialists – total % of total employment	3,35300	2,7243	4,6450
Enterprises that provided training to develop/upgrade ICT skills of their personnel, % of enterprises	20,43750	12,9643	28,2991
Large enterprises (250 persons employed or more) provided training to their personnel to develop their ICT skills, without financial sector, % of enterprises	65,68750	51,3393	77,1987
Enterprises that employ ICT specialists, % of enterprises	20,77500	18,1250	24,9688
Large enterprises (250 persons employed or more) that employ ICT specialists, without financial sector, % of enterprises	76,73750	69,4286	81,7344
Enterprise recruited/tried to recruit personnel for jobs requiring ICT specialist skills (reduced comparability with 2007), %	7,77500	7,0179	10,1719
Enterprise had hard-to-fill vacancies for jobs requiring ICT specialist skills (reduced comparability with 2007), %	3,50000	3,0714	5,6667
Individuals who have low overall digital skills, % of all individuals	25,40833	28,7143	23,8750
Individuals who have basic overall digital skills, % of all individuals	24,58333	21,5714	27,7500
Individuals who have above basic overall digital skills, % of all individuals	27,45000	21,5000	37,6563
Individuals who have basic or above basic overall digital skills, % of all individuals	52,17500	43,1071	65,4375
Percentage of the ICT personnel in total employment, %	2,67763	2,4355	2,9415
Percentage of the ICT sector in GDP, %	4,02309	4,0288	4,2805

Source: author calculation in Statistica based on Eurostat (2021).

Table 4: Euclidean Distances between Clusters Distances below diagonal Squared distances above diagonal

	No. 1	No. 2	No. 3
No. 1	0,00000	99,96461	436,7306
No. 2	9,99823	0,00000	931,5770
No. 3	20,89810	30,52175	0,0000

Source: author calculation in Statistica based on Eurostat (2021).

Table 5 provides an analysis of variations in the indicators of competitiveness of the countries and the significance of each factor in the development of the country. Thus, with the level of significance of 5% we can conclude that all factors are significant with the exception of such indicators as individuals who have low overall digital skills, % of all individuals; percentage of the ICT personnel in total employment, %; percentage of the ICT sector in GDP, %.

Table 5: Analysis of variances

Indicators	Between	df	Within	df	F	signif.
GDP, % of EU27 total per capita, current prices	49050,78	2	6292,884	22	85,74107	0,000000
Real labor productivity per person, Index, 2015=100	33,25	2	63,787	22	5,73366	0,009904
Employed ICT specialists – total % of total employment	14,71	2	13,242	22	12,22141	0,000269
Enterprises that provided training to develop/upgrade ICT skills of their personnel, % of enterprises	880,90	2	678,616	22	14,27897	0,000106
Large enterprises (250 persons employed or more) provided training to their personnel to develop their ICT skills, without financial sector, % of enterprises	2498,37	2	2053,852	22	13,38072	0,000158
Enterprises that employ ICT specialists, % of enterprises	180,86	2	423,955	22	4,69257	0,020076
Large enterprises (250 persons employed or more) that employ ICT specialists, without financial sector, % of enterprises	568,69	2	1759,898	22	3,55450	0,045957
Enterprise recruited/tried to recruit personnel for jobs requiring ICT	42,27	2	105,568	22	4,40471	0,024611

specialist skills (reduced comparability with 2007), %						
Enterprise had hard-to-fill vacancies for jobs requiring ICT specialist skills (reduced comparability with 2007), %	30,62	2	40,270	22	8,36503	0,001987
Individuals who have low overall digital skills, % of all individuals	90,58	2	507,310	22	1,96412	0,164114
Individuals who have basic overall digital skills, % of all individuals	143,00	2	358,464	22	4,38819	0,024903
Individuals who have above basic overall digital skills, % of all individuals	1017,16	2	1280,092	22	8,74057	0,001608
Individuals who have basic or above basic overall digital skills, % of all individuals	1910,06	2	1675,707	22	12,53837	0,000232
Percentage of the ICT personnel in total employment, %	0,96	2	9,949	22	1,06165	0,362949
Percentage of the ICT sector in GDP, %	0,35	2	26,488	22	0,14699	0,864139

Source: author calculation in Statistica based on Eurostat (2021).

Table 6 provides a list of the countries of each cluster with distances. The third cluster of countries with the highest indicators of competitiveness includes Belgium, Denmark, Germany, Ireland, France, Netherlands, Austria, and Finland. The second cluster with the lowest indicators of development includes Bulgaria, Croatia, Latvia, Lithuania, Hungary, Poland, and Romania. The first cluster with medium development indicators includes Czech Republic, Estonia, Greece, Spain, Italy, Cyprus, Malta, Portugal, Slovenia, and Slovakia.

Table 6: Members of Clusters and Distances from Respective Cluster Center

Cluster 1		Cluster 2		Cluster 3	
Countries	Distance	Countries	Distance	Countries	Distance
Czech Republic	5,112251	Bulgaria	7,76315	Belgium	5,12456
Estonia	5,629626	Croatia	6,27929	Denmark	7,92008
Greece	4,784779	Latvia	3,65223	Germany	4,32638
Spain	4,286819	Lithuania	5,02048	Ireland	13,09593
Italy	8,937014	Hungary	5,48605	France	9,51808
Cyprus	4,789231	Poland	3,71375	Netherlands	5,11806
Malta	4,446863	Romania	11,60857	Austria	2,21719
Portugal	2,750758			Finland	5,35399
Slovenia	4,494978				
Slovakia	4,839439				

Source: author calculation in Statistica based on Eurostat (2021).

5 Discussion

This study reveals the dependence of the competitiveness of countries on the factors of digitalization and the quality of human capital. Yunis et al. (2012) clearly differentiated differences between countries with high network readiness and countries with low ICT readiness based on cluster analysis. Countries with high average network readiness (digital skills of the population) also had higher average values for global competitiveness, ICT competence, ICT security, and RTD spending. The opposite was true for those countries with low average values of business and population network readiness. It was quite interesting to find that the group with low ICT readiness had higher mismatch values on global competitiveness. This could be explained by the possibility of greater compliance with certain common standards for technology use and deployment among countries with high levels of technology readiness than among countries with low levels of readiness. Another reason is that some countries, especially developing countries, will have higher levels of options for using ICTs and other ICT-related resources to achieve global competitiveness than among developed countries. An example would be the United Arab Emirates (UAE), a developing country that the World Economic Forum reported to have a high index of network readiness through 2008, accompanied by a high index of global competitiveness. Yunis et al. (2012) found that other developing countries similar in economic and social characteristics to those in the UAE ranked significantly lower on all variables than the UAE. This is consistent with a dynamic view of capabilities, highlighting the way resources are managed and allocated by policies and organizations across countries (Yunis et al., 2012).

Wade and Hulland's (2004) and Batra's (2006) models of the relationship between indicators of ICT development and competitiveness show a positive and significant relationship between digital readiness, that is, ICT maturity and global competitiveness. This means that countries with higher levels of network readiness are more able to achieve better performance in global development. Of course, ICT maturity gives countries ways to achieve domestic and global market goals, including market sensitivity, efficiency between organizations, and enhanced supply chain and customer relationship management systems. This is consistent with previous research on the impact of modern ICT systems on the competitiveness of global firms in international markets (Wade and Hulland, 2004; Batra, 2006).

Atkinson's (2007) model reflects significant and positive relationships between each of the ICT competencies, ICT security, and RTD costs with ICT maturity. The higher these factors, the higher a country's ICT maturity becomes. So, the government of a country that seeks to achieve global competitiveness must instill in the country's private and public organizations a set of standards for ICT competence, ICT security, and RTD spending levels. High standards of these factors would increase the maturity of the country's ICT and network readiness, allowing it to meet or exceed the performance of other countries and therefore achieve global competitiveness. Regarding RTD, the results showed that network readiness has a partial mediating effect on the relationship between RTD and global competitiveness. This is consistent with previous research that has shown a link between RTD and the appropriate diffusion and use of ICT, as well as a link between RTD and global competitiveness (Atkinson, 2007).

6 Conclusion

The study systematizes the main competitiveness trends of the 25 EU countries in 2012-2020. The average GDP per capita as a share of GDP per capita of the EU-27 in the 25 EU countries was 96.5% through 2012-2020 with a significant deviation of 66.86%. Real labor productivity averaged 100.24 for 2012-2020 with a deviation of 2.01, which means there is no change in real labor productivity in the EU-27 countries. The share of GDP per capita is directly linearly related to the digital economy's performance. However, the index of real productivity is linearly inversely related to the factors of digitalization. It was found that individuals who have low overall digital skills, percentage of the ICT personnel in total employment; percentage of the ICT sector in GDP do not determine the country's belonging to a certain cluster, and therefore cannot be used as indicators of competitiveness.

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Primary Paper Section: A

Secondary Paper Section: AH

FORMATION OF A FAVORABLE INVESTMENT CLIMATE (BRITAIN AFTER BREXIT AND OTHERS)

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Abstract: Over the years, monetary, fiscal and investment policies have determined the level of foreign investment attraction in the EU. Despite the constant reduction of real interest rates in the EU and the supranational level of the investment policy of the European Parliament, the question of the importance of EU policy in attracting investors' funds arises. The aim of the article was to identify the main factors of the investment climate and attraction of foreign investment in the EU.

Keywords: Foreign Investments, Investment Climate, Investment Policy, EU Investments

1 Introduction

The investment flows have historically depended on the country's monetary, investment, and innovation policies. However, recent trends in environmental protection, the EU's sustainable development policy, the strengthening of EU-China trade relations and the discussion of investment and trade relations between the EU and China affect the volume and terms of direct financing of enterprises in these countries. China actively invests in companies in various sectors and is one of the largest investors in the manufacturing and information and telecommunications sectors of EU countries. Overall, in 2020, China directed 1.20 billion euros of direct investment in various sectors of the EU (European Commission, 2021). Investment and trade cooperation has led to a policy discussion within the EU on trade in services with China, technology transfer and direct investment.

Attracting foreign investment in Europe depends largely on the investment policy of the European Parliament, which regulates the procedure for cooperation with foreign partners. In particular, the General Agreement on Trade in Services (GATS) provides China with easy access to service industries in Europe. The EU-China Comprehensive Agreement on Investment (CAI) discussion of investment rules between the EU and China highlights the problem of identifying how technology transfer affects direct investment and national security. CAI in particular provides a ban on technology transfer by force, transparency in enterprise subsidies and commitments to sustainable development, better competition conditions for European enterprises in China's domestic market, is constantly growing. CAI stipulates the prohibition of these types of requirements: the requirement of technology transfer to a partner in a joint venture; prohibition of interference in technology licensing; protection of confidential information (e.g., product certification) from unauthorized access (European Commission, 2021). This requires identifying the extent to which technology transfer determines the amount of direct investment. The aim of the article is to identify the main factors of the investment climate and attraction of foreign investment in the EU.

To achieve this goal, the following tasks are defined:

1. Analyze trends in foreign direct investment in Germany, Great Britain and Italy.
2. Assess the relationship between foreign direct investments, taxation, real interest rates, growth in the share of ICT exports from EU countries.

To assess the relationship between EU technology transfer and direct investment in the EU, the study selected the indicator ICT service exports (% of service exports, BoP), which reflects the country's current transactions with other countries and current transfers, as well as capital and financial transactions for the transfer of capital, acquisition of assets.

2 Literature review

The investment climate of a country depends on factors of political, economic, social, and institutional environment (Schwarzenberg Zilberstein, 2020). Among the most important factors in attracting investment are fiscal, monetary (Evers, Spengel & Braun, 2015), investment policy (taxation regime, real interest rate, depreciation charges), policies to encourage research and development (Baneliene & Melnikas, 2020), policies to attract foreign investors to acquire assets to stimulate economic growth (Meunier, 2014), sustainable development policies (Kardos, 2014). For example, in the EU, the responsibility for implementing investment policy is vested in the European Parliament, empowered since 2009 to allow foreign investors to enter the domestic market and finance domestic enterprises (Meunier, 2017). The European Parliament's supranational competence over foreign investment policy in the EU has led to increased investment from China (Meunier & Morin, 2017). Therefore, the academic literature discusses the issue of direct investment from China into the EU, especially in the information telecommunications and communications sector through a potential threat to national security (Meunier, 2014; Nicolas, 2014; Zhang & Van Den Bulcke, 2014).

Taxation has a negative impact on the investment climate of the country: when the tax rate (on income, profit, capital gains) rises, the cost of capital for real investment, i.e. the price of attracting investment by enterprises, rises. When the cost of capital (the price of attracting real investment by an enterprise) exceeds the interest rate in the capital market, investment tends to decrease (Evers, Spengel & Braun, 2015). The reduction in investment can be associated with the growth of bank lending; subject to long-term growth can lead to overcrediting the economy and reducing the level of importance of bank financing (Tang, 2015). Trade integration is also a factor in the growth of direct investment, including integration factors such as the size of markets in different countries and the skills of the labor force (Martínez-San Román, Bengoa & Sánchez-Robles, 2016). Institutional determinants such as corruption control, political stability, bilateral FDI agreements, WTO membership, and a country's progress in transition significantly determine domestic FDI flows (Dauti, 2015). Bayar & Gavriletea (2018) found a short-term causal relationship between financial sector development in Europe and FDI inflows. Additional investment factors may be additional incentives for investors from different countries to invest. For example, the European Union has seen a proliferation of "golden visa" programs that allow investors to reside in a country in exchange for financial contributions (Surak, 2020).

EU investment policies also determine investment flows from different countries around the world (Meunier, 2014; Nicolas, 2014). Equally important is the structure of the economy, which determines the sector in which investors invest. In general, in Europe, more funds are invested in the manufacturing and services (ICT) sectors. For example, Italy's manufacturing sector attracts the largest amount of investment from the United States and China (Mangano, 2020). The higher level of domestic foreign investment flows in the services sector has a positive impact on local patent activity in knowledge-intensive business services in Italy (Antonietti, Bronzini & Cainelli, 2015). Within the EU, the ICT sector is developed, and the dynamic stimulation of research and development by national governments provides an influx of investment from countries that need technology transfer and innovation (Nicolas, 2014). Policies to stimulate

research and development in the EU energy sector to ensure the sustainability of the economy also stimulate increased investment in this sector (Paramati, Alam, Hammoudeh & Hafeez, 2020).

3 Materials and research methods

The study used statistical analysis of the World Bank data for 2000-2019 years. The work built linear dependence models and based on the coefficient of determination revealed the level of relationship between foreign direct investment (net inflows) in the economy of Germany, Britain, Italy and taxes on income, profit, capital gains, real interest rates, the share of exports of ICT services.
The statistical analysis was carried out using the following indicators:

- Foreign direct investment, net inflows (% of GDP).
- Taxes on income, profits and capital gains (% of revenue).
- Real interest rate (%) and Long-term interest rates (OECD, 2021).
- ICT service exports (% of service exports, BoP).

4 Results

Foreign direct equity investment from residents of other countries in Germany averaged 2 % of GDP over the period 2001-2019, with the exception of 2000, when the figure was 12.73 %. In the UK, direct investment flows averaged 4.1 % over 2001-2019 (9.9 % in 2000), with peaks in 2001-2002, 2004-2008, and in 2016 (12.06 %). In Italy, foreign investment flows averaged 1.22 %, with no significant increase (Fig. 1).

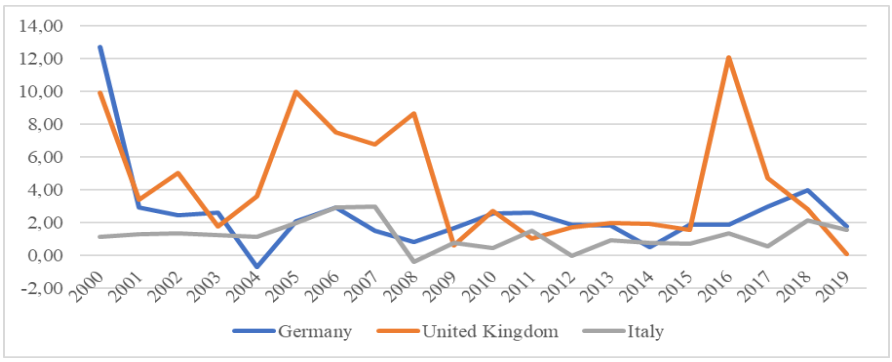
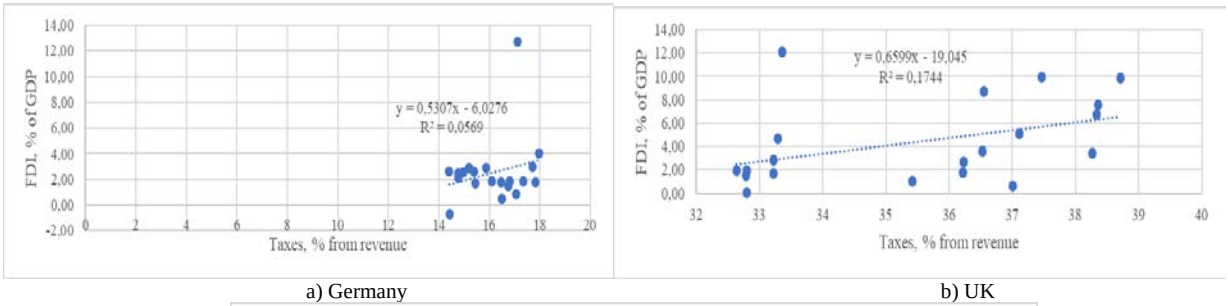
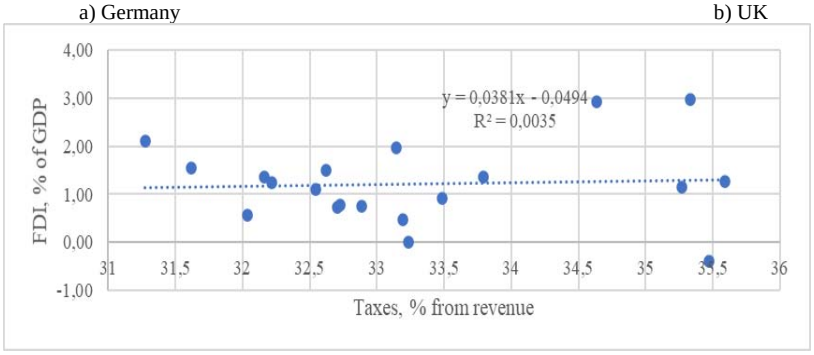


Figure 1 – Foreign direct investment, net inflows (% of GDP)
Source: World Bank (2021a)

In Germany, Great Britain, and Italy, there is a linear relationship between taxes on income, profits, and capital gains and the share of FDI in GDP (Fig. 2). Meanwhile, in Germany, the average tax rate was 16.14 % of corporate income over 2000-2019, increasing by 17.71 % over 2016-2019. The tax-dependent investment model (Figure 2a) explains the 5.69% change in the share of investment as a function of changes in the tax rate. In the U.K., the tax rate on income, profits, and capital gains averaged 35.51 % over 2000-2019 with a peak in 2009 (37.01 %), falling to 32.79 % in 2019. A model of the relationship between investment and the UK tax rate explains the 17.44 % change in the share of investment in GDP (Fig. 2b), which means that taxation in the UK, compared to Germany, determines the country's investment climate to a greater extent.



a) Germany b) UK

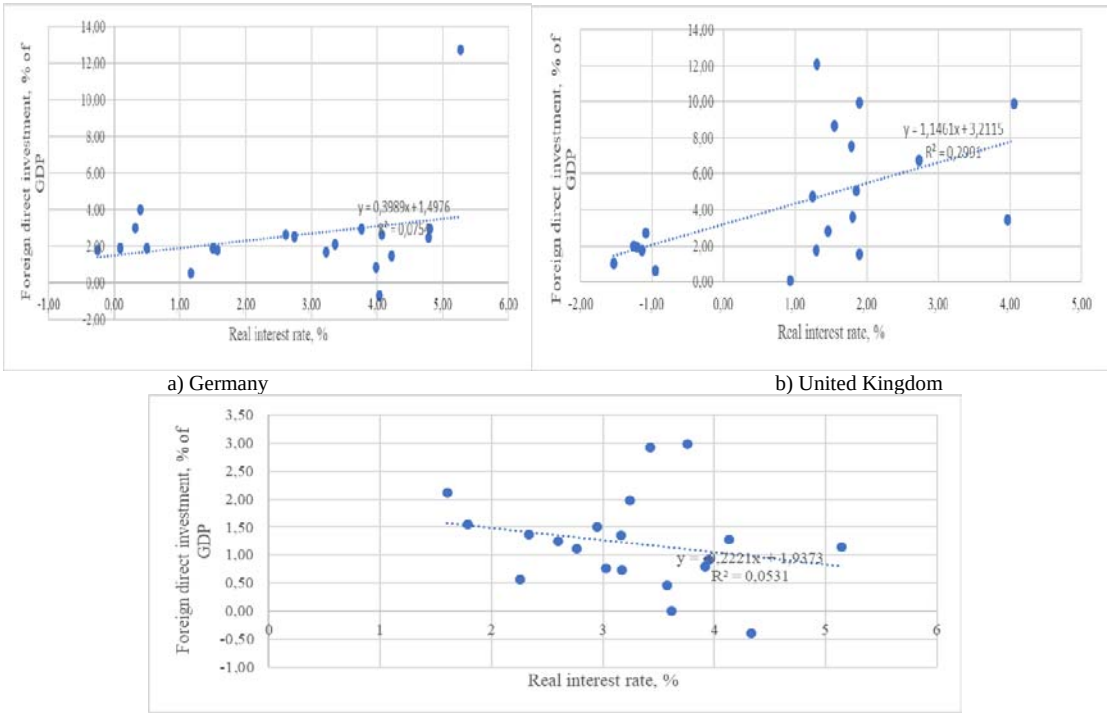


c) Italy

Figure 2 – Dependence between taxes on income, profits and capital gains (% of revenue) and foreign direct investment, net inflows (% of GDP) in Germany, UK and Italy in 2000-2019
Source: World Bank (2021a). World Bank (2021b)

In Italy, compared to Germany and the United Kingdom, the tax rate on income, gains, and capital gains averaged 33.3% of income from 2000 to 2019, with peaks in 2001 (35.59 %) and in 2007-2008 (35.5 %), reaching 31.62 % in 2019. A model of the relationship between investment and Italy's tax rate explains the 0.35% change in the share of investment in GDP (Figure 2c). This means that Italy's taxation has little or no effect on the country's investment climate. The real interest rate under tight monetary policy leads to the risk of reduced direct investment due to a potential increase in inflation, reducing consumer demand. Consequently, in Germany, the average real interest rate through 2000-2019 was 2.61 %, gradually declining from 200 (5.26 %), to 2019 (-0.25 %).

Consequently, German policy has promoted alternative capital raising by domestic enterprises – bank resources. A model of the relationship between the real interest rate and direct investment indicates a direct linear relationship between the indicators and explains the change in investment as a function of the interest rate by 7.54 % (Fig. 3a).



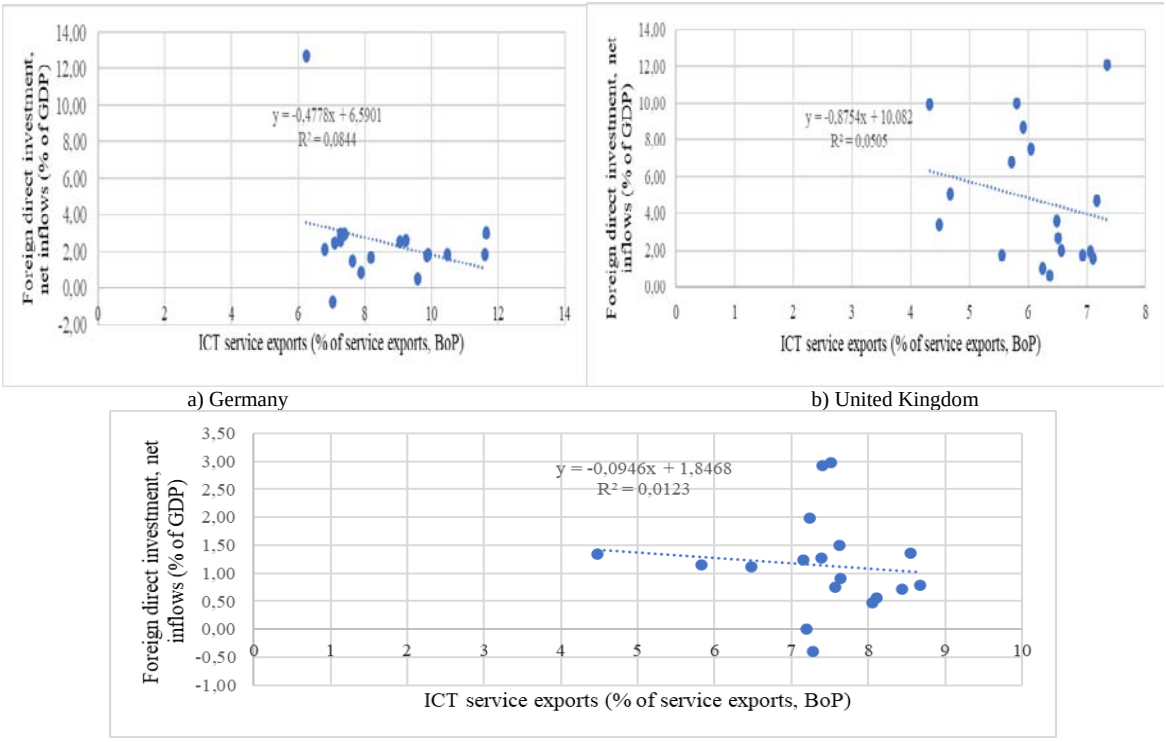
a) Germany b) United Kingdom

c) Italy

Figure 3 – Dependence between real interest rate (%) and foreign direct investment, net inflows (% of GDP) in Italy in 2000-2019
Source: World Bank (2021a). World Bank (2021c), OECD (2021).

The FDI and interest rate relationship model reflects an inverse linear relationship between the indicators and explains the 5.31% change in FDI as a function of monetary policy (Figure 3c). Thus, while monetary policy in Germany and the UK is aimed at lowering interest rates, monetary policy in Italy is aimed at maintaining the interest rate, so Italy has a low level of FDI from GDP. In Germany, the UK and Italy the average value of ICT services exports over 2000-2019 was 8.56 %, 6.13 % and 7.37%, respectively. At the same time in all countries, there was an increase in the share of exports of ICT services in Germany by 5.39 %, in the UK by 2.85 %, in Italy by 2.28 %. In the UK, the real interest rate averaged 1.03 % over the years 2000-2019, also gradually declining except for the crisis year 2007-2008 (rising to 2.73 % in 2007). Between 2009 and 2014, the interest rate was negative with an average of -1.2 %, rising to 1.9 % in 2015. In 2019, the interest rate was 0.94%. A model of the relationship between the interest rate and FDI in the UK indicates that 29.91 % of the change in FDI in GDP is due to changes in the interest rate. In Italy, the real interest rate was 3.24 % on average over the years 2000-2019, and the decline only occurred in 2016-2019 (in 2016 the rate was 2.34 %, in 2019 it was 1.78 %). Consequently The constructed linear models of the relationship between the share of exports of ICT services and the share of FDI in GDP show a negative relationship between these indicators. Consequently, for Germany the dependency model would explain the variation of FDI as a function of the share of ICT exports by 8.44 %, for the UK by 5.05 %, and for Italy by 1.23 %. Germany's investment climate depends more on ICT sector stimulus policies and monetary policy, somewhat less on corporate income taxation policies. The UK investment climate depends more on corporate income taxation policy, less on monetary policy and policies to stimulate the ICT sector. Italy's investment climate is more dependent on monetary policy, despite a relatively high real interest rate in the ICT worlds sector (Fig. b, c).

The UK's exit from the EU has had a significant impact on the country's investment appeal and climate: a PwC survey of 5,000 company leaders (CEOs) with various incomes over $1 billion in 2020 shows that the country is in fourth place for attractiveness due to certainty, stability and prospects for economic growth (Adler T., 2021). Germany remains the third most attractive country for investors according to the survey (Adler T., 2021). Favorable factors for the attractiveness of the UK are tariff-free and quota-free trade for all goods between the EU and the UK after the exit, but unfavorable non-tariff barriers (customs procedures, inspections, controls, compliance with certification and standardization requirements), which may complicate trade between the country and other countries. The fact that service providers in the UK will no longer use the country of origin principle, and therefore there will be no mutual recognition of professional qualifications between the two jurisdictions, may have a negative impact on investment attractiveness. Accordingly, service providers and professionals in the UK will have to adhere to different rules, procedures and permissions to conduct their own activities in each EU member state in which they operate,or move to the EU if they wish to operate in the single market. The UK-EU TCA does not cover the financial services relationship, and the taxation of financial transactions remains uncertain (IndusLaw, January 2021).



a) Germany b) United Kingdom

c) Italy

Figure 4 – Dependence between ICT service exports (% of service exports, BoP) and foreign direct investment, net inflows (% of GDP) in Italy in 2000-2019

Source: World Bank (2021a); World Bank (2021d).

However, these unfavorable factors of the investment climate can be completely leveled, because the UK still remains attractive due to the openness of the economy, ease of doing business, a stable business and political environment, a powerful digital and physical infrastructure, a highly qualified workforce, cultural attractiveness, high-quality professional support services, competitiveness. tax environment, a developed intellectual property regime, membership in international forums, an established system of common law, respect for the rule of law and an effective framework for resolving disputes.

5 Discussion

This research proves the importance of growing the share of exports of ICT services to ensure a favorable investment climate in the country and to attract investment. The growth of the share of ICT services exports is characterized by an inverse linear relationship with foreign direct investment. This means that the discussion of EU-China Comprehensive Agreement on Investment (CAI) rules, which, in particular, caused by the definition of new rules of technology transfer from the EU to China, is important for the national security of the countries. It can be assumed that with the growth of technology transfer, the need for Chinese enterprises to invest in European countries is reduced, because one of the requirements when investing in EU enterprises is the requirement of technology transfer to a partner in a joint venture (European Commission, 2021). As exports of ICT services increase, the need to invest in ICT companies also decreases. The dissemination of knowledge about European technology in China can cause a decrease in investment in the long term. Therefore, active growth of investment from China into the EU economy was observed in 2008-2013 with an overall decline in investment worldwide (Meunier, 2014). At the same time, investment flows were insignificant, but reflected the growing level of interest of Chinese companies in new projects, mergers and acquisitions during the crisis. In comparison, between 2015 and 2017, China's share of EU FDI was 3.39 % in 2014, 2.68 % in 2015, 6 % in 2016, and 5.45 % in 2017 (Statista, 2020). At the same time, China's investment in the EU increased during the 2014-2017 period of declining economic activity. China's investment growth in the EU occurred at the same time as sovereign debt in Europe and the general economic downturn in several EU countries (Meunier, 2014). This study also reveals an increase in FDI in UK GDP in 2016 during a period of declining business activity. The crisis and increase in investment allowed Chinese investors to take advantage of two types of deals: economic due to price reductions and put up for sale; political due to the easing of political resistance to deals (Meunier, 2014). Zhang & Van Den Bulcke (2014) attribute China's increased investment in the EU to "the adoption of technology-oriented companies, especially Chinese state-owned companies". Martínez-San Román, Bengoa & Sánchez-Robles (2016) argue that trade integration promotes investment due to knowledge and capital transfer, the dynamics of which depend on the partner market and Vienna for skilled labor.

The growth of investment from China to the EU requires systemic regulation of foreign investment to guard against the risk of protectionist drift within the EU and the likelihood of national security threats (Nicolas, 2014). Today, the EU uses a fragmented approach to investment regulation through a single supervisory process within the EU on the investment mechanism. Therefore, a systematic and coordinated use of competition policy is appropriate (Nicolas, 2014), as provided by the EU-China Comprehensive Agreement on Investment (CAI).

6 Conclusion

The study reveals the following main trends: the constancy of FDI in Germany, which averaged 2 % of GDP over the period 2001-2019, in the UK (4.1 % on average over 2001-2019, with peaks in 2001-2002, 2004-2008, in 2016 (12.06 %), the constancy of FDI in Italy (average 1.22 % with no significant increase in investors' equity investments in domestic Italian companies in 2000-2019). Germany's investment climate and FDI depend linearly on ICT sector stimulus policy (inverse link) and monetary policy (direct link), somewhat less on corporate income tax policy (direct link). The UK investment climate depends linearly on corporate income taxation policy (direct link), less on monetary policy (direct link) and ICT sector promotion policy (inverse link). Italy's investment climate is

more dependent on monetary policy (inverse link), given the highest real interest rate and stability of FDI share in GDP and ICT sector development (inverse link), and is virtually independent of taxation policy. Further research should focus on the new investment conditions between the EU and China, in particular the role of technology transfer requirements when European enterprises invest in the Chinese domestic market.

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Primary Paper Section: A

Secondary Paper Section: AH

MODERN TRENDS IN THE LOCAL GOVERNMENTS ACTIVITIES

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Abstract: One of the important roles of public administration is to provide quality public services to citizens and businesses. Digital governance in public administration has been used to ensure dynamic economic performance as well as the well-being of society. E-government and digital governance are the most important current trend in public administration reform at the local and state levels. The aim of the research is to establish the pattern of e-government and digital governance of local governments (on the example of Eastern Europe), based on reports E-Government Development Index, E-Participation Index and OECD Digital Government Index and by conducting regression analysis and analysis of results correlation forces.

Keywords: e-government, digital government, local governments, Eastern European countries.

1 Introduction

An intensive development of information and communication and digital technologies has led to their use in almost all spheres of public life, including public administration, which has significantly changed the way public administrations interact with their citizens and led to the development of e-digital and digital government. This process is not just a technological solution, but also a modern innovative concept of public administration, a significant lever of mass transformation in society, especially in the field of decentralization of power and its interaction with business (Volik et al., 2019).

E-government and digital governance are defined as the provision of public information and services to citizens via the Internet or other digital means (Yadav et al., 2019; Rana et al., 2015; West,2004), and is currently a very important aspect of management (Morgeson et al., 2010). E-government combines government use of information and communication and digital technologies with organizational change to improve its structure and functioning and is of great interest in research on public administration of local governments (Twizeyimana, Andersson, 2019). E-government and digital governance of local governments involves technological change, as well as the latest leadership styles, innovative decision-making processes, different ways of organizing and providing services and modernized concepts for citizens (Gil-Garcia et al., 2017; Rodríguez et al., 2020). E-government seeks to make public institutions more transparent and accountable (Pérez-Morote et al., 2020). The European Commission recognized the importance of the digital transformation of the country in 2006 and is currently implementing the EU Action Plan on e-Government for 2016-2020 (EC, 2016) and the European Digital Strategy for the period 2020-2025 (EC, 2020a). The process of implementing e-digital governance is not simple and depends on a number of factors, so in each country e-government is at different stages of implementation (Volik et al., 2019). The role of e-government and digital governance and its innovative solutions has become even more important after the outbreak of the COVID-19 pandemic, when face-to-face interaction is virtually impossible due to social distancing measures. In this context, recent data show an overall increase in the development of e-government and digital governance in the EU. However, despite impressive progress in modernization and digitization, the governments of Eastern Europe or the new EU Member States need to do much more to catch up with the EU's average level of digital maturity (Ravšelj et al., 2020).

The aim of the study – to establish regularity on the state of implementation of e-digital governance of local governments (on the example of Eastern Europe), based on the reports of the E-Government Development Index, E-Participation Index and OECD Digital Government Index and by conducting regression analysis and correlation analysis communication.

1.1 Research objectives of the article

- To analyze the reports of the E-Government Development Index, E-Participation Index and OECD Digital Government Index to determine the status of e-government and digital governance.
- To analyze the level of use of e-government and digital government services based on the key results of the correlation force.
- To establish an assessment and conduct an ongoing analysis of the effectiveness of the implementation of e-digital governance in local governments (on the example of Eastern Europe).
- To analyze statistical information to distinguish the characteristics of the level of development of digital services in Eastern Europe in 2019.
- To conduct a regression analysis to reflect the dependence of the state of effectiveness of e-government and digital governance in local governments (on the example of Eastern Europe), based on the results of the volume and quality of online services and the state of telecommunications infrastructure.

2 Literature review

The researchers analyze the impact of information and communication and digital technologies on the public sector from different points of view, which is reflected in bibliographic reviews and meta-analyzes, covering definitions, scope, methods and recommendations (Madsen et al., 2014), citizen orientation (Rana et al., 2013; Brainard, McNutt, 2010), stage models (Lee, 2010), and the quality of these services (Sá et al., 2016). A lot of research is being done, however Wirtz and Daiser (2016) point out in their meta-analysis of empirical research on e-government and digital governance that there is still a shortage of authoritative quantitative empirical approaches in the literature, and this topic is still perceived as a young field of research. According to research by Moon et al. (2012), e-government offers new opportunities and benefits for various stakeholder groups, such as government agencies (G2G), citizens (G2C) and business organizations (G2B). Digital interaction with citizens is a particularly difficult problem, as population behavior can change over time (Wirtz, Kurtz, 2016).

The interpretation of the term "e-digital governance" is quite broad and divergent. The general definition describes e-digital governance as the use of information, communication and digital technologies to transform government to increase accessibility, efficiency and accountability. According to the interpretation of the United Nations (UN), e-government and digital governance is the use of information and communication and digital technologies and its use by the government to provide information and public services to people (UN, 2004). On the other hand, the European Union (EU) defines e-government and digital governance as the use of information and communication and digital technologies in public administration, combined with

organizational change and new skills to improve public services and democratic processes and strengthen public policy support.

E-government and digital governance here not only represents the direction of modernization of public administration, but also is discussed as a tool for modernization of public self-government (Pomahač et al. 2013). UN and OECD emphasize the role of e-digital governance in providing significant opportunities for the transformation of public administration into an instrument of sustainable development (OECD, 2006; UN, 2004). Involvement of information and communication and digital technologies in the activities of public self-government bodies is a standard part of the modernization of public administration today in both developing countries and countries with economies in transition. Significant role is given primarily to Internet access for the public. The role of web technologies for the provision of public services is especially highlighted. The promotion of new technologies in public electronic services has many advantages. They are the opposite of traditional structures, non-hierarchical, two-way and available 24 hours a day, seven days a week. This nature of public services on the Internet helps citizens to search for information in a more convenient way, and not only during the work of public self-government bodies (Tichý, 2012).

The interactivity of the Internet is expected to improve government accountability as it makes the government more sensitive to the needs and demands of citizens. In the EU, e-digital governance has a high priority in modernizing the governance of public self-government bodies (Ardielli, Haláskova, 2015). E-government is one of the measures aimed at taking advantage of information and communication and digital technologies throughout Europe. In times of significant constraints on public resources, information and communication and digital technologies can help the public sector find innovative ways to provide services to citizens, while increasing efficiency and reducing costs (EC, 2015).

Frost and Lal note that research on e-government and digital governance emphasizes the adoption of these technologies by governments to deliver services effectively. However, the adoption of e-government and digital governance has not been successful in all developing countries, because the links between them and the actual policy-making process or professional practice in such countries are not taken into account (Frost, Lal, 2018). Twizeyimana and Andersson focus on the fact that the benefits of e-digital governance are not only to improve the quality of public services provided to the population, but also to increase the administrative efficiency of government agencies, local governments, ethical behavior and professionalism of their employees, increase citizens' trust in the government and improvement of the social situation in the state.

Hussain and Ali note that the financial and economic crisis that began in 2008 has forced the government and the private sector to focus on finding ways to save money and provide quality public services (Hussain, Ali, 2015). According to Saab et al., one of the benefits of e-digital governance is the reduction of government maintenance costs, and citizens can apply for services where relevant civil servants can provide them and receive payment for their work (Saab et al., 2019).

Researchers also focus on the ability of e-government and digital governance tools to influence the level of corruption in the country. Thus, Talab et al. concluded that it is advisable to introduce e-government to prevent the growth of fraud and corruption (Talab et al., 2019). In turn, there is an opposite position, namely, Khan and Krishnan, emphasize that the high level of corruption in the state negatively affects the implementation of e-digital governance (Khan, Krishnan, 2019). Ammar et al. described the lack of security and confidentiality, public distrust, lack of resources, digital divide, inadequate governance, lack of awareness, legal barrier and lack of necessary infrastructure as factors that inhibit the introduction of e-digital governance (Ammar et al., 2018).

The analysis presented in this article covers the following 11 Eastern European countries: Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. This distinction was the result of a classification provided by the Organization for Economic Co-operation and Development (OECD) and was used in an article (OECD, 2001). It should be noted that the countries of Eastern Europe, depending on the accepted criteria, also include Belarus, Ukraine, Serbia, Macedonia or Kosovo (which is not recognized by some countries).

According to the theoretical approach, assessing the effectiveness of e-digital governance by citizens is important in deciding to use instruments provided by the government. Research by e-government and digital government researchers has empirically demonstrated this idea both in a specific area of e-government (Zheng, Schachter, 2017) and for more general information and communication and digital technologies for local government services (Sepasgozar et al., 2019). Therefore, the development and promotion of e-government and digital governance portals is a tool of strategic management that influences the perception of citizens. The quality of e-government and digital governance is a visible consumer-oriented signal that can be used to convey government capabilities and concerns about the needs and demands of citizens. Comparability of e-government and digital governance performance indicators means that they are central in conducting interstate comparisons of information and communication and digital technology development, monitoring the global digital divide and establishing appropriate policy indicators (Pérez-Morote et al., 2020). Thus, a review of recent scientific publications shows the emphasis on the advantages of e-government over traditional government and the reasons that hinder the implementation of e-digital governance in many countries around the world (Volik et al., 2019).

Thus, e-government and digital governance of local governments (on the example of Eastern Europe) are reflected in the publications of scientists in the form of practical research and theoretical research, but the issue is relevant and open for further research.

3 Materials and research methods

The realization of the aim of this research requires the use of such methods of investigation as:

- systematization of reports E-Government Development Index, E-Participation Index and OECD Digital Government Index to determine the state of e-digital governance;
- system and logical analysis, a method of synthesizing information on the level of use of e-government and digital government services based on the key results of the correlation force, which is calculated taking into account the coefficient of determination between digital skills and penetration;
- summarizing statistics published by governments and reporting organizations to assess and assess the effectiveness of e-government and digital governance in local governments (for example in Eastern Europe), based on E-Government Development Index, E-Participation Index and OECD reports Digital Government Index.
- comparison method to distinguish the characteristics of the level of development of digital services in Eastern Europe in 2019.

To display depending on the state of efficiency of e-government and digital governance in local governments (on the example of Eastern Europe), based on the results of the volume and quality of online services and the state of development of telecommunications infrastructure, regression analysis was applied.

4 Results

According to statistics based on the E-Government Development Index in 2020, Table 1 shows the further improvement of global trends in e-government and digital governance in Eastern Europe and the transition of many countries from lower to higher levels of EGDI. All countries have very high E-Government Development Index (EGDI) values from 0.75 to 1.00 compared to 2020, the first three positions in this group are occupied by Estonia, Lithuania and Slovenia, respectively (see Table 1).

Table 1: The E-Government Development Index in 2010-2020

E-Government Development Index	2020	2018	2016	2014	2012	2010
Bulgaria (Rank)	44	47	52	73	60	44
Bulgaria (Value)	0.79800	0.71770	0.63764	0.54209	0.61315	0.55902
Croatia (Rank)	51	55	37	47	30	35
Croatia (Value)	0.77450	0.70180	0.71624	0.62817	0.73284	0.58580
Czech Republic(Rank)	39	54	50	53	46	33
Czech Republic(Value)	0.81350	0.70840	0.64537	0.60695	0.64914	0.60602
Estonia (Rank)	3	16	13	15	20	20
Estonia (Value)	0.94730	0.84860	0.83344	0.81796	0.79873	0.69653
Hungary (Rank)	52	45	46	39	31	27
Hungary (Value)	0.77450	0.72650	0.67455	0.66374	0.72014	0.63147
Latvia (Rank)	49	57	45	31	42	37
Latvia (Value)	0.77980	0.69960	0.68100	0.71775	0.66040	0.58261
Lithuania (Rank)	20	40	23	29	29	28
Lithuania (Value)	0.86650	0.75340	0.77467	0.72709	0.73329	0.62952
Poland (Rank)	24	33	36	42	47	45
Poland (Value)	0.85310	0.79260	0.72108	0.64822	0.64414	0.55822
Romania (Rank)	55	67	75	64	62	47
Romania (Value)	0.76050	0.66710	0.56114	0.56315	0.60595	0.54791
Slovakia (Rank)	48	49	67	51	53	43
Slovakia (Value)	0.78170	0.71550	0.59154	0.61478	0.62918	0.56387
Slovenia (Rank)	23	37	21	41	25	29
Slovenia (Value)	0.85460	0.77140	0.77691	0.65054	0.74921	0.62426

Source: Compiled by the authors based on official data of The United nation (2020)

Because Estonia is considered to be one of the fastest-growing countries in the world. Estonian citizens can do almost anything on the Internet, except for a few things, such as marriage or divorce, the sale or purchase of real estate. X-road (centralized distributed layer of data exchange between information systems), a multi-channel communication protocol designed to provide online services, provides features such as digital identity, e-voting, e-taxation and e-business. Eesti.ee is a universal service of state information and electronic services. The country also has a Civil Society Development Strategy, which involves citizens in the development of policies and legal acts. For example, the community initiative portal rahvaalgatus.ee allows citizens to write proposals, hold discussions.

Since 2016, countries in the E-Participation Index have been assigned to one of four groups in the E-Participation Index based on the corresponding E-Participation Index (EPI) values. Eastern European countries belong to the group with a high EPI value with results from 0.50 to 0.75, and countries with a very high EPI value with results from 0.75 to 1.00. Estonia has an EPI value of 1.0, which means that all e-participation functions assessed in the study are present in the country. Because the EPI is built independently of each study, moving countries from one EPI group to another over time cannot be interpreted as direct progress or regression. However, because the EPI is based on a simple additive scale, the distribution of EPI values by country and to some extent over time can be analyzed trends (Table 2).

Table 2: The E-Participation Index 2010-2020

E-Participation Index	2020	2018	2016	2014	2012	2010
Bulgaria (Rank)	23	35	43	122	134	39
Bulgaria (Value)	0.89290	0.87080	0.69492	0.25490	0.02630	0.30000
Croatia (Rank)	23	57	25	97	53	25
Croatia (Value)	0.89290	0.76970	0.77966	0.33333	0.28950	0.45714
Czech Republic(Rank)	65	92	76	122	56	86
Czech Republic(Value)	0.72620	0.61800	0.55932	0.25490	0.26320	0.12857
Estonia (Rank)	1	27	22	22	8	9
Estonia (Value)	1.00000	0.91010	0.81356	0.76470	0.76320	0.68571
Hungary (Rank)	75	69	91	75	36	36
Hungary (Value)	0.67860	0.70790	0.49153	0.45098	0.44740	0.31428
Latvia (Rank)	93	75	84	24	66	45
Latvia (Value)	0.58330	0.68540	0.52542	0.70588	0.21050	0.27142
Lithuania (Rank)	64	51	17	33	30	19
Lithuania (Value)	0.73810	0.80340	0.83051	0.64705	0.52630	0.52857
Poland (Rank)	9	31	14	65	75	51
Poland (Value)	0.96430	0.89330	0.88136	0.49019	0.18420	0.24285
Romania (Rank)	46	69	60	71	109	64
Romania (Value)	0.80950	0.70790	0.62712	0.47058	0.07890	0.18571
Slovakia (Rank)	70	50	82	40	89	117
Slovakia (Value)	0.70240	0.80900	0.54237	0.62745	0.13160	0.07142
Slovenia (Rank)	29	48	37	84	66	20
Slovenia (Value)	0.85710	0.81460	0.72881	0.39215	0.21050	0.51428

Source: Compiled by the authors based on official data of The UN (2020).

Statistics from several Western countries show that residents who are satisfied with public services are nine times more likely to trust the government as a whole. Table 3 of Eastern European countries shows that almost all of them either have already implemented digital services or are currently implementing them. Among Eastern European countries, Slovenia, Estonia and the Czech Republic occupy the leading positions, while Bulgaria, Romania and Poland occupy the last positions. The biggest problems of implementation in Eastern Europe are electronic payments, electronic invoices and the compatibility of the data collected by them (see Table 3).

Table 3: Development level of digital services in the countries of the Eastern Europe (2019)

Country	e-ID and trust	e-procurement	e-invoicing	e-payment	e-registries	Data exchange	Inter-operability
Bulgaria							
Croatia							
Czech Republic							
Estonia							
Hungary							
Latvia							
Lithuania							
Poland							
Romania							
Slovakia							
Slovenia							

Source: Compiled by the authors based on official data of The McKinsey & Company (2020).

Notes: 1) e-ID and trust – availability of reliable documents and authorization framework; e-procurement – platforms and digital environments that digitize the activities of public procurement; e-invoicing – solutions that allow you to receive and automatically process electronic invoices; e-payments – dedicated infrastructure for payments and other related services; e-registries – digitization of public information and sources of knowledge; data exchange – platforms and solutions designed for data exchange between government agencies; interoperability – the ability of systems to use information from different authorities/government agencies.

2) - implemented; - partially implemented/in progress; - not implemented.

However, there are many effective and proven digital public services in Eastern Europe. For example, the Hungarian government introduced a multifunctional platform for local government between 2017 and 2019, replacing outdated technologies. Services include a real estate cadaster system, a local tax system, a document management system and a commercial register. Another example – "Trusted profile" in Poland. Users can access government services using their bank account information online, providing access to social security, tax information and company registration procedures in an electronic signature system. The goal is to create a digital universal service for public services. Like other EU countries, Eastern European countries are required to digitize their services under the Gateway initiative launched by the European Commission. The main results of this initiative include providing information on the various rules and rights that citizens and businesses have within the single market of the European Union. Thanks to this project, they will be able to access instructions on how to perform various administrative procedures, 21 of which will be fully available online by 2023.

The progress in e-government and digital governance correlates with other factors, such as citizens' preferences and digital skills, public policy and the characteristics of the digital context. Most relative indicators are correlated with absolute figures for digitization and penetration, with the exception of openness. Table 4 shows the correlation force calculated taking into account the coefficient of determination (R ^ 2). When considering penetration, the correlation is stronger with relative indicators for digital skills, information and communication technologies (ICT) use, and quality. In general, it seems that countries with a high level of use of e-government services are countries with experienced citizens and a large number of daily Internet users (see Table 4).

Table 4: Relative indicators (Penetration and Digitization) (2020)

	User characteristics		Government characteristics		Context characteristics	
	Digital skills	ICT usage	Quality	Openness	Connectivity	Digital in the private sector
BG	Low	Low	Low	Low	Low	Low
CY	Low	Medium	Medium	Medium	Low	Medium
CZ	Medium	Medium	Medium	Medium	Medium	Medium
EE	High	Medium	Medium	Medium	Medium	Medium
HU	Medium	Medium	Low	Low	Medium	Low
LV	Low	Medium	Medium	Medium	High	Low
LT	Medium	Medium	Medium	Medium	Medium	Medium
PL	Medium	Medium	Medium	Medium	Medium	Low
RO	Low	Low	Low	Low	Medium	Low
SK	Medium	Medium	Medium	Low	Low	Medium
SI	Medium	Medium	Medium	Medium	Medium	Medium

Source: Compiled by the authors based on official data of The EC (2020b).

Notes:

R ^ 2	Low	10% – 20%	Medium	20% – 35%	High	> 35%

Thus, the positive correlation between digital skills and penetration in Romania, Latvia, Lithuania and Estonia prevails. Each of these countries has a higher penetration rate than would be expected given their level of digital skills. On the other hand, a higher level of penetration could be expected for the Czech Republic, Slovakia, Slovenia, etc., given the level of digital skills.

The OECD Digital Government Index (DGI) is an important lever of the OECD's work on digital government and public

sector data. DGI monitors the adoption of strategic approaches, policy levers, mechanisms for implementing and monitoring digital government policies in OECD member countries and partner countries. Among the countries of Eastern Europe, the ranking includes such countries as Slovenia, Estonia, Lithuania, the Czech Republic and Latvia (see Table 5).

Table 5: The Digital Government Index in 2019

	Digital by design		Data-driven public sector		Government as platform		Open by default		User-driven		Proactiveness		Composite score	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Slovenia	0.54	16	0.36	22	0.64	11	0.72	8	0.56	9	0.25	26	0.513	17
Estonia	0.52	18	0.47	15	0.44	23	0.65	16	0.39	20	0.39	20	0.478	18
Latvia	0.48	23	0.35	24	0.38	26	0.66	14	0.32	24	0.66	2	0.474	19
Czech Republic	0.51	20	0.29	29	0.48	19	0.78	3	0.36	22	0.18	29	0.434	22
Lithuania	0.43	25	0.5	11	0.34	28	0.51	29	0.26	28	0.34	22	0.397	27
OECD	0.55		0.44		0.54		0.64		0.47		0.42		0.501	

Source: Compiled by the authors based on official data of The OECD (2020).

Only a few countries are moving towards a mature digital government. Although most countries have established institutional models that provide the necessary political and operational support for digital government reforms, much effort has been made to fully uncover the benefits of digital government and go beyond e-government.

Table 6 shows the results of regression modeling to determine the dependence of the state of effective implementation of e-digital governance in local governments (for example, Eastern European countries (shown in Table 1), based on the results of the volume and quality of online services, Online Service Index, and OSI) and the state of development of telecommunication infrastructure (Telecommunication Infrastructure Index, TII) (UN, 2020):

$$Effectiveness\ implementation\ of\ e-digital\ governance = (0{,}001) + 0{,}774 * \text{Volume and quality of online services} + 0{,}799 * \text{Condition of development of telecommunication infrastructure}$$

Therefore, efficiency of introduction of e-digital governance in local self-government bodies (on the example of Eastern European countries) depends on current results of the volume and quality of online services and the state of development of telecommunications infrastructure. The model parameters are statistically significant, as indicated by t Stat in size10.643 and 21,460 and a P-value in size 0.000002 and 0.0000000049.

Table 6: The results of regression modeling

Regression Statistics								
Multiple Regression	0,03							
Regression Square	0,00							
Adjusted Regression Square	0,89							
Standard Error	0,11							
Observations	11							
ANOVA								
	df	*SS*	*MS*		*F*		*Significance F*	
Regression	1	0,0001	0,0001		0,0080		0,9307	
Residual	9	0,1138	0,0126					
Total	10	0,1139						
	Coeffic ients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	0,001	0,011	0,089	0,931	-0,023	0,025	-0,023	0,025
Volume and quality of online services	0,774	0,073	10,643	0,000002	0,609	0,938	0,609	0,938
Condition of development of telecommunication infrastructure	0,799	0,037	21,460	0,000000049	0,715	0,883	0,715	0,883

Source: Compiled by the authors based on official data of The UN (2020)

The value of the coefficient of determination indicates that the regression model by 89% reflects the direct dependence of the state of effectiveness of e-government and digital governance in local governments (on the example of Eastern Europe), based on the results of the volume and quality of online services and the state of telecommunications infrastructure. This analysis indicates that there are still a small number of other factors influencing efficiency of introduction of e-digital governance in local self-government bodies (on the example of Eastern European countries), which are not included in the regression model.

5 Discussion

Digital technologies have had a profound impact on social and economic realities, including public administration and local government management. The Internet has significantly affected the relationship between public administration, citizens and businesses, which has paved the way for the emergence and development of a new model of public administration called e-digital governance, in which digital technology is at the heart of government organizational structures (Ravšelj et al., 2020).

The analysis of e-digital governance still reflects a growing open field that provides many opportunities for research. E-government and digital governance are becoming mandatory in many countries as part of the transformation of public services, and citizens are thus forced to interact with the government through programs, so the development of digital skills is becoming increasingly important (Rodríguez et al., 2020).

The COVID-19 pandemic has accelerated the inevitable transition to online channels, creating more impetus for far-reaching transformations of the economy and society at large (McKinsey & Company, 2020). Research shows that e-

government and digital governance of local governments today are needed to provide fast and quality services for citizens and companies. The EU has therefore recognized the importance of e-digital governance and its potential beneficial effects on the business environment in their latest development strategies (EC, 2016; EC, 2020a).

A review of the available literature shows that the EU has improved the level of e-government and digital governance of local governments in recent years. The digital progress of Eastern European countries in improving the development of e-government and digital governance of local governments is higher than in the new EU member states. However, Eastern European countries are still lagging behind developed countries, so they need to implement processes in public administration to catch up with them, and therefore the average level of maturity of EU digital technologies. However, this is a problem for some Eastern European countries, as they face various problems related to limited financial resources, lack of adequate digital infrastructure and insufficient capacity. However, some of these countries also face specific barriers to issues such as digital inclusion, data privacy and cybersecurity (UN, 2020).

Digitization of public services has a number of benefits for citizens and businesses, namely, digital public services can significantly reduce the administrative burden on citizens and companies, which in turn increases the transparency of decision-making and reduces the risk of corruption. Accordingly, the development of e-government and digital governance of local governments in Eastern Europe, thus, has a positive impact on government efficiency, quality of regulation and ease of doing business (Ravšelj et al., 2020).Thus, e-government and local government in Eastern Europe will face new challenges, as the potential in the information technology and digital space is quite high, but not sufficiently implemented, in-depth research, which will lead to increased attention to improving the process of public service delivery.

6 Conclusion

As a result of the analysis of e-government and digital government of local governments in Eastern Europe, it was found that a country like Estonia has become a role model, so this topic is becoming increasingly important. An example from Estonia has shown that e-government and digital governance are most accepted in small countries that have overcome a dysfunctional past communication infrastructure, with a young population that has high confidence in public institutions.The level of e-government use is higher in older societies. Obviously, the argument of confidence is supported by empirical evidence. Where citizens have a high level of trust in their legal institutions, the interaction of e-government is high. The success story of Estonian digital modernization is clearly not widely used in Europe. Therefore, it is necessary to change the attitude of government officials and citizens to e-digital governance of local governments. Because e-government and digital governance of local governments are a useful tool to reduce the financial costs of public administration, as well as benefits for residents in the form of time savings. This area remains a major challenge for the countries of Eastern Europe in the future.

The practical significance of this research is that the conclusions and recommendations developed by the author and proposed in the article can be used to: avoid institutional and national challenges in the implementation and implementation of e-digital governance of local governments in Eastern Europe. Further research can be aimed at improving e-digital governance of local governments in Eastern Europe, which will stimulate and improve the activities of state institutions in the information technology and digital space, which will provide quality public services to citizens and businesses. Empowerment and the widespread use of innovative, research approaches and the avoidance of institutional and national challenges for e-government and digital governance of local governments can be the basis for future strategies.

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FINANCIAL CRIMES IN THE CONTEXT NATIONAL ECONOMIC SECURITY

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Abstract: This article is devoted to studying financial crime, which poses a threat to national economic security. The analysis of the problem is carried out on the example of Ukraine, examining the level of financial crime and general trends of its impact on the economy. The relevance of the research is to find problems and methods of combating financial crime and reducing its negative impact on the economy of countries, which is a real problem for the economy of Ukraine today. The purpose of the study is to determine the impact of financial crime on national economic security on the example of Ukraine. During the study, the methods of statistical analysis were used, particularly the method of determining the average values, trend analysis, and correlation analysis with the definition of Pearson's coefficient.

Keywords: Financial Crimes, National Security, Shadow Economy, Cyber Crime.

1 Introduction

The weakest point in a country's national security is its economy. That is why financial crime has a significant impact on the country's overall economic situation and threatens national economic security (Saddiq & Bakar, 2019). With the strengthening of financial globalization and the world economy, states are trying to liberalize foreign economic relations and international capital mobility on the one hand. However, on the other hand, control over the functioning of the monetary system is weakened, and it forms a place for the development of financial crime in this environment (Getmanenko, 2020).

It should be noted that criminal financial fraud is also changing with the development of the economic environment. If illegal encroachment of assets of various organizations, bribes, and corruption was the biggest problem for the whole world, today, the world is faced with a new form of financial crime – cybercrime. Depending on the level of development of the country, financial crimes have their own characteristics and types. At the same time, financial crimes are committed at all levels of the country, from the individual to the state level. Depending on the level of corruption in the country, officials focus their efforts on the types of financial crimes that are important to them. Thus, when most efforts are directed at minor, individual financial crimes, crime at the state level thrive. This is one of the key problems of developing countries with rather high corruption levels (Schneider, 2010), including Ukraine. It is safe to say that financial crimes have a significant negative impact on the economy (Saddiq & Bakar, 2019; Achim & Borlea, 2020). At the same time, given the scale of such crimes, the issue of national economic security becomes quite relevant not only to study from the scientific point of view but also to preserve national security. It forms the relevance of the study and allows us to form its purpose.

The purpose of the study is to determine the impact of financial crime on national economic security on the example of Ukraine.

2 Literature overview

According to Achim and Borlea (2020), financial crimes represent an economic publicly dangerous encroachment. The group object of financial crimes is characterized as public relations related to the formation, distribution, and use of financial funds. The subject of financial crimes consists of assets and securities of the state, regions, and municipalities, assets and property of enterprises and organizations.

In turn, Monica-Violeta et al. (2021) noted that financial crimes lead to a violation of the financial norms of the state for which economic and legal liability is established. Signs of financial crimes manifest themselves in unlawfulness, guilt or causing harm…", financial crimes are performed "intentionally or carelessly."

Analysis of the characteristics of typical schemes and methods of committing financial crimes allows identifying several general features indicating the fact of committing financial crimes (Mazarr, 2016):

- Availability of unreliable information in the documents of the primary accounting;
- False information about the counterparty;
- Changes in accounting reporting associated with a sharp and unreasonable increase in the size of the asset and frequent change of organizational and legal forms of the enterprise;
- Committing major transactions with firms registered in states providing significant tax benefits and not disclosing information on suspicious financial transactions;
- Evasion from paying taxes and fees;
- Concealment of the part of the profit from economic activity, resulting in a distortion of tax reporting;
- The use of numerous intermediaries with a dubious reputation in economic transactions and financial operations.

It is characteristic that the participants in the financial and economic activities of the enterprise in the commission of financial crimes use current legislation as a tool to achieve certain criminal goals. Thus, the essence of financial crimes consists not only in encroachment on the economic order established by the state but, first of all, in the performance of financial crimes in frames of legal, financial, and economic activities. As an example, in the field of taxation, it is possible to propose a definition of the scheme for the commission of tax crimes - this is the established procedure for the actions of taxpayers and the persons assisting them, aimed at the illegal decline in tax income in violation of the tax minimum limit defined by tax, customs, civil law, and international law; as well as to evade responsibility for unlawful actions in the field of taxation through the measures taken to mislead state bodies on the legality of this minimization with the help of methods that were developed with the involvement of third-party vocational lawyers and auditors in order to use in specific sectors and areas of economics to conceal taxable revenues and property, accounting and tax reporting distortions (de Rosa et al., 2010).

It should be noted that the essence of financial security is boiled down to the ability of state bodies to provide the following (Mishchuk et al., 2020):

- Economic development of the country;
- Stability of the payment and settlement system and financial discipline;
- Maximum elimination of the shadow economy;
- Elimination of capital leakage abroad from the real sector of the economy;
- Neutralization of the external influences of global financial crises and negative impacts of international economic actors (for example, transnational corporations);
- Rational distribution and use of financial resources of the budget system;
- Attraction of borrowing funds for the development of the economy;
- Prevent crimes and administrative offenses in the financial sector.

Finance traditionally is considered by the theory of law in two aspects: as a set of centralized and decentralized cash funds and a set of public relations on formation, distribution, and use of these funds (Abed & Gupta, 2002). In this regard, the group object of financial crimes can be described as public relations related to the formation, distribution, and use of cash (monetary) funds.

3 Materials and research methods

The methodological base of this study was comprised of a set of scientific methods for the study of financial, economic, and legal processes and phenomena. The methodological basis of the study was the dialectical method, which is the general scientific method of knowledge. Particular scientific methods were also used in the paper: historical, comparative-legal, formal-logical, system-structured, etc. As an additional methodological framework of the study, methods of analysis of causal relations, methods of scientific classification, and principles of formal logic were applied. The study's theoretical base was the work of experts in the field of theory of law and state, criminology, criminal, constitutional, administrative, civil, environmental law, and political science, sociology, economics, and regional policies. In the process of work on the article, the main state concepts and theoretical approaches of different scientists were studied to investigate the problems of ensuring national and economic security, countering financial crime. In order to carry out empirical research, the methods of statistical analysis, determination of average values, trend analysis was carried out. Also, the Pearson correlation coefficient was calculated.

4 Result

Starting a conversation about the country's security, usually, first of all, try to figure out what is its national interest. As a rule, the primary national interests, the interests of the "high" policy include the foreign policy interests of the state related to ensuring its safety and integrity as a certain socio-economic, political, national and historical, and cultural community, with the protection of the economic and political independence of the state (Agwai, 2014). Three words are key ones in this definition: integrity, independence, and safety. Based on this approach, under the main national economic interest, it is likely to understand the overall interest of citizens in the preservation of the national economy as a whole, as a system that has independence in decision making (Akimova et al., 2020; Neu & Wolf, 1995). The latter can otherwise be called political independence since the economic independence of any country seems to be a utopia today. In its totality, the task of preserving integrity and independence is nothing more than security tasks. Thus, the main national economic interest, understood in this way, stems from the structure of the world economy divided into separate sovereign, independent, self-sustaining, and competing complexes. At the same time, it can be clearly defined that the main tool for ensuring national economic security is an effective budget, which is necessary to support and develop the economy. That is why this study will assess the impact of financial crime on the state economy and, in particular, that part of the economy that is not taxed. However, before carrying out an empirical study, it is worth investigating the overall state of financial crime. For example, around the world, most crime is related to consumer fraud, with the percentage 35% of all consumer's finance operations. In recent decade, cybercrime became another problem for national security. Every third transaction in the world is also crime-related. Cybercrime is increasing at a very high rate, with a 73% increase in 2020 (PWC, 2021). The development of electronic technology creates the ground and new tools for the development of financial crime. The issue today is widely discussed and requires research and modeling of development.

It is interesting to note that tax evasion is only 8%, and is the lowest of the compiled rankings (Fig.1). Considering that the world economy is largely shaped by developed countries with high levels of state control over crime and low levels of government corruption, we can conclude that states exercise effective oversight over the financial activities of organizations to ensure the national security of their countries. However, that the issue of crime is always determined at the legislative level of the individual country, therefore, it is possible to study trends in the world as a whole, but the study results will be not informative. Let us consider examples of the influence of financial crimes on financial security by the example of Ukraine. This country occupies 117th place out of 180 countries by corruption (WEF,2020). To begin with, let us define that financial criminal offenses in Ukraine are those that fall under the regulation of the Criminal Procedure Code of Ukraine. Interestingly, since 2020 fictitious entrepreneurship has not been a criminal offense; the unlawful appropriation of the property has become a criminal offense since 2014. Let us identify the main financial criminal offenses that impact the national economic security of Ukraine (Table 1).

Figure 1 – The most common financial crimes in the world during 2020
Source: (PWC, 2021).

Table 1: Dynamics of financial crimes that have an impact on the national economic security of Ukraine

Type of crime	2013	2014	2015	2016	2017	2018	2019	2020
Contraband	196,00	129,00	110,00	94,00	102,00	125,00	133,00	114,00
Fictitious entrepreneurship	891,00	858,00	885,00	681,00	784,00	715,00	248,00	0,00
Counteracting legitimate business activities	78,00	122,00	120,00	127,00	189,00	161,00	158,00	124,00
Illegal Possession of Property	0,00	15,00	30,00	78,00	82,00	70,00	130,00	90,00
Laundering of illegally obtained property	291,00	296,00	221,00	159,00	243,00	242,00	283,00	348,00
Misuse of budget resources	48,00	34,00	24,00	15,00	21,00	18,00	23,00	16,00
Tax evasion	3069,00	1899,00	1748,00	1203,00	1009,00	1099,00	852,00	910,00
Evasion of payment of the unified social tax	147,00	89,00	53,00	48,00	37,00	48,00	35,00	44,00
Bringing to bankruptcy	130,00	48,00	46,00	44,00	59,00	27,00	31,00	26,00
Fraud on financial resources	337,00	347,00	133,00	63,00	61,00	58,00	76,00	142,00
Illegal privatization of state property	26,00	46,00	29,00	10,00	26,00	17,00	22,00	16,00

Source: Procecutor General's Office Of Ukraine, 2021

It is interesting to compare the data on criminal offenses in Ukraine and the world. In particular, in Ukraine, the largest number of crimes (52%) is related to tax evasion (Fig.2). At the same time, in the world, this figure is not significant.

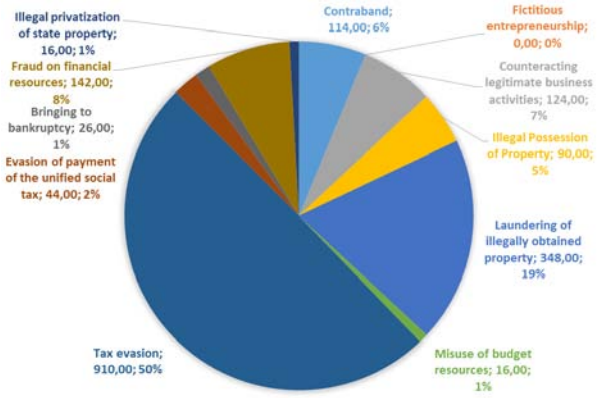

Figure 2 – Structure of financial crimes in Ukraine in 2020
Note: Procecutor General's Office Of Ukraine, 2021.

Despite the state's strong control over financial crimes, the number of criminal cases related to financial crimes is rapidly decreasing. For example, if in 2013 there were more than 5,000 criminal cases, in 2020, the total number of cases is 1,830. The determination index R2 of criminal cases related to financial crimes shows a high level of descending process regularity (85%), which could eventually lead to the reduction of the number of criminal cases by half in the next two years. There is also another negative trend in the fight against financial crime (Fig 3).

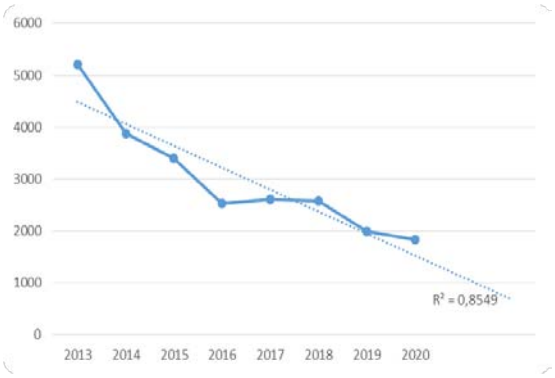

Figure 3 – Dynamics of financial criminal cases in Ukraine and their forecast by the trend method, units
Note: Prosecutor General's Office Of Ukraine, 2021

The main actions of controlling bodies are aimed at the entrepreneurial activity.However, there are very few criminal cases related to the criminality of the government and officials. For example, in 2020, only 16 criminal cases related to the misuse of budgetary funds were recorded. This confirms the high level of corruption in government. However, to understand how effective the fight against financial crime is, it is necessary to determine its impact on the economy.

Most indicators that characterize the level of national economic security are related to growth development product (GDP). These are indicators of the deficit ratio, repayment of public debt, yield of government bonds, and the volume of international reserves to GDP. However, in our opinion, the more informative indicator is the level of the shadow economy, which in Ukraine has a significant impact on economic security since it amounts to about 30% of GDP.

Table 2: Volume of the shadow economy in Ukraine for the period from 2013 to 2020

Indicator	2013	2014	2015	2016	2017	2018	2019	2020
GDP, $ billion	183310	131805	90615	93270	112154	130832	153781	155582
Shadow economy level , % to GDP	30,0	36,0	35,0	33,0	32,0	29,0	27,0	30,0
Volume of shadow economy, $ billion	54993,0	47449,8	31715,3	30779,1	35889,3	37941,3	41520,9	46674,6

Source: Minfin, 2021; Ministry of Economy of Ukraine, 2021.

Comparing the size of the shadow economy and the total number of open financial criminal cases, it can be concluded that the figures since 2016 have a different trend (see figure 4).

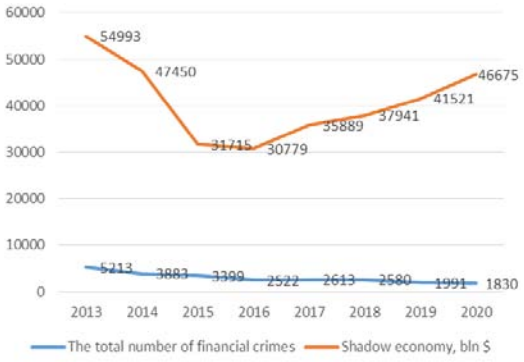

Figure 4 – Comparison of financial crimes and the shadow economy in Ukraine
Note: Minfin, 2021; Ministry of Economy of Ukraine, 2021.

The Pearson coefficient between the two indicators is 0.51, which indicates that the correlation between the volume of registered financial crimes and the level of the shadow economy is low. So, we can draw the following conclusions:

- The fight against financial crime in Ukraine is not proportional to the real demands of economic development;
- The average level of the shadow economy for the understudied period is 31.5%, but the shadow economy size has an increasing trend. At the same time, the number of financial crimes related to non-payment of taxes has a rapidly decreasing trend, which indicates an ineffective fight against this phenomenon.

So, financial crimes have a significant impact on the national economy. They are expressed in the under-receipt of funds by the budget from various types of entrepreneurial activities or the misuse of budgetary funds. The analysis has shown that the average indicator of the shadow economy is 31.5% for the last seven years. Therefore, analysis of the fight against financial crimes shows that the opening of criminal cases to a greater or lesser extent has an insignificant impact on the overall development of the shadow economy.

5 Discussion

As mentioned above, financial crimes related to the digital economy are becoming very important today with the digitalization of the economy. Implementation of the concept of an electronic (digital) economy, which appeared at the end of the 20th century and rapidly acquiring new forms, currently entails truly revolutionary changes in the classical business model and in the business sector. The concept of a digital economy in a

narrow sense is reduced to the so-called e-commerce carried out by means of information and communication technologies. The e-commerce itself represents any forms of business transactions (business to business (B2B) and a business to consumer (B2C)), under which the parties interact through electronic devices and networks, primarily via the Internet. E-commerce is becoming a tool of financial crimes aimed at consumers. In Ukraine, for example, in 2020, the worth of such kind of damage is $8.9 million, 78% of which was recovered thanks to the work of the cyber police (National Police of Ukraine, 2020).

Assessment of the influence of the digital economy on the national and global economy, and also inevitably on the entire social sphere, is very important due to the increase in crime problems, which is also upgraded by the electronization and digitalization of society. In special literature, it is noted that cybercrime can be associated not only with the problems of information security, but also with the threats of statehood, the military-industrial and production complex, the infrastructure of life support.

Today, speaking of economic and financial crimes, it is advisable to allocate into an independent category the crime in the field of digital economy. It is not by chance that in criminal statistics, when taking into account the crimes of the economic orientation, the acts committed using computer and telecommunication technologies began to be allocated. The electronic medium significantly makes it difficult to identify the offender, and, therefore, his expulsion and criminal prosecution that entails the emergence of one of the characteristic features of crime in the field of digital economy – multi-episodescence of criminal activity (Frunza, 2015). Digital technologies in the hands of even one person, not to mention organized criminal groups, can turn into an instrument of crimes with unprecedented force. There are cases when adolescents alone managed to destabilize or fully paralyze the air traffic control system, to interfere with the work of large online retailers, and manipulate the bidding on the NASDAQ Stock Exchange.

Among the leading means of countering cybercrime, part of which is a crime in the field of digital economy, M. Herke and his Swiss colleagues call the modernization of computer systems and comprehensive judicial programs to speed up the investigation and automation of search procedures in various law enforcement databases; integration of information security measures based on the development and promotion of technical means of protection; creating and improving the legal framework adequate to modern cyber-threats; compliance with a reasonable balance between respect for the right to receive and disseminate information and control over information processes (Gerke As Cited in Achim & Borlea, 2020).

Since a significant part of economic transactions today is performed in the so-called international space – the Internet -the crime in the field of digital economy has a transboundary character. Based on this, it is impossible to bypass the question of international cooperation in the field of counteraction to this phenomenon. In addition, there are a number of acute issues of legal regulation of the turnover of the cryptocurrency, which legislative and law enforcement agencies are faced with. First, what legislation the emphasis should be made to: the law on digital financial assets in which it is not written what are domain names, mining agreement, etc., or on special laws related to information security? Second, how to embed into existing legislation the concept of digital currencies of central banks? (Saddi, & Bakar, 2019).

In such conditions, the effective and balanced application of international standards is one of the fundamental means of protecting the financial system and countering criminals in obtaining benefits from the crimes committed by them. Inconsistency in the application of standards can lead to the emergence of contradictory rules and weakening cooperation, which, in turn, reduces efficiency, increases the likelihood of failures, and allows financial criminals to use workarounds.

Actions such as an analysis of threats for financial stability arising from the disunity of rules at the international level, checking and improving the effectiveness of the implementation of FATF standards, as well as the provision of recommendations and an increase in the amount of financial, logistics, and structural support for state and international organizations operating in the framework of countering Money laundering and financing of terrorism would help to eliminate the manifestations of an imbalance that are able to cause concern about the sustainability of the system (Chambers-Jones, 2012).

Extremely relevant ones today are the problems of countering the laundering of criminal income in a credit and financial system using cryptocurrency. The development of electronic payment systems based on cryptocurrency and the lack of legal regulation of relations among the subjects of this system, the uncertainty of the position of the state to cryptocurrencies as a means of payment allows criminal elements to use cryptocurrencies in criminal purposes to legalize money obtained by illegal way. Electronic payment systems based on cryptocurrency significantly diverged the criminal schemes ‘performed’ in information and telecommunication networks. Interestingly, manipulating in the field of cash conversion in cryptocurrency even allow civil servants to receive bribes, argumenting the presence of excessive cash by difference in currency exchange courses.

“Merging” of modern financial systems with achievements in the field of information technology, an increasing dependence of the population from a virtual environment, and the lack of legal regulation of relations in electronic payment systems based on cryptocurrency – all of this led to a significant increase in computer and economic crimes. Financial fraud in digital networks is also a threat to the economic security of the state. Financial fraud today is distinguished by its multipleness and ability to continuously improve. Due to the active development of new technologies, financial fraud also does not stand still, constantly developing new and new techniques that acquire intellectual character. The laundering of criminal income today is often carried out precisely by cryptocurrency (Lui & Ryder, 2021). Therefore, the system of measures to combat such fraud should be thoughtful and practically proven, and should also contain the interaction of society with law enforcement agencies. At the same time, the most important thing is that these events should be aimed at preventing such economic crimes, rather than to eliminate their consequences. There are urgent issues of the nature of the taxation of cryptocurrency, operational-search activities and a preliminary investigation into cases of crimes committed using digital technologies, the problems of confiscation of virtual assets, the ‘legalization’ of criminal income and fraud using new digital financial instruments. The issue of financial crime in the context of digitalization is becoming more and more relevant. Practice shows that this crime is growing by 70% in the world for the last year (PWC, 2021). As for Ukraine, the use of cryptocurrency is unregulated for its residents, and therefore many cases remain open for lack of corpus delicti (National Police of Ukraine, 2020).

6 Conclusion

Financial crime is widespread throughout the world. It has many manifestations and is carried out at all levels of the economy, from the individual financial crime and business level to the state level. It cannot be argued that national security is only affected by national-level financial crimes related to budget theft. To a greater extent, the impact occurs at the stage of filling the budget through taxes and contributions, and this is the subject of financial crime of the population, entrepreneurs, and people in business. Global experience shows that financial crimes related to non-payment of taxes are not significant in their number compared to other types of crimes. This is due to the fact that, in general, the level of economic development statistics are formed by developed countries, which have low levels of corruption, which allows counteracting financial misconduct effectively. This study is based on the example of Ukraine, which belongs to developing countries. Today Ukraine is marked by a reasonably

high level of corruption at all levels. Particularly high levels of tax crimes can be traced, while criminality at the national level remains practically unpunished. Studies have shown that about 31.5% of the money flows in the country are shadow, indicating that financial crime still has a significant impact on national economic security. At the same time, studies of crime control in the country show that they are not effective. Despite the statistical indicators that show several times crime rate reduction in the country, the level of shadow economy remains approximately at the same level for seven years. A comparison of the dynamics of financial crimes and the shadow economy showed a low correlation of 51%. However, in addition to the problems of the real economy, the issues of other financial crime types, which are related to e-commerce crime and cryptocurrency transactions, become relevant today, in the period of digitalization development. In world practice, these problems are almost the most widespread, as practically every third transaction carried out on the Internet has a fact of fraud. In Ukraine, cybercrime is also rapidly developing but does not impact the economy as in developed countries.

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Primary Paper Section: A

Secondary Paper Section: AH

CREATIVE INDUSTRIES IN THE SOCIO-CULTURAL SPACE

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Abstract: The main trends in the development of the creative industry are government support for "creative" business, the development of innovative technologies, job creation for the population, and attracting new staff to the creative industry. In addition, the main trends include the establishment of international cooperation in the creative sphere, the development of "smart and creative cities" and the involvement of the creative potential of the people. Established that the creative industry has significant socio-cultural significance. The social significance lies in improving the welfare of the population and creating new jobs.

Keywords: Creative Industry, Creative Economy, Cultural Industry, IT Sphere, Entertainment Establishment.

1 Introduction

Over the last 10-20 years, there has been a growing scientific interest in research on the formation and development of creative industries, which in turn requires a more detailed consideration of the new creative economy in terms of its impact on increasing the creative potential of national and international economic space. In the late 80's of the last century, "cultural" was replaced by "creative industries", the key point in which is the definition of technological reproduction. Creative industries are currently the leading sector of the modern economy. The "idea of creativity", which until recently was claimed by artists, has been the main significantly expanded over the past decade (Potts, 2008). Given that a significant amount of labor reserves of the planet is involved in the creative industry and the fact that the creative industry meets the cultural needs of the population - there is a growing need to develop new trends in the creative industry. It is worth noting that the "coronavirus" pandemic has made its adjustments in the development of the creative industry, as this sector has suffered significant losses. In this regard, those working in this field had to invent new ways to develop the creative industry in limited conditions.

2 Literature Review

The scientific works of researchers, who studied the issue of the creative industries, cover various aspects in the research area, such as theory, history and causes of creative industries, their main specifics, advantages and disadvantages (Parrish, 2021; Potts and Cunningham, 2010; Rybakova, 2020). However, these authors mainly focused on what the creative industry means for their country. For example, Parrish (2021) noted the development of the creative industry in Latin America, Rybakova (2020) – in Slovakia, Gran et al. (2016) – in Norway. Unfortunately, the above scholars have raised questions only about the definition and meaning of the creative industry and the distinction between "creative economy" and "creative industry". The main development trends and socio-cultural aspects were not considered. Only some of them remotely raises the question of the social aspect of the development of the creative industry in the sense that the creative industry to some extent prevents unemployment (Potts et al., 2008).

Other sources, in the form of websites, only indicate a multiple approach to understanding the creative industry (Culture & Creativity, 2020).

Unfortunately, the question of the uncertainty of the main trends in the development of the creative industry remains unresolved. Because scientists who have studied the essence of the creative industry have not studied the development trends of the creative industry and socio-cultural aspects.

The aim of the research is to determine the main directions of further development of the creative industry. In connection with the aim, we described the following tasks:

- to define the concept of "creative industry" and its difference from the "creative economy" and "cultural industry";
- to identify sectors of the creative industry;
- to identify the main trends in the development of the creative industry in our time;
- to identify the social significance of the creative industry;
- to identify the cultural significance of the creative industry.

2 Matherials and research methods

In this study, the authors used methods and ways of knowing a specific phenomenon - the creative industry. In the process of studying the essence of this category, general scientific research methods were used, namely: empirical scientific research methods and theoretical research methods. Among the empirical methods for studying various approaches to the concept of creative industry, observations, comparisons and descriptions were used. Among the theoretical methods we based on abstraction, induction, deduction, generalization and explanation. The greatest attention is paid to such an empirical method as observation. In presenting the main material, generalizations were made by observing certain phenomena.

4 Results

As already mentioned, the most promising today is the development of the creative industry, in which the creative personality (especially in the field of art) is a generator of socio-cultural ideas and products that have significant economic value. The creative processes of the middle of the twentieth century had a serious impact on the creation of a new, creative economy and its main component – creative (innovative) industries. As the practice of developed post-industrial countries shows, the source of development and stability in society in the process of transition to the "creative economy" or "creative industry" as the creative activity of the population, which is able to create fundamentally new products. There are several approaches to defining the concept of "creative industry" (Lamia, 2020). The term "creative industry" includes activities based on creativity – for example, design, music, publishing, architecture, film and video, visual arts, fashion, television and radio, advertising, literature, computer games and performing arts (Parrish, 2021).
Rybakova (2020) defines the creative industry as an industry in which the fields of art, culture, business and technology are combined and intertwined. According to her, such industries create a cycle of production and distribution of intellectual property as fixed capital.

In turn Brown (2018) identifies four basic elements of the intellectual concept of creative industries:

- They are based mostly on the creative and artistic capabilities of individuals.
- They are closely linked in cooperation with management and technology.
- They create products that fill the market.
- Their economic value is of cultural or intellectual origin.

The British Government's Department of Culture, Media and Sport (DCMS) defines the creative industry as a collection of industries that derive from individual creativity, skill and talent, and that have the potential to create jobs through the use and implementation of intellectual property (Newbigin, 2015).

In fact, the creative industry is also called the "cultural industry" as part of the "creative economy". Because the creative industry is a certain chain of economic activities related to the generation and commercialization of creativity, ideas, certain knowledge and data (information). As a component of the creative economy, such scientists consider the creative industry as Newbigin (2015), Gran et al. (2016), Innerhofer et al. (2018), Külliki, Silja (2015) Compared to the creative industries, which are limited to certain activities, this term, is used to describe creativity in the whole economy. Some scholars believe that creativity is a defining characteristic of developed economies of the XXI century, as well as production, typical of the XIX and early XX centuries (Benedicte, 2019; Rybarova 2020; Palanivel, 2019).

The "industries" or not, no one can argue with the fact that these activities – both narrowly defined areas of culture and a much wider range of new creative industries – have become increasingly important for the economies of many countries and have employed many people.The first scientific research on the subject of creative economy and creative industries was conducted at the beginning of the XXI century. In fact, John Hawkins is the author of the concept for the definition of the creative industry, which states that its structure includes systems where production consists of imaginary resources, rather than traditional, such as land, labor, and capital (Wang, 2017).

According to information posted on the Internet, the creative economy is based on people using their creative activities to increase the value of an idea (The policy circle, 2021; Culture&Creativity, 2020). Some scholars prefer to use the term "cultural industries" instead of the term "creative industry", but this term refers to a more specific range of industries and can only be considered as a subgroup of creative industries (Palanivel 2019; Benedicte 2019). UNESCO defines cultural industries as industries that combine the creation, production and commercialization of intangible and cultural objects; this content is usually copyrighted and may take the form of a product or service. However, it should be noted that the concepts of "cultural industries" and "creative industries" should not be equated. The British Council firstly introduced the concept of "cultural industries" in science in Great Britain. The term contained the following components (Newbigin, 2015): cultural activities that do not require public funding, but they are commercial and aimed at improving the welfare of the population; types of cultural activities (commercial and non-commercial), aimed at the production of cultural products and services and, accordingly, related to mass consumption.

Economist and theorist in the field of art – Pierre Luigi Sacco identifies the reason for the emergence of creative and cultural industries is the industrial revolution that took place at the turn of the XIX and XX centuries (Sacco, 2011). At that time, the current technological innovations were radio, sound recording, photography, cinema, improvement of printing technology. The above industries significantly expanded access to culture and influenced the creative processes of the time.

The phenomena of "cultural industries" and "creative industries" are almost interchangeable, but with some differences. The concept of "cultural industries" refers to cultural heritage and traditional arts more, and "creative industries" refers to applied creative practices, innovations and the generation of profits and jobs through the creation of intellectual property.

In Indonesia, the publishing house BEKRAF describes the creative economy in such a way that the creative economy creates added value through creativity that is copyrighted and originated from cultural heritage, knowledge and technology (Jewell, 2019). Approaches to defining the components of the creative industry are ambiguous. This concept usually includes theatrical and fine arts, cinema, television and radio, music, publishing, computer games, new media, architecture, design, fashion and advertising.

Under the concept of "creative industries" there are thirteen subsectors, and they are: advertising; architecture; art and antiques market; crafts; design; designer fashion; movies and videos; interactive software for leisure; music; performing arts; publishing; software and computer games; and television and radio (Newbigin, 2015).

Sometimes the markets related to the creative economy include IT technologies; architecture, design and fashion; publishing, art and photography; media; festivals and music; crafts/handmade.

After analyzing the sources, we can name the following components of the creative industries: photographic art; film industry; music; advertising; media, mass media; design; theatrical art; IT sphere; "handmade" art; social networks.

In our opinion, this list should also include the activities of entertainment establishments. As the tendency to improve entertainment establishments has been growing lately, as a significant number of the population spends their leisure time there. Therefore, usually, to attract the attention of the client of the entertainment establishment, an interior design is developed, which is dominated by eye-pleasing colors that will not irritate the eyes. In addition, in this case, there is a comfortable environment for the client to want to come there again (this can be expressed in the use of certain interior details, the inclusion of pleasant music, etc.).

In addition, the fact that complex social networks play at least as important a coordinating role as price signals is the central to the markets for the creative industries. In connection with the development and modernization of technology and creative activity of the population, there is a need to invent new trends in the development of creative industries. Because there is a need to find new areas of development that encourage innovation and development, and research shows that culture and creativity are growing and holding a strong position in the global market. The cultural and creative fields, which include arts and crafts, advertising, design, entertainment, architecture, books, media and software, have become vital to accelerating human development. They give people the opportunity to participate in their own development and stimulate innovation that can contribute to inclusive sustainable growth. In European countries, the creative industry is well developed. For most European countries, the creative industry is an important asset in strengthening the economic structure and maintaining its competitiveness in the world economy (see fig. 1).

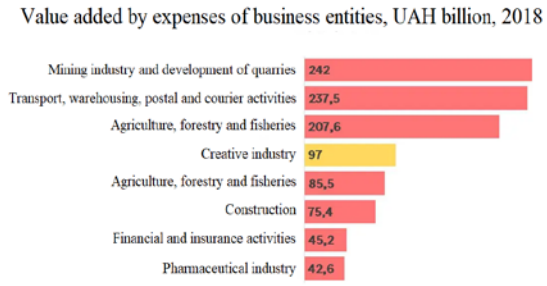

Figure 1 – Value added by expenses of the business entities

It is important to note that today the leader in the creative economy is deservedly recognized by the United Kingdom, which has developed and continues to develop the legal framework, strategic and political documents of the national economy through economic, cultural and social interaction.

The UK is stimulating economic growth across the country, and intends to create a million new jobs in the creative industries sector. This rapid growth is partly reflected in digital technologies that allow "creative" businesses to create products that can be easily exported around the world, and drive the demand for creative services. Liverpool currently provides assistance to more than 200 creative organizations, ranging from the Liverpool Philharmonic Orchestra and the Everyman Theater (Theater for All) to small local businesses.

Since the order of economic assets, the creative industry also creates non-material values, which play a major role in ensuring sustainable development based on human resources. Here it is worth focusing on specific examples of the role of creative industries in urban development. Thus, industrial centers in the UK are clear evidence of a successful public cultural policy to improve the economic and social situation in British cities. It is worth noting that the creative industry can contribute to the economic reintegration of Britain. However, it is interesting to see the prospects of creative industries for individual countries. Importantly, creative industries are a wide range of cultural and creative activities that are uniquely shaped around the environment and the environment.

If we compare the development of the creative industry in European and Asian countries, we can cite China as an example. At the end of the twentieth century, the Chinese government at the Congress of the Communist Party included the development of creative industries in the list of recommendations of the five-year development plan of the country. However, in China, the main emphasis in the development of the creative industries has been on the development of innovation, rather than on increasing the number of jobs. The development of the creative industry was based on software development, multimedia, 3D technology, advertising and other types of intelligent products. The concept of social innovation (SI) makes it possible to explain the processes of change from two fundamentally different points of view. The United Nations Educational, Scientific and Cultural Organization (UNESCO) works through its Global Alliance and advocates for cultural diversity and creative cities to strengthen cultural areas internationally by encouraging knowledge sharing, capacity building, good practice and mentoring among its members (Boix-Domènech, Rausell-Köster, 2018). The Global Alliance promotes cultural diversity by strengthening the capacity of cultural sectors to produce and distribute goods and services and to help them gain access to national and international markets. The cultural policy clearly belongs to the sphere of intellectual and inclusive growth.As the cultural and creative industries are fast-growing industries, there is a need to find new areas of development that encourage innovation and development, and research shows that culture and creativity are growing for both sustainability and sustainable growth.

In Ukraine, the development of the creative industry is still a novelty. Problems of creative economy, creative industries in Ukraine are relevant at this stage of development of our country. However, today the interest in creative industries is growing, which is primarily due to the strengthening of European integration processes and the fact that our country has joined the program “Creative Europe”. Ukraine is currently at the stage of developing ideas on trends in the development of creative industries. In 2017, at the open session of the EU Program and the Eastern Partnership “Culture and Creativity” held in Kyiv, the issues of developing fresh ideas and directions to stimulate the development of cultural and creative industries in Ukraine were discussed.

The key problems that were identified at this meeting were as follows:

- lack or absence of information about cultural and creative industries at the level of the whole country;
- outdated perception, understanding of culture and its significance in the modern world;
- lack of financial support from the state;
- insufficient development of digital technologies;
- lack of joint concerted action on the development of the creative industry.

The main priorities for the development of creative industries in Ukraine were:

- providing additional opportunities for combining parallel cultural processes;
- creating an effective model of cultural production;
- ensuring freedom of creativity;
- stimulating the innovative and educational potential of culture,
- providing the necessary creative personnel reserves;
- strengthening the importance of culture for society;
- establishing international cooperation.

Analyzing the development trends of the creative industry, it is impossible not to mention the pandemic that shook the world. After all, one of the industries affected by the pandemic associated with the spread of COVID-19 is the creative industry. All representatives involved in the creative industry have experienced the so-called “culture shock”. Therefore, there was a need to act in strictly limited conditions. However, there is a positive point in the fact that social networks have begun to develop quite actively. In particular, interest in the TikTok network has grown (OECD, 2020). Thus, there is now a transition to new forms of cultural and creative industries. They lose a clear division into producers and consumers. Cultural and creative industries are considered the forerunners of new dynamic forms of economic activity. During the transition from an industrial society to an intellectual one, a creative approach to solving problems becomes an important factor of competitiveness.The study found that the creative industry has significant social significance, which is as follows. First, the creative industry “creates” new jobs. After all, 29.5% of workers worldwide are involved in the creative industry. Accordingly, the unemployment rate is falling.

The creative economy contributes about 6.1% to world gross domestic product (GDP), averaging 2% to 7% of national GDP worldwide. According to UN estimates, the creative economy generates annual revenue of $ 2.25 trillion. Secondly, about the same number of people have the opportunity to realize their creative potential and find “their place”. This factor inevitably affects the psychological climate of the population, which can reduce the number of cases of cardiovascular disease and neurosis, and helps to raise the indicator of happiness in the world. Because a person who enjoys his work feels happier than people who do not enjoy their work.

Innerhofer, Pechlaner, Borin (2018). Lamia (2020), Mao (2020), Palanivel (2019), Potts and Cunningham (2010). also raised the question of determining the role of the creative industry in improving the socio-economic well-being of the population. However, despite the depth of scientific development, content and analysis of cultural and creative industries, it should be confirmed that they lack completeness, systematization and structure. The creative industry has the potential to rebuild the economy and create jobs. An example of a project to promote business growth in the creative and digital industries is the Liverpool Creative Growth Initiative (the digital sector is one of the fastest growing industries in the UK and internationally).

In addition, an attempt to capture the direct and indirect socio-economic impact of the creative industry in Europe is the Lisbon Agenda, in particular in terms of growth, competitiveness, more and better jobs, sustainable development, and innovation. It shows how the creative industry manages economic and social development, as well as innovation and cohesion. The cultural and creative sector is a growing sector that is developing faster than the rest of the economy. The same goes for employment. Indeed, this sector offers many different and often highly skilled opportunities, and again, the growth of the sector in terms of jobs exceeds the rest of the economy.

5 Discussion

The cultural and creative sectors are important for the continuous development of society and are the basis of the creative economy. The creative industry makes a significant contribution to the development of the culture of the population. Because the “components” of the creative industry are the consequences of human cultural activity. Therefore, thanks to the creative industry, new types of art, innovations are created.

However, the role of the creative industry in the development of culture is still ignored. Indeed, the move to measure the socio-economic performance of the sector is a relatively recent trend. Moreover, the issue is controversial. Creative industries create business skills and cultural practices based on the creative, intellectual component (The policy circle, 2021). The creative industry makes a significant contribution to the development of art, which makes it possible to increase cultural heritage and cultural heritage. Despite the fact that Wilde O. in "Portrait of Dorian Gray" emphasized that all art is useless, yet, in real life, it does not provide basic human needs, but makes life more interesting and fuller. Which also affects the level of happiness among the population. For many, art is a matter of enlightenment or entertainment (Potts et al., 2008).

For many, art is a matter of enlightenment or entertainment. This leads to the perception that art and culture are marginal in terms of economic contribution and should therefore be limited to areas of government intervention. This may largely explain the lack of statistical tools available to measure the contribution of the cultural sector to the economy at both national and international levels, in particular compared to other industries. The quality of leisure among the population depends on the development of the creative industry. The better the leisure, the higher the cultural development of the population.

6 Conclusion

Firstly, it is necessary to distinguish between the concepts of "creative industry", "creative economy", "cultural industry". The creative industry is a multifaceted concept and includes intellectual activity of a person, which is aimed at creating creative products, with their subsequent implementation on the market. The creative economy is a set of enterprises, activities related to the sale, marketing of intellectual property products. The cultural industry is a phenomenon that contains a more educational element and is aimed at educating people, the acquisition of certain qualities.

Currently, in connection with the growth of human creativity and modernization of technology there is a need to invent new trends in the creative industry. This phenomenon is relevant for all countries, both Western and Eastern countries. However, due to the level of mentality, development trends are somewhat different. Thus, in Western countries, the main trends in the development of creative industries are the creation of new jobs. In the East – in the development of innovative technologies.

Also, among the trends in the development of the creative industry are state support for "creative business", meetings of conferences and summits to improve the creative industry, improving intellectual property products and their introduction to the market.

Unlike advanced countries, Ukraine lags far behind in the development of the creative industry. Ukraine is currently in the process of inventing trends in the development of the creative industry at the national level.

The creative industry has significant socio-cultural significance. The social significance lies in improving the welfare of the population and creating new jobs. Cultural significance lies in the cultural development of the population, the creation of new arts, which will further constitute the cultural heritage, in order to facilitate the lives of future and future generations.

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Primary Paper Section: A

Secondary Paper Section: AJ

CHOREOGRAPHIC ART AND LEARNING: PROSPECTS OF DEVELOPMENT

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Abstract: In today's conditions the problem of expansion of directions and choreographic technologies, means of self-fulfillment in the aspect of choreographic artistic and educational innovations of the XXcent ury is becoming more and more relevant. The aim of the research: to outline modern choreographic art of the XXI century on the example of features of teaching jazz dances during professional training of future choreographers. The practical value of this research is reflected in the theoretical overview of the features of teaching jazz dance, which can be used in the educational training of future teachers of choreographic art.

Keywords: Choreographic Culture, Choreographers, Etude, Jazz Dance, Jazz Choreography, Technique.

1 Introduction

In today's environment in the sphere of choreographic culture relevant issues that identify transformational trends that occur at the level of universal signs associated with the development of contemporary culture. The expansion of tensions and choreographic technology, means of self-fulfillment (dance, composition, show vista, etc.) significantly contribute to choreographic innovations, including the development of choreographic art. Choreographic culture becomes an open dance and visual model of entering the world of artistic culture, not only due to its recognition, but also due to the individual emotional experience, which requires improvement of technology, professional skill, focused on the actively dialogic nature of communication and the spiritual and creative potential of culture and individuality (Fries, 2012). The educational potential of musical and choreographic art is also actualized today, taking into account the deep transformation of society and the orientation of society towards universal values.

One of the phenomena of contemporary choreographic art with its original artistic means and techniques of artistic expression, characteristic only for its laws and rules of performance in the Ukrainian culture of the XXI century is jazz dance. Today it develops as a unique kind of artistic creation with its own principles, artistic and expressive forms and strains. Jazz-dance by its very nature is a syncretic art that combines music and choreography as well as the actor's and director's and choreographer's artistry, artistic aspects, dramaturgy, literature, at the present time actively learn the novelties of scientific and technological progress (video installations, film projections, technical effects) (Plakhotnyuk, 2015).

2 Literature review

The works of well-known researchers have made an important contribution to the development of the theory of choreographic culture. Scientific and methodical publications on ballroom choreography of the last quarter of the 20th and the beginning of the 21st centuries are represented by works by Wells (2019), Plahotniuk (2015), Frieze (2012), Sharikov (2013), Newton-Smith (2020). Filimonova (2013) and others defined the main tasks of modern art education. Enough widely studied the history of the formation of choreographic education are discussed by Pogrebnyak (2018). The need for an analysis of the tasks of development of choreographic education in the framework of the Bologna process is investigated in the works of Wells (2019), Nikitin (2016) and others.

Created scientific works of methodical conjugation in the aspect of the general courses of folk scenic – Nalett (2005), Newton-Smith (2020) etc.; teaching aids on the style features of Ukrainian folk scenic choreography - Loban (2015), Plahotniuk (2015), Pogrebnyak (2018).

Foreign scholars such as studied the historic genesis of the art of jazz in choreographic culture: Kravchenko (2013), Loban (2015). Shubarin (2012), Primicias (2015), Guarino, Jones, Oliver (2021) have studied the state of theory, pedagogy and choreography of jazz dance in the twenty-first century, renewing and affirming the vitality of jazz in African aesthetics and black American culture.

Thus, it can be asserted that the history of the formation of choreographic art, especially jazz and the development of specific issues of choreographic education have a deep overview in the scientific literature. Analysis of scientific sources demonstrated that the art of jazz in the scientific thinking of the early twentieth century is reflected in the research on the history, theory and practice of choreographic art. They reveal the differentiation of expressive means, processes of formation of cultural and artistic values of jazz, the peculiarities of its functioning, perception, etc. Nevertheless, the peculiarities of teaching jazz dance itself during the professional training of future choreographers has a fragmented overview.

The aim of the research is to review modern choreographic art of the XXI century on the application of features of teaching jazz dance during the professional training of future choreographers (technical features of the performance of different styles of jazz dance, the selection of musical material, etc.). The main tasks of the research are:

- to specify the meaning of the notion “choreography”;
- to demonstrate the strains of modern choreographic art development from the end of the XX century to the beginning of the XXI century;
- to analyze the specifics of jazz dance art in the present-day conditions;
- to examine jazz dance as a phenomenon of contemporary choreographic art;
- to outline the various stylistic differences in jazz dance;
- to outline the features of the formation of folk-jazz dance as a separate area of jazz choreography in Ukraine;
- to point out the technical features of performing diverse styles of jazz dance and the selection of musical material during the professional training of future choreographers.

3 Materials and research methods

In the article were used general scientific and special methods of scientific research. Such as methods of scientific abstraction, analysis, synthesis, summary of special scientific literature and Internet resources on certain theoretical positions of the theme of the work. In particular, the literary and analytical analysis has been applied at the time of research on the specifics of the development of jazz dance art in the early XXcentury and the technical features of playing a variety of styles of jazz dance in the professional training of future choreographers. Methods of scientific abstraction, analysis, synthesis and synthesis are concerned with the examination of jazz dance as one of the phenomena of contemporary choreographic art.

4 Results

The key word in the concept of “choreography” is “dance” (from the German word “flow”). Dance that is directly connected with music (“art of muses”) is called “choreography”. The term “choreography” is derived from the Greek words “choreo” (dance) and “grapho” (write) and is used in different meanings. In the narrow sense – a record of dance moves using a special system of signs in a broad sense – the art of staging dance on stage and dance art in general.

Contemporary choreographic art from the end of the XX century and the beginning of the XXI century developed in three areas: 1) contemporary ballet; 2) jazz ballet; 3) dance in modern popular rhythms. These key trends in the development of choreography are based on a new approach to the positions and attitudes of the human body, plasticity, rhythm, interpretation and understanding of choreography as a kind of art.

The specificity of jazz choreography itself is revealed through the manner of its creation and implementation by the authors (choreographers, choreographers), performers. In this aspect, jazz dance and academic ballet theater have a symbiosis in the perception of the viewer, which is subordinate to the music and dance, artistic idea, through the individuality of its creators. In particular, a large number of choreographic groups perform jazz dance, using stylistic features of costume of the late XIX - early XX century, where is combined jazz dance and fashion, features of design trends of the past and present. A number of leading choreographers of the world are turning to the very choreography of jazz dance for the fulfillment of their creative ideas. In their practice on the academic ballet scene, such choreographic artists used jazz dance as Roland Petit, Maurice Béjart, George Balanchine, Dmytro Bryantsev, Mikhaylo Lavrovsky, Vasil Tikhomirov, Lev Lashchilin and others.

In contemporary choreography (dance and ballet) jazz has its own characteristics: the emphasis on the emotional state and the individualistic performance mastery of the person who improvises on jazz, popular or other music, on the “twisting and pulsating”, the full body, the “collapse” posture, the significant stiffness of the body, arms, the wraparound movements of the hip part of the body, the syncopation in the movements. Subtle rhythmic movements of the entire body of the dancer and certain parts both, in addition, also mark jazz, horizontally and vertically on the stage space. Jazz-modern is the basis of the natural dance. Modern takes its origin in the classic choreography, the whole respect for it – the search for balance and use of the body for the creation of forms in the space.

The term “modern dance” was created in the United States to describe stage choreography that rejects traditional ballet forms. When he entered the sphere of life, he introduced other terms (free dance, duncanism, barefoot dance), which emerged in the process of the development of this sphere. Common to the proponents of modern dance, regardless of what current they belonged to and which period voted for their artistic programs, was the intention to create a new choreography, which met, in their opinion, the spiritual needs of people of the XX century.

The main of their principles: the withdrawal from canons, embodiment of new themes and plots with original dance-plastic means. In the desire to complete independence from the traditions of modern dance dancers have come to the adoption of specific technical techniques, in opposition to which originated a new strain. The installation for a complete departure from the traditional ballet forms in practice could not be realized to the end. These principles of modern jazz dance apply first and foremost to the technique of movement. They evolved in the evolution of different systems of dance were borrowed mainly from jazz dance and classical ballet. The principles of the movement and technical features of this style: the use of dance in the position of collapse, the active movement of the performer in the space both horizontally and vertically; isolated motion of different parts of the body; the use of rhythmically complex and syncopated movements, the polirimetry of the dance, combining and interpenetration of music and dance, individual improvisations in general dance; functionalism of dance. The technique of modern jazz dance is used during the jazz dance practice, warming up of the dance.

The main feature that distinguishes Afro-jazz from jazz is the African authenticity of the style. Along with the classic jazz elements of dance, African musical motifs are used in Afro-jazz. Ethnic roots of the dance gives jazz a new sound and visual intrigue. Jazz dance turns ideally merge with African ethnic rhythms. Afro-jazz owns a high plastic dancer, strokes stems, chaotic throwing hands in different directions. The main request to all of these movements rhythmic and plastic. In Afro-Jazz great space is given to the improvisation. Besides the creativity in Afro-jazz elements of hip-hop are used. Much space in the dance is reserved for classic jazz turns, proginions and crosses. Musical accompaniment to the African jazz is very often the singing of African songs and the pounding of the drums.

Physical training in Afro-jazz is not the most important. While in the ballet physically weak dancer cannot perform the dancer’s movement and the ability to listen to the rhythm determine even the simplest “pas”, in Afro-jazz. Many psychotherapists recommend Afro-Jazz as a psychological engagement. Afro-jazz dance develops a sense of rhythm, coordination of movements, plasticity.First started to use in their choreographic productions elements of African dance Katherine Dunhem – the famous American dancer (which has achieved success, including, and in many other areas, such as anthropology, ethnography, acting mastery). It was thanks to her that “black” dance evolved into true stage art. Katherine gave postal and academic development of the style, opening in 1936 “Ballet Negre”, and later – the own dance schools in Chicago and New York.

Pearl Primus did much to develop the Afro-jazz style. Her contribution is the deep irony of the dance, the main feature of which is her broad, lingering strokes. The dancer drew inspiration from the books of the darkly scary writers Langston Hughes and Lewis Allan. The world's most famous choreographers of afro-jazz style are the legendary Matt Mattox, Geraldine Armstrong, Rick Odums, Tetiana Tarabanova, Yevgeny Shevtsova (afro-jazz technique).

Broadway jazz is one of the most popular forms of modern jazz dance. The name is derived from a single street in the Manhattan neighborhood (New York, USA), where there are professional theaters. The word “Broadway” has merged with the notion of commercial theater. Broadway-jazz is close to the forms of theatrical art. While preserving the basic principles of jazz techniques, the dance introduced comedic elements and techniques of stylization.Street jazz dance is a kind of new forms of jazz dance, which includes a large number of elements of different styles of street dance. Naturally jazz dance is expressed by street dance, so-called street jazz, which is found in all modern young popular dances - the earliest (“era of Swing”) 1920-1940 r. (twist, Charleston, shake, boogie-woogie, balboa); the era of street dance 1970-1990 (disco, hip-hop, funky); the era of trendy young dances 2000-2015 (jazz-funk dance).

Jazz-funk dance (funk-jazz) – is one of the dances of street styles, which is a mixture of elements of “classical” hip-hop, waacking, jazz dance with alternating smooth and extremely sharp, intermittent movements. It is characterized by an original combination of smoothness and sharpness of movement with the edges of the defile at the podium, fixation of the body in poses, as in a photo shoot of a fashion photographer. Jazz-funk also effectively combines the elements of locking and popping. Vitality, mannerism, emotionality, bold manner and outrage, the ability to improvise are its characteristic features. The rhythmic manner of dance is fierce and clear, with distinctive jazz puffs. The main element of jazz-funk dance – the impulse, spontaneous surge that comes from the chest, legs, shoulders or elbows, it starts the translation of the body forward or backward, which gives the plastic spontaneous activity. In the process of dance, perform a step-step crocs (simple steps) and cowgirls.

Blues-jazz dance - a modern term, which lives in the description of jazz dance, as performed to the music of the blues. The choreographic basis is to dance with the utmost respect for the naturalism of the musical blues.

The dance moves will be done in retro blues style. Lyrical Jazz-dance – was the result of the merger of ballet with jazz and modern dance techniques; as a rule, it is focused on the open lines of the body, open dance steps. Lyrical jazz dance is controversial with the ballet, because it combines many technical elements of classical ballet with the freedom, flexibility, and

versatility of aspects of jazz, contemporariness and modern dance. It is considered a kind of jazz dance and contemporaneous jazz dance, because it began to develop in the early twentieth century, and is still forming its own form.

Folk-jazz dance (English folk – folk knowledge, folk wisdom, knowledge; jazz: as a word – to stimulate, activate, enthrall) is a stage form of modern jazz dance, the combination of jazz dance choreography and folk (folklore) dance. On the territory of independent Ukraine folk-jazz dance began to form as a separate branch of jazz choreography in the late 90s of the twentieth century. The performance of folk moves in modern jazz dance does not require a literal reproduction of that or other folk choreographic vocabulary. Jazz dance in its arsenal uses generalized plastic elements. Without fail, the choreographic creations with brightly national themes, the director uses the vocabulary of jazz and folk dance in its own stylized reinterpretation, depending on the content of choreographic works goals.

Contemporary dance is a style of modern stage dance, which has evolved from the styles of modern and postmodern dance. Contemporary is characterized by a rejection of the traditional attributes of ballet. Dance of this style is often performed barefoot. Contemporary dance (contemporaries) originated at the beginning of the XX century in the U.S. as a result of the desire of dancers to find new ways of expression to the extremes of the dogmas of classical dance and lightweight nature of popular dance. Contemporary dance involves a large number of different techniques on the work of the body, breathing, and intelligence. Just a few of them: the technique of William Forsythe, Jose Limon, Susan Klein, Merce Kannringham, release based techniques - a technique based on the release, the author of which is Joan Skinner, flying low, the founder of it - David Zambrano and others. However, in general, it can be said that the technique of contemporaries is based on a harmonious synthesis of circuit techniques (yoga, aikido, qigong, etc.) and classical western dance. You may get the impression that there is a great diversity of forms of movement in contemporaries. This is often the case, but still it is possible to distinguish the basic movements of this direction, the principles of work with the body and the principles of the movement: D breathing and its connection to the movement; harmonious body work (the basis is Alexander's technique, Feldenkrais method, reflexion technique, ideokinesis, Bartenieff's principles); The differentiation of the work of the muscles and the work of the joints; work with the shaft, gravitation, center of gravity; use of inertia; work with the environment and time.

Contemporary dance differs from other trends of modern dance due to the respect for the inner feelings of the dancer, to the nature of the movement of the dancer, to his interaction with the space, partner, time. In today's world, contemporary dance engaged not only professional dancers. Let us look in more detail release-based techniques, techniques based on release (release, in English - dismissal). The author of this technique, Joan Skinner, tested the positive effect of the principles of movement and positioning after a back injury and created her own Skinner Releasing Technique in the 1960s. “Releasing” technique of Skinner integrates spheres such as dance, improvisation, music, literature, meditation, and all to create an atmosphere and conditions of rich awareness in which the body learns a natural, ecological flow.

It is necessary to point out that at first the Skinners’ technique was created as one that allows for optimal body control, balance, strength and plasticity balance. Joan believes that her technique can be used for therapeutic purposes in different areas: sports, psychotherapy, rehabilitation, vocal training and others. There are four main objectives of the Skinner method: luggage regulation of the skeletal system, establishment of luggage balance, autonomy of body parts during movement, economical movement, movement with minimum effort and energy expenditure. The lesson on relieves technology includes work in pairs and self-study. It can be both purely investigative and dancing, but with an emphasis on minimum force and ecological flow. The lesson can be conducted both with and without music. Quite often, this technique is used in the classroom in partner gymnastics. It gives the opportunity to: go into their own intrinsic world, to relieve stress after exhausting exercise, to give their plastic hands - the naturalness and harmony, to feel the rhythm not only under the music, but also without it, the rhythm of their own bodies, their own spiritual sensations.

Let us look at the peculiarities of the acquisition of jazz dance in the training of future teachers of choreographic arts in the aspect of using during the teaching of musical material.

Classical composers can perform jazz-modern dance to fast-paced and slow rhythms of modern music, as well as works. Selection of musical material is entirely dependent on the objectives of the practical exercise and its construction. We note that the practical training, especially jazz-modern dance is divided into four parts: 1) Excersis at the fulcrum (students perform different movements while standing at the stick and holding on to it with one hand); 2) Excersis in the middle of the bay (students perform the same and other movements); 3) Allegro: flicks, wraps; 4) Etudes - based on the moves being studied.

For the playback, rhythmic music of a swinging character is used with a musical size of 2/4, but full music in 4/4 is also possible. For “Isolation” fit a quick, rhythmic music with a clear accent. The main thing in the musical material – a simple melody and constant rhythm, not complicated by modulations or rhythmic figures. It is possible to use only percussion instruments. “Excersis for spine” are performed under the music of 4/4 or 3/4. Sizes that are more complex are possible, but then the combinations have to be “non-square”. For “Cros. Moving in space” the choice of music depends on the task and the requested combinations. Afro jazz dance pieces should be performed with percussion instruments, and the rhythm of the musical accompaniment depends on the type of piece.

When studying combinations at the initial stage, the musical accompaniment should be with a simple melodic melody and a steady rhythm. Later it is possible to use more complicated music of different styles, such as pop music, jazz music, symphonic-jazz, rock music, fragments from musicals and movies. In practical exercises on jazz dance students, determine the musical size of the combination of moves dance style, which is studied, the tempo of the execution of moves, the main rhythmic manner of moves. Practical activities, especially with jazz-modern dance is composed of a whole range of different maneuvers (plie, battements tendus, ronds de jambé pas terre, battements fondues, adagio, grand battemint jetes, wraps, stripes, etc.), They are arranged in order of gradually increasing complexity, repeated a dozen times for a better development of performance technique, performed with the appropriate musical accompaniment. In this aspect, important is the question of the suitability of the right combination or the fixed musical fragment. Some educators clearly select the pieces, fix them, and choose the appropriate musical material for each one. Others are improvising in the selection of the rules depending on the musical accompaniment, which is played by the principle of “non-stop”. Both in the first and second cases, the musical material must correspond to the section of the lesson, and the combinations must be chosen depending on the objectives and tasks set by the teacher.

5 Discussion

It should be noted that every piece of choreographic art always contains a certain idea expressed in choreographic form. Without this there is not and cannot be any dance art. The dramaturgy of meaningful dance is one of the best forms of choreographer's activity, especially in jazz dance. Most of scientist in their publications focuses on the knowledge about the structure and functions of the human body, information about which will ensure or, at least, minimize possible injuries during the performance of various types of activities. Haas (2018) in his work “The Anatomy of Dance” considers the game as a base for

each training session and suggests considering exercises that involve several parts of the body at once. In the work “Jazz Dance. History. Methodology. Practice” Nikitin (2016), one of the leading teachers of Russian famous choreography, considers warming up as an important part of the lesson of jazz modern dance. We present our own view of the analyzed problem in the aspect of taking into account the technical features of performing various styles of jazz dance and the selection of musical material during the teaching of jazz dance in the professional training of future choreographers.

6 Conclusion

Thus, it should be stated that in the genesis of jazz choreographic culture jazz dance, having passed the way from folk, everyday life to the stage and theater dance, gradually became an individual strain of contemporary choreographic art with its characteristic features of style and composition. In the XX century, jazz dance has become popular and widely used in theaters and cinema, in show programs, video clips, art installations. A characteristic feature of jazz dance is the tendency to synthesize the arts. This is reflected in the theatrical and speciesism, which are based on the universal property of visibility; position of the music and choreographic text with independence in the improvisation, independence, or, at a minimum, equal rights to the musical range and choreographic steps. It did not catch the form of dance. It is constantly evolving, changing under the influence of various factors: ethnic, religious, environmental, geopolitical. Interestingly, the fact that a large number of choreographic groups perform jazz dance, using the stylistic features of costume of the late XIX - early XX century, there is combined jazz dance and fashion, features of design trends of the past and present. Thanks to the diversity of styles, jazz dance becomes an excellent means of self-expression. In particular, the jazz-modern is characterized by such basic principles as the withdrawal from canons, the integration of new themes and stories original dance-plastic means. In Afro-Jazz is very important to feel the rhythm, thus requiring the full commitment of the performer, competence and ability to improvise, because Afro-Jazz is a multiethnic dance, free of harsh canons. Contemporary dance differs from other strains of modern dance respect for the internal feelings of the dancer, to the nature of the movement of the dancer, to his interaction with the space, partner, time. Not only professional dancers practice this style of jazz dance. Broadway jazz preserving the basic rises of jazz performance techniques has comedy elements and techniques of stylization. To the street jazz dance includes a large number of elements of different styles of street dance. Jazz-funk dance (funk-jazz) is a mix of elements of “classical” hip-hop, waacking, jazz dance with alternating smooth and extremely sharp, intermittent movements. This style is characterized by vitality, mannerism, emotionality, bold manner and emotionality, the ability to improvise. Folk-jazz dance provides many new opportunities for choreographers in the use of compositional flukes, shots, transitions, choreographic vocabulary, dance combinations of folk dance move in combination with the principles of jazz dance (improvisation, polirimetry, center). Choreographic basis of blues-jazz dance is the maximum adherence to the style of musical blues, dance moves are performed in the style of retro-blues. Lyrical jazz dance is controversial with the ballet, because it combines many technical elements of classical ballet with the freedom, flexibility, diversity of aspects of jazz, contemporaneous and modern dance.

In our opinion, the most important features of teaching jazz dance during the professional training of future choreographers is to take into account the technical features of playing a variety of different styles of jazz dance, the selection of musical material, etc.

The scientific and practical significance of the results of the study is to identify the peculiarities of teaching jazz dance, which can be used in the educational training of future teachers of choreographic arts.

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Primary Paper Section: A

Secondary Paper Section: AM

TECHNIQUES FOR THE CORRECTION OF LANGUAGE DISORDERS AMONG CHILDREN WITH PSYCHO-PHYSICAL DEVELOPMENT PECULIARITIES

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Abstract: The relevance of the research suggests the need to find out professional ways to help children with features of psychophysical development in the correction of speech. The purpose of this research is to investigate the grounds for the correction of speech development disorders of children with features of psychophysical development and to provide methodological recommendations on the ways of their correction. The practical significance of the study was the presentation of the links between the grounds for elimination and the ways of correction of speech disorders of children with psychophysical developmental peculiarities.

Keywords: Correction of Disorders, Complexity of Communication, Methods of Speech Disorders Correction, Psychophysical Development, Speech Development.

1 Introduction

The education industry is now developing a broad paradigm of inclusive work as different social and biological bases become determinant in the birth of children with special educational needs. The problems of inclusion of such children may be different, but according to the world educational-scientific community, the greatest attention should be paid to the communicative abilities of such children.

The development of children with psychophysical features is rather slow compared to normal children. Children with special needs have their own developmental strengths and weaknesses, which affects their social interaction. The first manifestation of this interaction is the communicative ability to respond to external stimuli. On this basis, children with special needs may need more time to develop speech. Teachers who deal with such students need to clearly distinguish the grounds for speech correction in accordance with the medical and educational conclusion.

Therefore, on this basis we understand the importance and need to clarify professional ways of helping children with special needs to correct speech in order to ensure the provision of quality educational services.

2 Literature Review

The communication with people is one of the first and main obstacles for children with autism; it is a basic need in them to be vigilant about belonging speech education. Moreover, effective language instruction is important for the proper development of special children's language skills, inadequate comprehension, inadequate classroom environments, lack of awareness, and insufficient language training have created a great challenge for teachers when teaching language to children with special needs. The research has also shown that special instruction, a well-designed classroom, regular speech therapy, and changing attitudes minimize challenges and make language instruction more effective (Yesmin et al., 2020; Shrawankar, 2021; Stewart, 2010; Syabryuk, 2018). Padurean (2014) believes that teachers can teach and remediate the speech of children with special needs at the same time as other children, although they are sometimes reluctant to teach children with special educational needs in general education.

Reading comprehension with a focus on the cognitive skills and processes that are involved in text comprehension are especially useful for children with intellectual disabilities (Randi et al., 2010). Chen's (2021) research combines knowledge of linguistics, a study of the innate embodied interactions of autistic individuals, and a mixed-methodology approach to the problem. Clinically, autism is characterized by difficulties in social communication and frequent, intense production of rhythmic motor movement (stimulation). The dominance of spoken language in everyday social interaction can exclude these children from active social participants.

When understanding children with special needs or children outside, it is necessary to understand the types of disabilities (children with special needs) and the consequences that occur for them, including in the communication dimension (Hande et al., 2020). Maxmudjonovna (2020) describes in detail the specifics of speech correction of children with intellectual disabilities. In addition, special attention is paid to the organization of remedial education of children with intellectual disabilities in cooperation with special preschool institutions and families of children with intellectual disabilities. Kozhushko et al. (2018) confirm the connection between cortical mechanisms of speech disorders and other mental processes caused by perinatal CNS disorders.

Digital support technologies for children on the autism spectrum often offer predetermined content for modeling, communicating, and learning. However, children may not relate to the content, and it may not align with their own interests and motivations. Wilson et al. (2018) explore the use of MyWord, an interest-based, child-driven technology, as a research probe. This audio-visual dictionary app supports a child to create their own personalized catalog of favorite words, images, and audio over time. Vocabulary creation including personal choice processes, representation of own interests and interests, and dynamic activities and play. The use of personal and contextually relevant words enhances interaction and self-expression. Yarychev (2020) examines the specifics of remedial and developmental work on the formation of communicative skills in children with intellectual disabilities (Kyunghwa, 2021). Children with intellectual disabilities are characterized by a lack of need to establish relationships with other people. Important verbal methods of teaching in lessons, storytelling, conversation, explanation, work with printed texts. They are all directly relevant to the speech development of students with intellectual disabilities. Stengel (2008) studied the links between speech and schizophrenic disorders.

According to Ager et al. (2021), spouses where a person abuses alcohol have children with an increased propensity for psychophysiological disorders accompanied by speech delay. Thus, the issue of correction of speech development disorders in children with features of psychophysical development inevitably entailed educational-medical and linguistic research. The aim of the study was to investigate the grounds for the correction of speech development disorders in children with psychophysical development and provide guidelines for ways to correct them.

3 Materials and research methods

The methodological background is based on sociological and statistical methods. The first group of methods, among which the sociological survey was selected, and the second group, among which the ranking method was selected, allowed to reveal the components of the method of correction of speech development disorders of children with psychophysical developmental peculiarities by type: with hearing impairments (deaf, deaf-blind, with reduced hearing) with visual impairments (blind, blinded, with reduced vision) with intellectual disorders (mentally retarded, with mental retardation); with speech disorders; with musculoskeletal disorders; with a complex structure of disorders

(mentally retarded blind or deaf; deaf-blind and others); with emotional-volitional disorders and children with autism.

The study was conducted among 180 educators (Ukraine) (random sampling from sending emails to registered users of professional inclusive platforms) using Google-forms platform, who work with education applicants with various speech development disorders that require pedagogical correction. Respondents, based on their own experience, answered various types of questions in order to establish the grounds for the correction of speech disorders and effective techniques tested in pedagogical activities.

5 Results

The first question asked to reveal the grounds for the correction of speech development of children with hearing impairments (deaf, deaf-blind, hearing-impaired). The main among a number of proposed respondents chose: imperfect hearing function (56%), poor assimilation of word meaning (78%); insufficient vocabulary (90%); poor understanding of speech (100%); lack of phonemic ideas (39%); underdevelopment of the grammar side of speech development (49%); lack of syntactic links of words (45%); specific improper rhythmic-intonation formulation of speech (98%). The results are presented in Fig. 1.

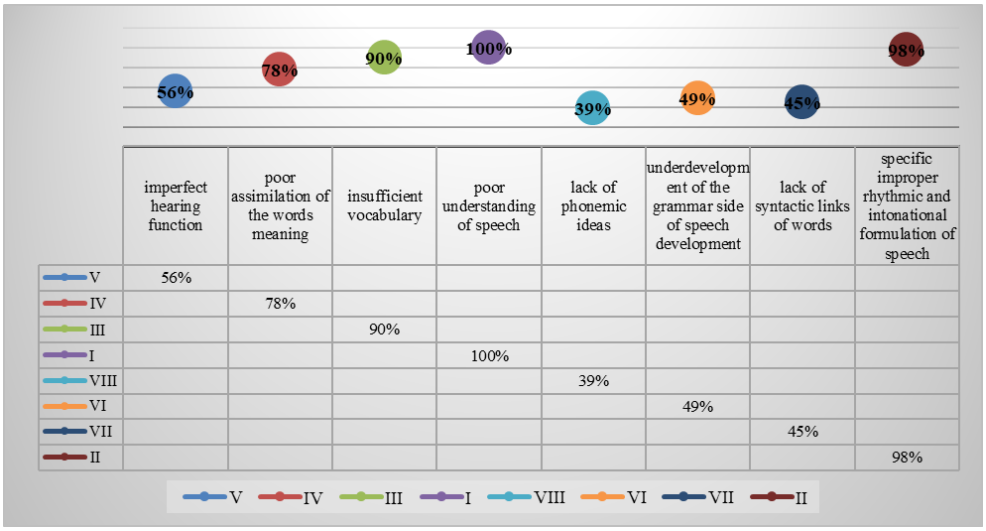

Figure 1 – The reasons for correcting speech development disorders for children with hearing disorder

The second question suggested revealing the grounds for correction of speech development disorders of children with visual impairments (blind, blinded, with reduced vision). Among the main grounds were highlighted: inability to independently construct monological statements due to lack of visual pattern (100%); inability to express thoughts and feelings meaningfully, stylistically accurately and intonationally expressively (52%); inability to retell what they read or heard (48%); underdevelopment of the planning function of speech (69%); underdevelopment of speech formation (89%); weakened compensatory meaning of broadcasting (100%); delayed processes of forming and analyzing observation (100%); dysgraphia, dyslexia (100%). The results are presented in Fig. 2.

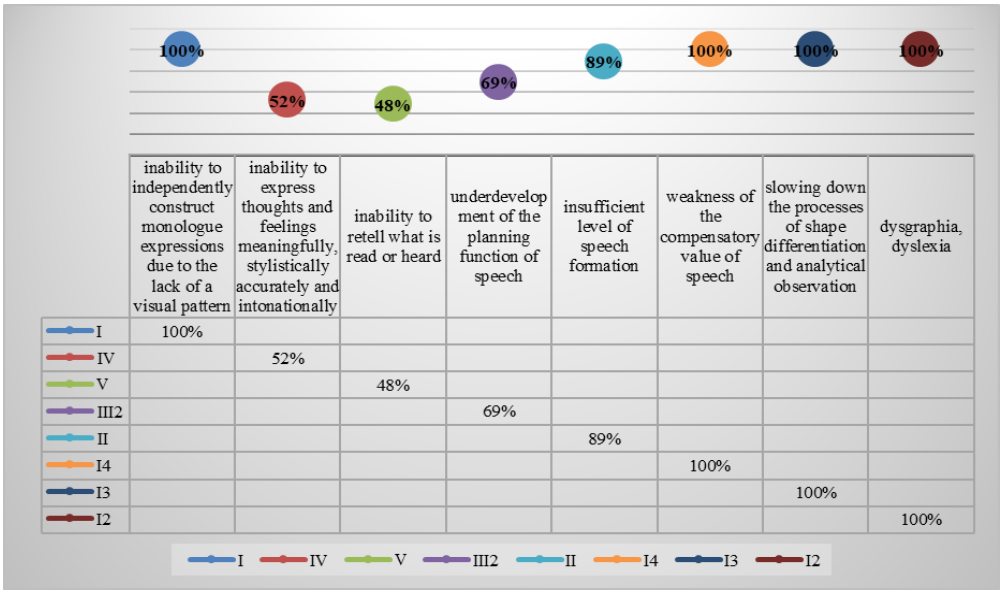

Figure 2 – The reasons for correcting speech development disorders for children with visual disorders

The third question asked to reveal the grounds for correction of speech development disorders of children with intellectual disabilities (mentally retarded, with mental retardation). Among the main grounds were violation of vocalization (87%); violations of the tempo and fluency of speech (59%); violations of sound production (36%); violation of intonation (17%).

The fourth question asked to reveal the grounds for correction of speech disorders in children with pure speech disorders. Among the most typical diagnoses identified were aphasia (77%), dysarthria (81%), rhinolalia (42%), and stuttering (98%).

The next question suggested revealing the grounds for correction of speech development disorders of children with musculoskeletal disorders. Among the main grounds were characterized by insufficiency of integrative activity of the speech-motor analyzer (58%); poor development of understanding of addressed speech (79%); activation of own speech activity (95%); formation of all forms of nonverbal communication (99%).

The sixth question suggested revealing the grounds for correction of speech development disorders of children with a complex structure of disorders (mentally retarded blind or deaf; deaf-blind, etc.). Among the main grounds were identified difficulties in speech communication (89%), social infantilism (54%), unformed social and domestic competence (38%), disorders of emotional development (41%), behavior disorders (39%), unclear ideas about the behavior system (46%), general mental development disorders, screaming, breakdowns (98%). The results are presented in Fig. 3.

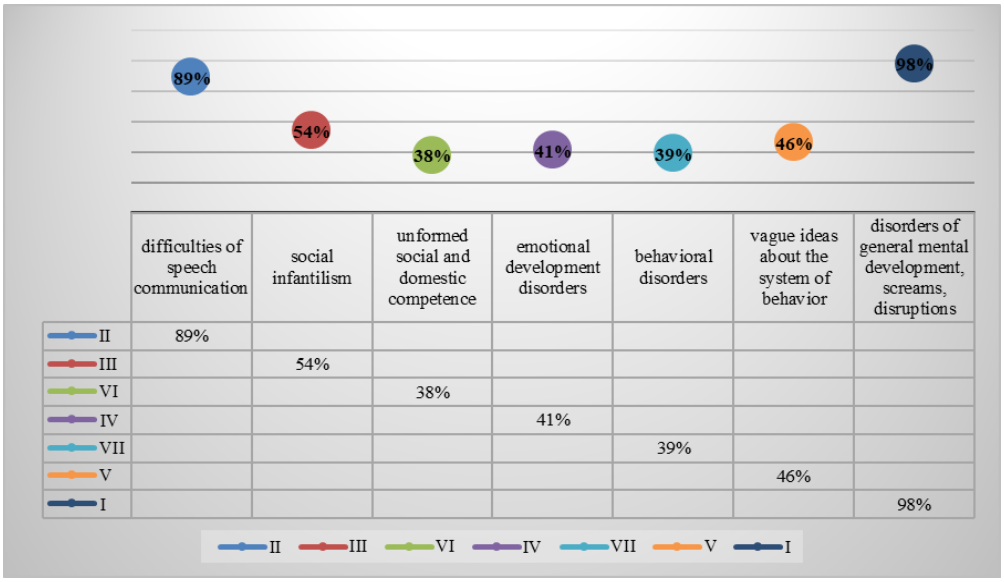

Figure 3 – The reasons for correcting speech development disorders for children with a complex structure of disorders
MSS – maximum segment size

The seventh question suggested revealing the grounds for correcting speech development disorders in children with emotional-volitional disorders and children with autism. Among the main grounds were difficulty in forming skills to recognize the emotions of others and their own (93%); difficulty in expressing their experiences and feelings (97%); and difficulty in expressing praise and accepting it (43%).

The condition of the last question (conclusion for the recommendation) concerned the comparison of the grounds for correction and world methods of correction of disorders of speech development, which teachers use in their work. The results were distributed as follows (scale translation used). Eight out of ten respondents believe that for children with hearing impairments it is necessary to use object recognition in visual instruction. Six out of ten educators are convinced that for children with visual impairments, fairy-tale therapy can be used to correct speech. Seven out of ten participants recommend Co-Design Beyond Words techniques for working with children with intellectual disabilities. All educators tend to believe that correcting pure speech impairments will be successful with the use of speech digital therapy, fairy-tale therapy. Half of the respondents suggest the use of insect therapy, specialized automatic toys to work with movement disorders. 1/3 of educators address the complex structure of impairments with the help of 4-D model of images. Listeners with emotional-volitional disturbances and children with autism, according to nine out of ten respondents, should participate in automatic remediation sessions. The results are shown in Fig. 4.

6 Discussion

In the study, respondents indicated that Co-Design Beyond Words (CDBW) is an effective method in working with children with autism spectrum disorders. Chen (2021) as an approach that combines existing Co-Design methods with child-centered and interest-based speech therapy methods also points it out. Researchers emphasize the rich details that can be conveyed in the moment, recognizing instances such as joint attention, turn and imitation. There is a co-created playful prototype, TangiBall, that uses three iterative phases of CDBW; the foundation phase (preparing for interaction), the interaction phase (designing and reflecting in the moment), and the display phase (reflecting on the action). In this way, children experience elements of interaction, micro instances of design in which they can communicate meanings beyond words, for their actions, interactions, and focuses of attention. These moments of interaction provide insight into design, shape the direction of design, and manifest unique strengths, interests, and abilities.

In global speech correction practice, Terbeh & Zrigui (2018) also suggest the use of sound automatic corrections as a game to help children understand incorrectly adopted phonemes for speech correction. Therefore, the authors Krasovskaya & Spiridonchenko (2020) believe that the use of fairy tale material in speech correction classes for children with general underdevelopment significantly increases the level of development of cohesion of the statement of preschool children and forms the idea of the basic principles of construction of the statement. Ukrainian inclusive teachers noted the validity of these assertions in their responses.

Kristanto et al.'s (2019) novel and little-studied attempt (2019) to develop a program to help educate children with mental disabilities through object recognition in visual learning. The app would have built-in features such as voicing the name of an object would help children with mental disorders know and remember how it is pronounced. Almost all smart-technology families, according to respondents, can afford such apps now. The effectiveness of such programs is confirmed not only by Ukrainian teachers, but also by parents of children with SEN (special educational needs), see Fig. 4.

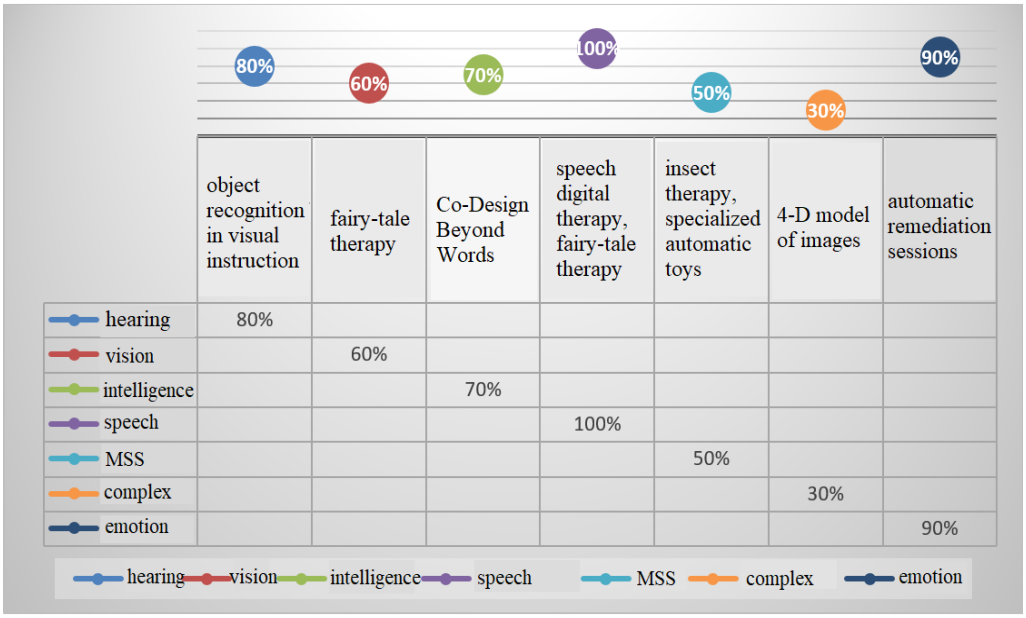

Figure 4 – Techniques for speech disorders correcting

According to our respondents, quite successful, but little researched is the involvement of insect therapy, considered by Young-Soon et al. (2016). Children who participated in this program demonstrated significant improvement in their emotional health and began to use insect names in their speech to explain certain processes.

Some researchers make attempts to analyze the effectiveness of the traditional procedure of diagnosing the speech development of elementary school children with autism spectrum disorder using the content of speech diagnosis, the timing of its implementation, diagnostic techniques (Seroshtanova et al., 2021). According to Ahsin et al. (2019), speech therapy is an alternative to overcoming the problem of speech disorders. One educational innovation that can be implemented is the creation of speech therapy tools for children with special needs (digital cards, alphabet cards, body part cards, daily activity cards, place sequence cards, daily activity order sequences, and puppets). These techniques are now widely used by educators in Ukraine. Azhari et al, 2020 propose to implement speech correction using a 4-D model consisting of four phases; defining, designing, developing and disseminating the methodology and the results of its implementation. Ukrainian educators are becoming familiar with such programs in online access, so they are also applying them in their work.

An absolute novelty for the respondents is the proposal of Salgado et al, (2020) recommending the introduction of a special toy that can produce sound and visual sensations (reaction, memory game and multi-player game) in the speech correction methodology. It is also an important tool for therapists, as all play plays are tracked and recorded in a database to be filtered and presented using statistical methodologies.

7 Conclusion

Based on the conducted sociological survey, we understand that in order to correct speech development disorders in children with different psychophysical features, it is necessary to adhere to a comprehensive, systematic method of assistance. Thus, the study offers an analysis of the summary result and presents the recommended ways of correcting speech development disorders in children with different psychophysical features (see Table 1).

Table 1: Ways to correct speech development disorders for children with psychophysical development peculiarities

Violation	Recommended ways of interaction	Recommended ways to fix it
With hearing disabilities (deaf, deaf-blind, hearing deficiency).	Visual, tactile	object recognition in visual training
With visual impairments (blind, blinded, visually impaired)	Tactile, kinesthetic	fairy-tale therapy
With intellectual disabilities (mentally retarded, with mental retardation)	Visual, tactile, mechanical	Co-Design Beyond Words
With speech disorders	Audial	speech digital therapy, fairy-tale therapy
With disorders of the musculoskeletal system;	Visual, tactile, mechanical, audial	insect therapy, specialized automatic toys
With a complex structure of disorders	Comprehensive (selective)	4-D model images

(the mentally retarded who are blind or deaf; the deaf-blind, etc.)		
With emotional-volitional disorders and children with autism.	According to medical recommendations	automatic corrections

So, on the basis of the research carried out, it can be argued that a set of interrelated ways of helping children to correct speech based on various psychophysical features is a comprehensive implementation of the child's right to inclusive education.

An important direction for further scientific research will be an attempt to detail the systematic features of work with each individual disability.

The practical value of the study was to present the links between the grounds for elimination and methods of correction of speech disorders of children with psychophysical developmental peculiarities.

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Primary Paper Section: A

Secondary Paper Section: FG

ECONOMIC SECURITY OF THE COUNTRY FOR STABLE DEVELOPMENT

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Abstract: The slowdown in EU economic growth leads to the search for ways to ensure security in the economic sphere, in particular through a strategic partnership with world leaders. The aim of this article was to identify the state of economic security of EU countries in the context of stable development. The research methodology is based on the correlation and factor analysis of the factors that determine the state of economic security based on the system of indicators of stable development of the EU countries for 2011-2020. The results show a slowdown in economic growth in the EU in 2011-2020, in particular the systemic nature of the crisis. The factor analysis suggests that long-term unemployment, changes in export and import indices best explain the variation in EU GDP growth.

Keywords: Economic Security, EU Security, GDP Growth, Stable Development, Strategic Partnership.

1 Introduction

The stable development of the EU and economic security are linked by the stability of economic growth as a key indicator that characterizes these concepts. The slowdown in EU economic growth for a number of reasons, especially in 2011-2020, leads to the search for ways to ensure security in the economic sphere, in particular through strategic partnerships with world leaders: China, USA, Japan and countries with significant reserves of raw materials and human capital (Moldova, Ukraine, and Georgia). Among the reasons for the slowdown: population aging, industrialization and as a consequence of the reduction of the share of the agricultural sector in GDP, the need to import raw materials for production, the growing share of services. To solve these problems, the EU is steadily establishing partnerships and enjoys the relative competitive advantages of other countries: China to attract resources (including financial during the crisis) and use human potential through the financing of manufacturing enterprises, developing countries, to attract raw materials for production. Instead, EU countries provide a number of advantages to strategic partners due to the highly developed technology sector and services, which poses a number of economic security risks (for example, joint ventures between European and Chinese companies require the provision of all information on technology and development, which leads to transfer technology and innovation in China). Some of the reasons for the disengagement are: an aging population, industrialization and, as a result, a declining share of the agricultural sector in GDP, the need for imports of raw materials for manufacturing, and an increasing share of the services sector. To solve these problems, the EU steadily builds partnerships and takes advantage of significant competitive advantages of other countries: China to gain resources (including financial resources during the crisis) and use the human potential through the financing of manufacturing enterprises, the countries that are developing, to gain raw materials for production. In fact, EU countries offer a number of advantages to strategic partners due to a highly developed technological sector and the services sector, which entails a number of risks in the field of economic security (for example, joint ventures between European and Chinese companies require all information about technology and development, which leads to the transfer of technology and innovations to China). Despite the EU countries' search for partners to ensure stable economic growth and the emergence of a number of security risks, it is relevant to study the experience of countries in the context of ensuring economic security and old growth.

The aim of this article is to identify the state of economic security of EU countries in the context of stable development. The main objectives of the study are:

- Identifying the dynamics of the level of economic security through the assessment of annual GDP growth in the EU.
- Identification of the dynamics of EU economic security factors and their impact on the security situation in the region.
- Discussion of relations of EU countries with other countries in the context of economic security.

2 Literature review

The economic security means a set of economic ties to ensure stable economic growth, economic independence of the country, and a strong position in the world trade market provided military security and security of the country (Gryshova et al., 2020). According to the European Commission's definition, economic security is the long-term ability to protect a country's relative well-being by accessing resources and productive capacity, protecting the market and maintaining macroeconomic stability (Casarini, 2006). This definition directly indicates the three main indicators of economic security: the stability of economic growth, output growth, trade.

The economic security and resilience are the biggest challenges in the world, especially in times of crisis. In the scientific literature, there are many theories of achieving sustainability and economic security, which are characterized by different levels of utopianism due to the lack of economic basis (Wysokińska-Senkus & Raczkowski, 2013). The economic security in general determines the stable economic development and the state of protection of the country from internal and external threats (Smirnov et al., 2019). Gryshova et al. (2020) propose to assess the level of economic security based on indicators of annual GDP growth, inflation. In the scientific literature, there are no comprehensive studies of EU economic security in the context of stable development for the last 2011-2020. Research focuses on the EU's economic security and ways to achieve it through partnerships with world leaders or developing countries through resource mobilization. In addition, individual EU economies are often become the objects of the research.

3 Materials and research methods

The article proposes a study of the economic security of EU countries using a system of indicators in the context of stable development goals, which are identified based on the most socially dangerous threats to economic security.

The main threats to the EU's economic security are:

- within Sustainable Development Goals (SDG) 2 "Zero hunger" – sustainability of agricultural development in connection with the reduction of agricultural production in the EU through industrialization, which is estimated based on the dynamics of the Index of the real income of factors in agriculture per annual work unit (Index = 2010) in the EU for 2011-2020 (Eurostat, 2021);
- within SDG 8 "Decent work and economic growth" – the sustainability of economic development due to the slow growth of growth development product (GDP), especially after the crisis of 2008 (measured by GDP annual growth (%) (World Bank, 2021); Gross domestic product at market prices and current prices, euro per capita); Total population national concept, percentage change on previous period; real labor productivity per person, Index, 2015 = 100; Total

long-term unemployment from 15 to 74 years, percentage of unemployment and percentage of population in the labor force (Eurostat, 2021);

- the position of EU countries in the world trade market, measured by indicators: Share of national imports, national exports in world imports (all products, %); Trade balance in million ECU/EURO (Total – all products); Export unit value index (2015 = 100, all products); Import unit value index (2015 = 100, all products) (Eurostat, 2021).

The correlation analysis based on Spearman's correlation coefficient was used to determine the directions of the relationship between economic security indicators with a significance level of 5%. To determine the structure of economic security, a factor analysis was conducted in order to group the factors (indicators) of the greatest impact on the security of EU countries. The Principal Component Analysis (PCA) was used for the first stage of factor analysis, which involves the separation of key factors into a separate group (Schneeweiss & Mathes, 1995). Based on the coefficient of variation, the priority of groups of factors in explaining changes in economic security is determined. The statistical method of Varimax rotation (Kaiser, 1958) was used to explain the relationship between factors. For correlation and factor analysis, the average values of these indicators for the period 2011-2020 for 28 EU countries were used.

4 Results

The problem of stable development in the EU is related to ensuring stable GDP growth, the rate of which has been steadily accelerating since 2000 (see Fig. 1). Despite the fact that the pace of economic growth was the most sporadic in 2011-2020, this period will be analyzed in order to identify the state of economic security in the context of the old growth. During the period 1971-1981, the average annual GDP growth rate was 3.11%; during the period 1981-1991 – 2.36%; during the period 1991-2001 - 2.22%; during the period 2001-2011 – 1.43%; during the period 2011-2020 - 0.72%. Therefore, ensuring the stability of economic growth can be considered as one of the threats to economic security, which encourages the EU authorities to find solutions to reduce insecurity, including dependence on imports from other countries through deficit of production. The speed of economic development is associated primarily with a decrease in real labor productivity: for the period 2011 - 2020, the index was 99.9 on average. The next factor contributing to a reduction in the pace of economic growth is the aging of the population within the EU, namely through widespread population growth: the average value of the population changes over 2011-2020 was 0.2%. Among the threats to national security is the problem of long-term unemployment: the indicator was 43.4% for 2011-2020 among the population aged 15-74 years out of the total number of unemployed and 4% of the labor force.

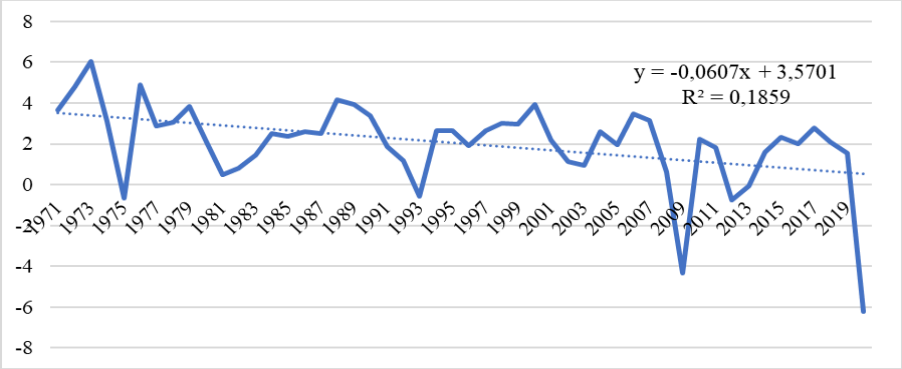

Figure 1 – GDP annual growth in the EU, 1971-2020%
Source: World Bank (2021)

Table 1 shows the results of the correlation analysis of economic security indicators of the EU. The average GDP growth rate in the EU is linearly related to the long-term unemployment rate: a correlation coefficient of -0.44 indicates the reversibility of the relationship between variables. In addition, a low degree of inverse linear relationship was found between GDP growth over the last 2011-2020 and changes in exports and imports in the EU (Table 1).

This means that these factors can have a negative impact on economic security and be a threat to stable economic growth.

Table 1: The correlation analysis of EU economic security indicators

Indicators	Average GDP	Index of real income of factors in agriculture	Total population,%	Real labor productivity	Total long-term unemployment	Export unit value index	Import unit value index
Average GDP annual growth,%	1.00	0.20	0.21	-0.03	-0.44	-0.30	-0.25
Index of real income of factors in agriculture per annual work unit	0.20	1.00	-0.52	0.28	0.15	0.07	-0.01
Total population national concept, percentage change on previous period	0.21	-0.52	1.00	-0.70	-0.40	-0.24	-0.22
Real labor productivity per person, Index, 2015 = 100	-0.03	0.28	-0.70	1.00	-0.16	0.18	0.09
Total long-term unemployment from 15 to 74 years, percentage of population in the labor force	-0.44	0.15	-0.40	-0.16	1.00	0.54	0.52
Export unit value index (2015 = 100, all products)	-0.30	0.07	-0.24	0.18	0.54	1.00	0.72
Import unit value index (2015 = 100, all products) (Eurostat, 2021)	-0.25	-0.01	-0.22	0.09	0.52	0.72	1.00

Source: calculated by the author based on Eurostat (2021a-f), World Bank (2021).

Statistics show that the share of national imports in world imports of EU products averaged 15.3%, down from 16.9% in 2011 to 15.4% in 2019. The share of national exports in the global exports of EU countries averaged 15.6% in 2011-2019, growing from 15.5% in 2011 to 15.9% in 2019. In 2011-2012, the trade balance of the EU countries was € -174,950 million and € -112,738 million, in 2013-2017 the trade balance was positive (the average was € 38,598 million), in 2018 and 2019 the indicator was € -26,202 million and € -20,899 million respectively. At the same time, the negative trade balance between the EU and the US averaged € -702,703 million in 2011-2020, Japan averaged € -23,216 million, and India averaged € -118,524 million. However, the EU countries had a positive trade balance with China – an average of € 314,368 million. It is also worth noting the inverse linear relationship between the index of real income factors in the agricultural sector per capita and population change (-0.52), population change and real labor productivity per person (-0.7), population change and long-term unemployment (-0.4). A direct linear relationship was found between long-term unemployment and the index of exports and imports (0.54 and 0.52) (Fig.2.).

The graph of distances between factors makes it possible to clearly identify the most important factors influencing economic security. The point where the continuous fall of the eigenvalues slows down (for example, number 3) means that after the level of other eigenvalues reflects only random “noise”. In the graph below, this point may correspond to factor 3, after which the eigenvalue of factor 4 is much smaller and after factor 4 there is again a sharp drop in the eigenvalues of the factors. The graph clearly demonstrates the existence of two groups of factors of economic security.

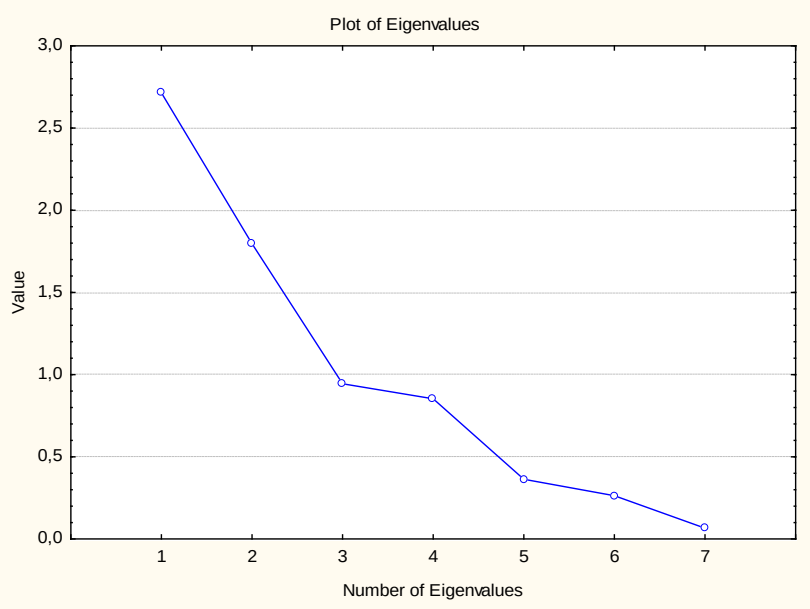

Figure 2 – The plot of Eigen Values (Graph of distances between factors)
Source: calculated by the author based on Eurostat (2021a-f), World Bank (2021).

In Table 2, the groups of factors correspond to columns, and variables - rows, for each factor indicates the load of each source variable, which shows the relative magnitude of the projection of the variable on the factor coordinate axis. The factor loads can be interpreted as correlations between the corresponding variables and factors - the higher the load, the greater the proximity of the factor to the initial variable; that is, the correlation represents the most important information for the interpretation of the obtained factors. The selection of factors group and factors within the groups occurred in such a way that the variation of each factor was smaller, i.e. less explained the change in economic security.

Table 2: The results of factor analysis by the method of Varimax raw. Extraction: Principal components

Indicators	Factor 1	Factor 2
Average GDP annual growth,%	-0.615954	0.074353
Index of real income of factors in agriculture per annual work unit	-0.074476	0,729767
Total population national concept, percentage change on previous period	-0.285835	-0.884096
Real labor productivity per person, Index, 2015 = 100	-0.025955	0.819964
Total long-term unemployment from 15 to 74 years, percentage of population in the labor force	0.820279	0.091376
Export unit value index (2015 = 100, all products)	0,821640	0.155212
Import unit value index (2015 = 100, all products) (Eurostat, 2021)	0.815020	0.081880
Expl. Var	2.479528	2,031201
Prp. Totl	0.354218	0.290172

Note: Marked loadings are>, 700000 Source: calculated by the author based on Eurostat (2021a-f), World Bank (2021)

The factor analysis shows that the first group of factors of economic security of the EU should include the level of long-term unemployment of the population aged 15-74, export and import indices, which explain 35.42% of changes in the security of EU countries. The second group of factors includes indices of real income of agricultural production factors per unit of labor per year, population change and real labor productivity per capita, which generally explain 29.01% of the variation in economic security.

5 Discussion

To ensure economic security, the EU pursues an active international policy of establishing a strategic partnership. For example, the EU cooperates with Japan in the field of economic

security based on Economic Partnership Agreement (EPA) and Strategic Partnership Agreement (SPA), the EU Japan Partnership on Sustainable Connectivity and Quality Infrastructure to ensure high standards of economic stability (Kirchner & Dorussen, 2021). The EU's strategic partner is China: countries are increasing the potential for trade cooperation, which has contributed to increased trade between countries, China's exports of information and communication products from EU countries, EU exports of raw materials, food (Casarini, 2006; Dorussen & Christiansen, 2018). At the same time, there is constant competition between the EU and China due to the desire to gain leadership in the international arena (Geeraerts, 2019).

As the economic crisis in the EU in 2008 significantly affected the level of economic security, which was reflected in the slowdown in economic growth, China acted as a financial partner (Jensen & Tatham, 2017). In particular, several euro area Member States, namely Greece, Portugal, Ireland and Spain, have faced serious difficulties in repaying or refinancing their public debt or repurchasing their debt instruments without the assistance of third parties. At that critical juncture, it was to be hoped that China, with its large foreign reserves, would invest more in resolving the Eurozone crisis (De Ville & Vermeiren, 2016). During the Grexit crisis in 2012, European Council President Herman Van Rompuy and European Commission President José Manuel Barroso visited Beijing to encourage China to help resolve the EU's financial crisis.

Today, China is the world's second largest economy and it is playing an increasingly influential role in world politics. Economic relations between the EU and China are no exception, especially at a time when the EU needs to accelerate economic growth and overcome the threat of high unemployment. The experts disagree that China's growing economic power has become a political force for the EU. During the economic downturn, the EU became more accommodating to China in the economic sphere due to the need to finance the region's economies. These are manifestations of mercantilism, which indicate China's use of economic force and the reduction of the EU's level of economic security. EU trade policy processes point to economic cooperation with China to attract resources, including financial resources through technology transfer and innovation. China also, in line with mercantilist logic, tried to use the crisis situation to put pressure on the EU and member states to change policy and secure their own leadership. Looking at the level of economic security of the EU member states, one can observe a division into north south, which contradicts the expectations of concessions of less economically developed countries to the interests of China. On the contrary, the position of member states depends on whether they have a protectionist or liberal trade position, and on their vulnerability to Chinese competition. The number of visits to Europe and meetings with heads of state and government has increased since the crisis began. However, a closer look reveals some evidence to support the fact that China has successfully encouraged some economically dependent and/or smaller member states not to meet. Although China has tried to use its economic power to make political concessions, it has had limited success. Despite China's attempts to use its own economic power in the context of cooperation with the EU, the partner's attempts were unsuccessful (Wu & Jensen, 2017).

The EU's economic integration with Ukraine, Moldova and Georgia also aims to increase security (Ene, 2018). In Ukraine, taking into account the current state and trends of socio-economic development, increasing the volume of budget financing is problematic (Stehnei, Irtysheva, and Gurina, 2018). At the national level, the fight against corruption and the fight against the shadow economy are also elements of the EU's economic security (Otajonovich, 2021).

6 Conclusion

The EU's economic security is characterized by a number of shocks, as evidenced by a slowdown in GDP growth: the average annual rate of GDP growth was 0.72% in 2011-2020. The slowdown in the pace of economic development is due to a decrease in real labor productivity, the aging of the population within the EU, in particular through the growth of the population, and long-term unemployment. A low level of the bell-like linear dependence is seen between the growth rates of GDP over the past 2011-2020 years and the change of exports and imports in the EU countries. A positive linear relationship was revealed between the index of real income factors in the agricultural sector per person and the change in the number of population (-0.52), the change in the population and real labor productivity per person (-0.7), the change in the population and long-term unemployment (-0.4). A direct linear relationship was observed between long-term unemployment and the index of exports and imports (0.54 and 0.52). Factor analysis allowed us to identify two key groups of economic security factors. The first group of factors of economic security of the EU countries includes a level of long-term unemployment of the population aged 15-74 years and indices of exports and imports, which account for 35.42% of changes in the security of the EU countries. The second group of factors includes indices of real income of agricultural production factors per work unit per year, change in the population number and real labor productivity per person, which altogether explain 29.01% of the variation of economic security.

Further research should focus on the specifics of the EU's strategic partnership to ensure economic security with world leaders compared to developing countries, to assess the benefits of cooperation and possible challenges.

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PROBLEMS OF HUMANITARIAN DISCOURSE IN MODERN PHILOSOPHIES

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Abstract. The urgency of intelligence involves understanding the importance of the concept of modern philosophy of science and the problems of humanitarian discourse in terms of their internal correlation, also focused on social problems. On this basis, modern philosophy of science and the problems of humanitarian discourse require detailed study, as they describe a comprehensive view of the nature of scientific knowledge, the development of which created our current civilization and had a huge impact on the formation of modern culture. The article identifies the components of modern philosophy of science (historical and philosophical section, ontology, philosophical anthropology, epistemology (theory of knowledge) and social philosophy).

Keywords: Humanitarian Discourse, Mode of Scientific Cognition, Philosophy of Science, Problems of Cognition.

1 Introduction

The challenges of modernity have led to the importance of understanding the process of neglecting the problems of the humanities. Shifting the focus of philosophical interest in science) in the twentieth century led to the fact that at the end of the century, humanitarian discourse, which partly did without philosophical reflection on “truth and method”, began to have a powerful reverse effect, “displacing” the philosophy of science from discursive space. Against the background of impressive advances in the humanities, the emergence of interdisciplinary fields of knowledge that seek to comprehensively study intelligence, cognition, language, and many new methodological programs that would prove their heuristics and effectiveness, epistemological invective philosophy of science began to seem either hopelessly outdated or obsolete, uninteresting and original.

Therefore, firstly, epistemology was obstructed as a rudiment of the fundamentalist claims of the philosophy of science. In addition, the lack of significant constructivist projects (in postmodern terms) within the philosophy of science itself has significantly undermined its authority and called into question.

On this basis, it must be understood that in terms of correlation with the system of philosophical knowledge, the guidelines and problems of humanitarian discourse set worldviews, quite clearly representing (respectively the internal structure of the worldview) the most general ontological characteristics of reality, axiological, epistemological and praxiological principles. They do not include the whole system of philosophical knowledge, where, along with worldviews and principles contains a number of specific information, quite obviously related to the subject of specific scientific disciplines. These worldviews and principles can be distinguished in their connection with the main sections of philosophical knowledge, which in accordance with its dominant structure include historical and philosophical section, ontology, philosophical anthropology, epistemology (theory of knowledge) and social philosophy.

This problem should be especially relevant in the content of each of these sections. There are thematic lines that connect their issues with the problems of philosophy of science at the ideological level. In the first section, it is primarily the interaction of science with philosophy and other forms of spiritual development of reality in the general context of the process of formation and evolution of the subject of philosophy. In the second – issues related to understanding the processes of development in inanimate and animate nature, the emergence of life. In the third – an idea of the ontological and anthropological foundations of the genesis of consciousness and the formation of human cognitive abilities, in particular, in connection with the anthropic principle. In the fourth – the general prerequisites and opportunities, ways and forms of cognition, the relationship of knowledge to the cognizable reality and the criteria of its reliability, substantiation of the special epistemological status of science. In the fifth – the influence of forms of social organization of people on the dynamics of science, justification of its social value, a holistic system of ideas about the social existence of science.

The need to identify the content of the connection between modern philosophy of science and the problems of humanitarian discourse that arise in its spheres needs continuous improvement in order to identify concepts of scientific development.

On this basis, it is necessary to identify the key concepts of the proposed links in the philosophy of science.

2 Literature review

Philosophy of science is a universal, informative mode (Bunge, 2017). Philosophy of science today is an inclusive academic field and one of the most dynamic branches of philosophy. However, for the most part, the philosophy of science has been taught historically by retelling and tracking discussions from the beginning to the end of the twentieth century. Large texts of positivism, instrumentalism, delimitation, falsification, paradigm shifts, realism, observation, etc. are distributed to students and evaluated critically. There is something quite mysterious in this way of teaching the philosophy of science, as modern philosophy of science has advanced significantly and certainly differs from the historical theme, just as modern science has many features different from the science of Kuhn and Popper (MacLeod, 2015).

The branch of philosophy consists of direct and indirect discourses. In the first case, the best way to express discourse is a deductive, definite argument. In the second case, there are three ways of expression: reduction to the absurd, inductive logic and abductive logic (Boylan, 2018). The philosophy of education is between the discourses and problems of philosophy, on the one hand, and education itself, on the other. Preservation of authority in both areas poses certain dilemmas to the philosophy of education. Three ways to minimize these dilemmas are proposed: the development of non-ideal theories, the philosophy of education as a situational practice, and the use of case-based methods (Burbules, 2018).

The philosophy of education contributes to the formation of educational policy. However, education policymakers need to recognize the extent to which the content and context of their work is saturated with philosophical assumptions, concepts, beliefs, values, and commitments. In the absence of this understanding, the process of shaping educational policy based on the philosophy of education can have a negative result (McLaughlin, 2021). Modern humanitarian discourse comprehends the universal status of rights and freedoms in such a way that it distinguishes the universal human identity associated with it in the international social dimension. Applying a post-structuralist approach to the analysis of political practice, the author demonstrates that modern humanism, claiming universalist status, nevertheless contributes to building communities of “friends” and “enemies”. It is this contradiction that allows the use of humanitarian discourse in the practice of securitization, as well as the legitimization of violence and emergency measures (Iokhim, 2019).

In some scientific works, the authors analyze philosophical views on the phenomenon of education from the standpoint of social and personal components. Analysis of the interdependence

of the ideological basis of education and the state of social development highlights the problems of the globalization of humanity, and in some cases – the danger of stagnation of human development (Lepeshev, 2019). According to scientists (Martin, 2021), all learning is indoctrination, and education makes an undeniable contribution to human capital.

Today, the newly independent states of the former Soviet Union seek not only political and economic completeness, but also philosophical semantic value. This situation requires a new almost revolutionary philosophy. The past centuries, which dominated almost the planetary analytical philosophy, should give philosophy the advantage of worldview, philosophy of culture, because global world principles from the standpoint of integrity and multipolarity should be based on the worldview and philosophy of all participants in earthly life (Sadykov et al., 2015).

The History of Nature Orientations (NOS) in Science Education notes some differences in the way NOS is defined, the arguments used to substantiate consensus on the diversity of approaches in different subdisciplines of modern philosophy of science, and humanities discourse. Key issues regarding philosophical adequacy different social joints (Hodson, 2014). For the concepts of "modern philosophy of science" and "problems of humanitarian discourse", it is also important to determine the semantic meanings that can be added to some "line" of typical modes (Burlina, Bokuradze, 2020; Molek-Kozakowska, 2018).

They are fully consistent with the understanding of sociological discourses, which allows expanding the design of the discourse of the deepest understanding for the modern philosophy of science. Ethics of scientific discourse is interpreted as a critical theory of society and a critic of modern morality. I. Kant was one of the first to suggest the possibility of generalizing the norms of morality and the perception of ethics as a transcendent critique of morality. Neo-Kantianism develops ethics as the most important part of the philosophical system and fixes its sphere with the idealistic theory of morality (Tetyuev, 2019). The modern program of discourse ethics receives significant justification as the logic of moral argumentation in the social. The ethics of discourse arises from the real need to justify moral requirements and norms. Ethics as a critique of moral arguments is associated with the pre-reflexive horizon of the living world, which is why it is a deontological, formalistic and universal ethics. Two important projects of discourse ethics, presented in the article as an analysis,

The formation of scientific discourse in the context of humanitarian understanding of the problems of social relations systems can actualize the study of theoretical and methodological approaches to the study of crisis situations in modern society (Popov, 2020). The connection between modern philosophy of science and the problem of humanitarian discourse emphasizes the relevance and interdisciplinary essence of this problem, which can be considered in the following contexts:

- attachment to a certain place (locus);
- terrain is at the same time a fragment of the world, space and the whole micro world, which lives by its own laws;
- spatiality and temporality, chronotopicity;
- dynamic and historical;
- anthropological, centered around a person or group of people;
- symbolism (Borodenko, 2021).

The central principle of modern philosophy is the discussion between two opposing camps, which are united in adopting a deeper false premise: the inconsistency and simultaneous similarity of concepts of modern philosophy of science and problems of humanitarian discourse (Harman, 2020; Vardin, Sigachev, 2019).
Over the past three decades, humanitarianism has expanded significantly. Humanitarian aid agencies are increasingly going beyond the traditionally narrow concerns. Humanitarian arguments have also become central to legitimizing policy in a number of contexts outside the humanitarian aid sector. It is the different time registers of the two discourses - development and the humanities - that help explain this transition from the first to the second (Molland, 2018). Critical studies of humanitarian discourses include the study of arguments, assertions, and evidence used to justify interference or non-interference in key local, regional, national, or international contexts. These discourses can take the form of controversy (Hasian, 2021). The purpose of the study is to identify the content of the connection between modern philosophy of science and the problems of humanitarian discourse that arise in its fields.

Research tasks:

- consider the relationship between the concepts of "philosophy of science" and "problems of humanitarian discourse";
- mark a number current characteristics of modern philosophy of science (historical and philosophical section, ontology, philosophical anthropology, epistemology (theory of knowledge) and social philosophy) in the context of humanitarian discourse can be distinguished;
- identify areas relevant concepts of development of philosophy of science.

3 Materials and research methods

The methodological basis of the study consists of the following methods:

- scientific (closely related to the classical problem of demarcation of the philosophy of science and with the philosophical analysis of the social dimension of scientific knowledge and the role of science in society);
- comparative analysis (shows that the philosophical understanding of the nature of scientific knowledge (philosophy of science) is formed on the basis of certain preconditions of worldview, ontological, epistemological, axiological, praxiological and methodological order);
- system of categorical schematism (categorical schematism can be analyzed at different levels of abstraction. Correlations of the nature of culture and mode of production can be described in terms of nonlinearity, the theory of self-organization. Science in general is understood in the culture of manufactured world based on the value of innovation, which, like culture itself, are phenomena of the world of formation. Features of scientific knowledge are understood based on structural characteristics of human activity. subject world, based on the means of activity and appropriate actions and projects through the formation of objective scientific knowledge about the material world of our experience);
- discourse analysis (showing the concept of philosophy of science hermeneutic, its thinking archetypal, and research methodologically and problem-oriented).

4 Results

Philosophy of science (as well as philosophy of history, philosophy of art, philosophy of language or something) is the self-consciousness of the general subject in a special sphere of its self-realization. This area - scientific knowledge (as for the philosophy of history - historical events, for the philosophy of art - art and others). Hence the clear division between science and philosophy of science: the first carries out cognitive activity in special cultural and historical forms, the second acts as a philosophical reflection of this activity.

Philosophy of science in its own way answers the basic question of philosophy in its specific form: it considers the conditions, content and forms of human freedom in the field of scientific knowledge.

The reference to the scientific method is used to argue the scientific nature and special status of the analyzed relationships.

Philosophical positions that defend a simple and unique scientific method as a criterion for demarcation, arguing that the internal hierarchy of discipline (in our version - the philosophy of education) and the field of knowledge (humanitarian discourse).

The results of the comparative analysis confirmed that today it is expedient to study the specific philosophical beginnings of the concepts and problems of the philosophy of science. Based on the analysis of classical and modern approaches, the concepts of philosophy of science are formed; the necessary but indirect connection of the objectivity of human activity with the conditions of the possibility of knowledge formation is shown: the objectivity of activity determines the objectivity of knowledge and knowledge, including scientific knowledge. The system of categorical schematism allowed describing the results of the analysis of some of the most relevant concepts of philosophy of science (historical-philosophical section, ontology, philosophical anthropology, epistemology (theory of knowledge) and social philosophy) through the prism of humanitarian discourse. Development of the philosophy of science, its critique, as well as other concepts of development, considered in terms of their prospects for solving social and humanitarian problems of development.

Discourse analysis shows that interpretations of modern philosophy of science are rooted in a number of autonomous philosophical and epistemological foundations, which set certain prospects for research in the use of certain methodological resources. Among these grounds are cognitive communication, ideology, discursive practices, the dominance of a certain power, and others. In addition to the concept of sustainable development, it is recommended to consider the concept of developmental stress, the concept of environmentally oriented development, which involves both reducing excessive consumption and environmental sustainability, as well as the idea of development without economic growth in history and philosophy, ontology, anthropology, epistemology and social philosophy. A promising alternative to traditional approaches is the innovative concept of responsible development, which is based on the choice of priorities on moral and ethical motivation, a culture of dialogue and a caring attitude to nature.

The deepest problems of the philosophy of science arise in the imposition of dynamic effects in all these areas. This is most often represented as a reaction to events occurring in one or more aspects of science.

According to the aspect approach, among the actual characteristics of modern philosophy of science (historical-philosophical section, ontology, philosophical anthropology, epistemology (theory of knowledge) and social philosophy) in the context of humanitarian discourse can be distinguished:

- characteristics of the representation, structural organization, reliability and completeness (in particular, overcoming disciplined one-sidedness) of knowledge in the first of them (science as a system of knowledge);
- characteristics of the special epistemological status of science, instrumental dimension and rational goal-setting in the second aspect (science as a specific activity);
- characteristics of the social status of science and the mechanisms of its connection with the contact spheres and systems of society - in the third (science as a social institution);
- characteristics associated with the general direction of technical and technological development of society, in particular, the innovation complex, and the social consequences of these processes - in the fourth (science as a productive force);
- characteristics of the possibility of science in the spiritual development of reality - in the fifth (science as a form of social consciousness).

However, despite the fact that the current way of fragmentation of the problem field of philosophy of science from the point of view of humanitarian discourse is informative, it, however, does not indicate the accentuated priority problem aspects.

5 Discussion

Reasonable acquaintance with the philosophical content, skills and attitudes can contribute to the fact that society will receive new knowledge. Recently, however, philosophy and other basic courses have lost their status in many educators` training programs – philosophy courses are often accused of not being important, unnecessarily obscured, or simply an old-fashioned decorative addition to culture. This criticism can be refuted by discussing many important issues that philosophy can bring to human development. However, some works (Couló, 2018) do not focus on the philosophical content taught, but on the way this content is explained (how it is taught). Such different approaches to teaching philosophy should be discussed so that they aim to address the problems of humanitarian discourse and suggest several ways in which a philosophy course can be geared towards becoming a more meaningful experience for acquiring knowledge.

Consideration of the methodological problem of modern scientific humanitarian discourse in Ukraine (Bolotova et al., 2020) is based on the relationship between the concepts of “Ukrainian philosophy” / “philosophy in Ukraine”. Despite the fact that the issue of “Ukrainian philosophy” / “philosophy in Ukraine” is in some way stated and resolved even at the level of philosophy textbooks, it still remains open. Regarding the search for criteria for inclusion of a certain phenomenon in Ukrainian philosophy, it should certainly be continued, taking into account the principle of correlation of a number of criteria that will assess a certain philosophical phenomenon in educational contexts and problems of humanitarian discourse (Grabovska, 2020).

The relationship between the two fields (scientific education and philosophy of education) needs to be established so that philosophy can better contribute to the improvement of the scientific program, teaching and learning. It must be acknowledged that philosophy has for some time been an area of limited and disparate interest of researchers in scientific education, but philosophy of education is little studied and remains an underdeveloped area. To help bring science education closer to the figure of educational philosophy and to theorize the historical development of science, education and philosophy of education, it is necessary to identify their common roots, interests and problems. To do this, scientists (Schulz, 2014) propose the outlines of a new philosophy of science education (as the integration of three academic fields). Such integration can suggest future directions and possible contributions to reforms (scientific literacy, educational goals, educational theory, pedagogical knowledge, science teacher and curriculum epistemology).

The interest of researchers in identifying and studying the codes of interrelation of modern philosophy of science and problems of humanitarian discourse and the lack of their final list determine the need to analyze the main approaches to interpreting the concept of “cultural code” in a number of humanities, identify their common and distinctive features. Defining the code of culture in semiotics, which considers culture as a sign system, helps to analyze some definitions of this concept and its classification in order to consider it in the context of cultural linguistics and ethnolinguistics. The multidimensionality and functional mobility of this conditional concept is determined precisely by the relationship between modern philosophy of science and the problems of humanitarian discourse, as the main characteristics of the cultural code are communicative capabilities, the ability to capture and convey meaning and values in a concentrated form (Izotova, 2021).

The current problem of understanding these connections, directly related to the development of modern society, which is the formation of humanitarian discourse in science in the XXI century, makes it clear that globalization is a catalyst for

communication processes in modern philosophy of science and problems of human discourse. Today in the humanities there is a question about the prospects for the development of globalization. In the modern era, due to the acceleration of technological progress, based on the formation of global information networks, the space for dialogue between peoples and cultures is expanding. This allows us to conclude about the increasing role and importance of the humanities in modern society. The humanities are designed to study and predict the course of general trends in society and man. The social sciences and humanities decide to find ways out of the crisis of civilization. The results are based on the principles of historicism; methods of systematic and structural-functional analysis show the development of the humanities and, under its influence, the main trends in education, are the key to further successful development of science and society (Shapovalova, 2020).

It is also necessary to focus on multidisciplinary studies of socio-technological development of the world and life as one of the main factors of contradictory course of human life processes and the emergence of the most acute problems of human existence (Dergachev, Trifankov, 2019) in the context of paradigms of modern philosophy of science and humanities. Another key concept of understanding the problem is humanitarian logistics, which allows performing response and recovery phases of the risk management cycle, and its effectiveness depends on strategies developed in the preparedness phase (Kundak et al., 2017; Storey, 2019).

6 Conclusion

However, not all of the above means that the philosophy of science should distance itself from the humanities, focusing on solving their internal problems. Today, the philosophy of science is experiencing the strongest influence from the now humanities, in contrast to the crisis that was associated with the emergence and spread of positivist ideas in the middle of the XIX century. This is due to their significant success in not only the field of purely scientific research, but also in efforts to form new paradigmatic foundations, the synthesis of pre-scientific, non-scientific and scientific forms of knowledge. Therefore, the search for a place in the space between the “philosophy of science and the humanities” will inevitably be associated with an in-depth analysis of the foundations of modern humanities knowledge. Moreover, the internal development of modern philosophical plots leads to the need to solve the above problems. In our opinion, the boundaries of the space of philosophical discourse are those key problems, the development of which takes place from different angles and directions and the solution of which requires a comprehensive concerted effort. Every work in the philosophy of science must be guided in detail by the concept of the fundamental determinant. The parallel development of the philosophy of science and the humanities, gradually converging, led to a junction at those points (or at those borders) that require joint efforts, joint intellectual work.

An important area of further research is the development of concepts for the development of these characteristics. The practical significance of the study was to determine the areas of application of aspects of discourse in the philosophy of science.

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Primary Paper Section: A

Secondary Paper Section: AA

TOURISM INDUSTRY IN THE EUROPEAN UNION COUNTRIES

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Abstract: The article is devoted to studying the peculiarities of tourism development in the context of globalization. The aim of the research is to show the peculiarities of tourism development in the context of real threats and problems of globalization on the example of the EU. In the course of the study, the significance of tourism for the economy of the countries was analyzed. In particular, after 2020, tourism has reduced the share of formation of growth development product (GDP) by almost twice. According to the results of the study of tourist flows, it was determined that they were directed to the developed countries, which today are characterized by a significant level of morbidity, which prevents a rapid recovery of the tourism industry. Thus, the tourism market in Europe will be aimed at providing a healthy and environmentally friendly service.

Keywords: Pandemic, COVID-19, Tourism, EU, Globalization

1 Introduction

Relevance of the research. The world economy is considered one of the foundations of the functioning of modern society. It is a system of various economic, scientific, technical, production, monetary and financial interrelations of different states' economies, based on the international division of labor and resources. In the modern economical literature, trends in the development of the world economy are increasingly correlated with such a concept as "globalization" (Trunina et al., 2020). Due to the globalization of the world economy, tourism is reoriented to the external market; thus, there is a spread of tourist flows in the territory of one country and around the world. As a result, the share of tourism services in the world's total exports was more than 5.5% in 2020, although the figure in 2019 was 10.4% (WTTC, 2020).

If we examine the issue on the example of tourism of European countries, the situation has its peculiarities. Firstly, European countries are characterized by a rather high level of development, and the main tourist and financial flows come from the highly developed European countries. It creates and fixes specific standards of tourism characterized by the high quality of service, complexity of services, and high prices. But the specifics of tourism in European countries will be significantly changed in the post-pandemic period. At the same time, researchers and scientists do not know precisely what direction tourism will develop but can only assume the directions and features of tourism development according to the current situation in the level of COVID-19 spread. The issue of uncertainty in the development of the tourism industry in Europe increases the relevance of the research. It allows us to study the possible factors affecting tourism development and predict the possible directions of tourism development that meet the current situation.

2 Literature review

The issue of tourism development in the context of globalization is quite well researched at the scientific level. A large number of publications are devoted to the influence of tourism on the economic development of countries. The issue is quite relevant in the context of European countries since some of them a characterized by a 20% share of tourism in GDP during the period before the crisis. Stabler et al. (2010) conducted a study on how diversification of the tourism industry has contributed to its rapid growth and positively impacts the economies of countries in the long term. Indeed, statistics provided by international organizations confirm the rapid development of tourism in Europe in the past ten years. In this case, clearly defined trends in the direction of improving service and environmental direction. Such a study was conducted by Govdeli and Tuba (2017), who identified the ecological direction as one of the most relevant. But in 2019, the situation with the direction of tourism development has completely changed, and today it is safe to say that the tourism industry has suffered most from the COVID-19 pandemic. Many studies of tourism development, which were conducted before 2020, become irrelevant because the market conditions have changed completely. If earlier the evolution was aimed at environmental friendliness, today it is aimed at ensuring the health of tourists. Thus, taking into account the analysis of current scientific research and the state of confrontation level COVID-19 by European countries, the study's main purpose can be identified.

The purpose of the research is to show features of the tourism development in the conditions of real threats and problems of globalization on EU example.

3 Materials and research methods

Modern scientific tools of complex analysis, including a variety of economic research methods: historical and logical, abstraction, historical-genetic and statistical analysis, ascending from the abstract to the concrete, graphic interpretation of the identified trends and processes, comparative analysis were used in this study. The method of averages is also used to summarize the information for the whole EU countries.

The information-empirical base of research is presented by the official statistical data of the international organizations, including reports on tourism development in the EU by such organizations as the World Tourism Organization, World Trade Organization, World Travel & Tourism Council; materials of individual studies from different countries, special periodicals, as well as the world information network Internet. The peculiarity of international statistics is that the travel item reflects all expenses of individuals-residents of the country in another country, i.e., both expenses for consumption of services proper and for purchase of goods for personal use or gratuitous transfer to other persons (not for resale). The methodological basis for the classification of forms of international trade in services, one of which is international tourism, is the IMF Balance of Payments and International Investment Position Manual (IMF, 2009). To refer to international tourism as a form of international trade in services, the Guidelines apply the concept of "travel". The purpose of this trip can be not only rest, excursions, acquaintance with foreign sights, participation in entertaining and cultural events, i.e. not only the purposes traditional forms of tourism in resting context.

4 Results

Talking about tourism as a global phenomenon, international tourism (tourism to other countries) accounted for 7.6% of total exports in 2019 (The World Bank, 2019). Overall, in the pre-crisis period, international tourism accounted for about 9% of global GDP and 1/11 of jobs worldwide, confirming its importance in the socio-economic development of member countries of the world tourism market and their regions (UNWTO, 2019). For many European countries, tourism has always been one of the main sources of income due to the favorable natural and climatic conditions in many European countries. If we analyze the economic importance of the tourism

industry in the EU countries, tourism has the biggest impact on the Croatian economy in recent years (10.2% of GDP in 2020 and 24.3% of GDP in 2019) (see Fig. 1).

As of 2020, for the 28 EU countries, the average share of tourism in GDP is 5.07, while the figure was 10.24% in the pre-pandemic period.

Thus, the halving had a negative impact on the development of tourism and the development of related industries and the economy as a whole.

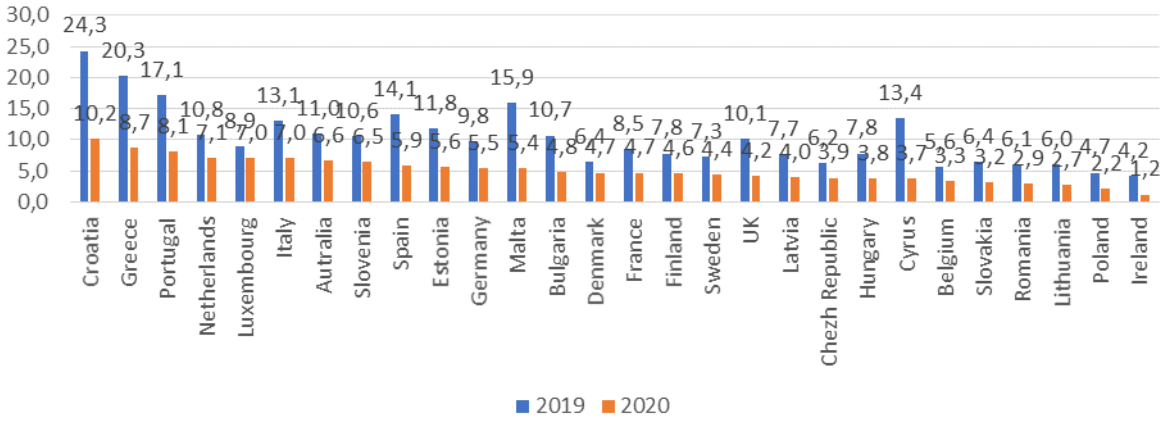

Figure 1 – Share of tourism in Europe's GDP in 2019-2020
Source: Statista, 2020

The main features of tourism in European countries are relative to the level of development of countries; tourists spend different amounts of time in different countries and accordingly spend a different amount of money. If we evaluate the tourism flows of tourists in the pre-crisis period among the European countries, the leader was France, which collected 87 million tourists a year. Spain is not far behind France. In 2019, this country was visited by about 87 million tourists. The top three include Italy, where the annual number of tourists is about 64 million. Germany, Britain, Austria, and Greece have up to 30-40 million tourists a year (see Fig. 2).

But the assessment of tourist flows is not only based on the number of tourists but also on the amount of money that tourists leave in these countries. An interesting fact is that although France is the leader in tourist flows, Spain, France, and the United Kingdom collect the most money (see Fig.3).

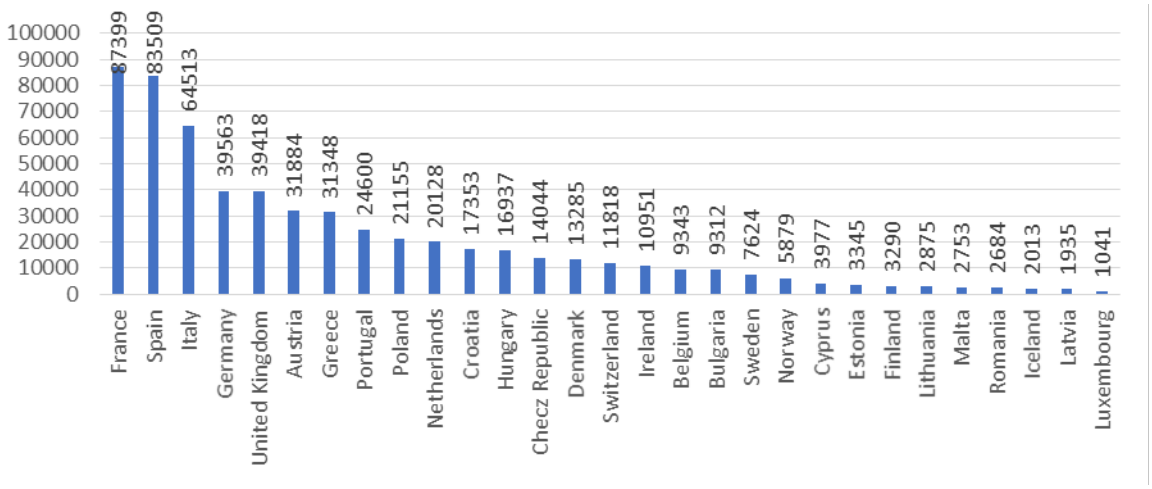

Figure 2 – Distribution of tourist flow by countries of Europe in the pre-crisis period as of 2019, in thousand people
Source: UNWTO, 2019

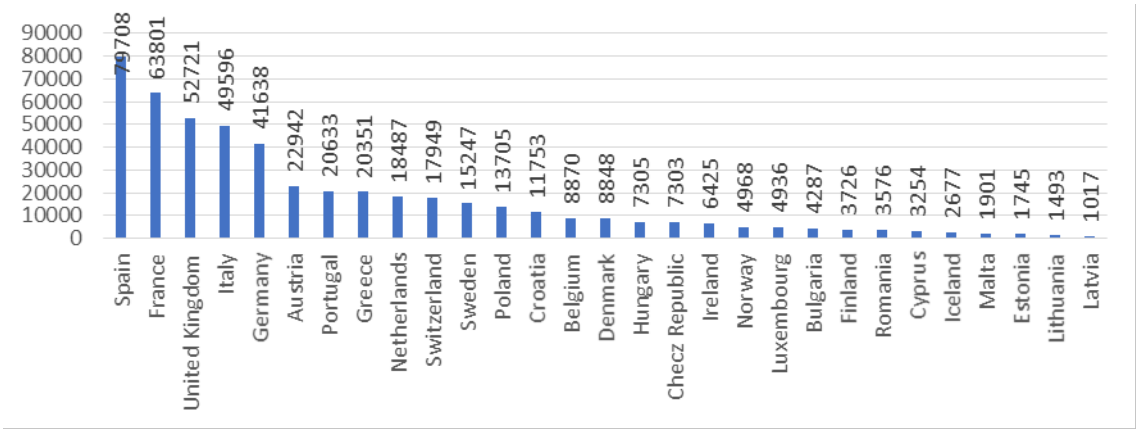

Figure 3 – Distribution of tourist money flow by countries of Europe in the pre-crisis period as of 2019, in million dollars
Source: UNWTO, 2019

Just two years ago, international tourism was characterized globally, becoming one of the leading socio-economic factors of world development. But with the development of economies and technologies, the global tourism market is constantly transforming. Diversification of tourist activity is increasing, new types of tourism and new markets are emerging, which will significantly change the geography of international tourist flows soon.

Today it is entirely possible most international tourist flows may be suspended, and tourists will rest in their own country.
Such development is facilitated by the ratio of accumulated and lost bookings in tourist complexes of different countries. Therefore, in 2021 the trend of home tourism development is observed in Romania, Germany, Poland, Finland, and Switzerland (see Fig 4).

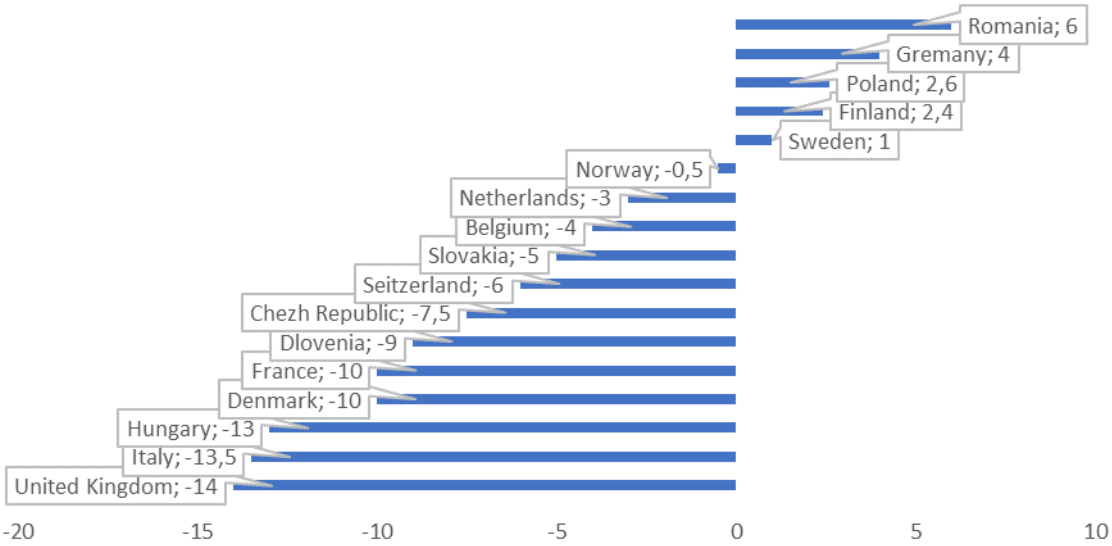

Figure.4 – Countries with the best advantages of domestic tourism in 2021 (ranking based on the ratio of booked and refused trips)
Source: Tourism Economics, 2021

Today, the period of the primacy of global package tours is ending; the market of low-cost transportation and electronic reservation systems is developing; information technology in tourism is rapidly growing to reduce the cost of tourist trips.
In solving the purpose of the research, let us highlight the main features of tourism development in the globalization context.

- Dependence on the level of COVID-19 incidence in the country.
- The dependence of ecological situation in the country, in a particular climate, fires, and other natural factors.
- The reduction of travel costs according to the globalization of tourism service.
- Orientation of the tourist to the domestic market.
- The use of digital technologies in reservations.

The processes of globalization find expression in the international interweaving of private capitals, the strengthening of interconnections between monopolies of different countries, and the broad development of TNCs in the sphere of tourist business. This process, in turn, contributes to the formation and dissemination of international standards of tourist services.

The main players in the European market are Expedia Group, which has 31% of the market, and Booking Holdings, which has 29% (see Fig. 5).

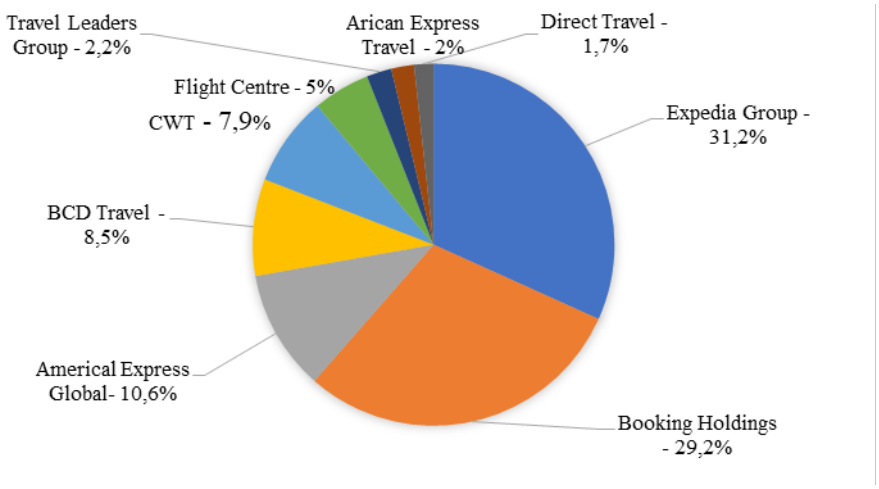

Figure 5 – Distribution of the travel retail market among international companies in 2020
Source: TIPSNE, 2020

The spread of tourist services sales in the international market is promoted by the intensive use of information and computer technologies, the increase in the use of new means of personal communication between users of the Internet. For example, more than half of French people (51%) go directly to hotel websites in France, and 41% make reservations through online agencies. Traditional agency sales account for only 10%. When French people want to book a hotel room, 51% visit the website of the hotel where they want to stay. 41% use online booking platforms for their travel needs. The most famous site is Voyages-sncf.com (71%), the least known is Booking.com (44%). According to surveys conducted, 71% of French people and 88% of hotel owners understand the vital role of booking sites in further developing the French travel industry (Barbaux, 2013). As a result of low-cost advertising campaigns, new operators are entering the digital travel market. They have a great chance of winning new customers and intercepting them from main retailers, which may not have the time to change their sales concepts according to market expectations.

These features of the international tourist services market development, in turn, cause the emergence of many issues. The most important problem in the development of the tourism industry today is its recovery from the pandemic. According to statistics, in 2020, the level of tourism fell to the 1990 level, losing 1 billion tourists (Statista, 2021).

Therefore, let us consider how international tourism is represented in the structure of international trade in services and how its share within the framework of the said trade has changed, using WTO statistics for this purpose (see. Fig.6).

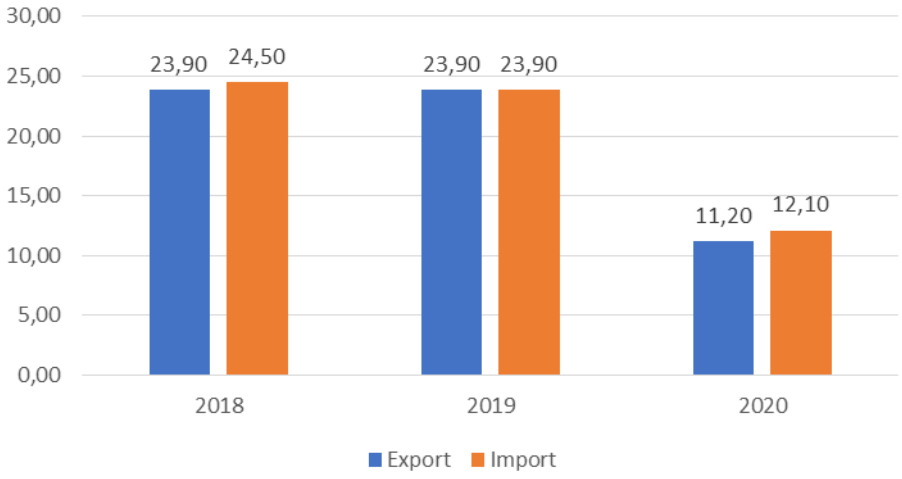

Figure 6 – Volume of international tourism in international trade in services by EU country
Source: WTO, 2021

In one year, the rate of tourism services exports decreased from 23.9% of total services exports to 11.2%. If we talk about imports, the figure fell from 23.9% of total imports in 2019 to 12.1% in 2020. If we talk about the monetary dimension of tourism, the figures for 2020 decreased by more than two times.

Thus, the volume of international exports of tourist services in 2020 was $181 billion, while in 2019, it was $377 billion. The volume of imports in 2020 was $155 billion, while in 2019, the figure was $344.4 billion (see Fig.7).

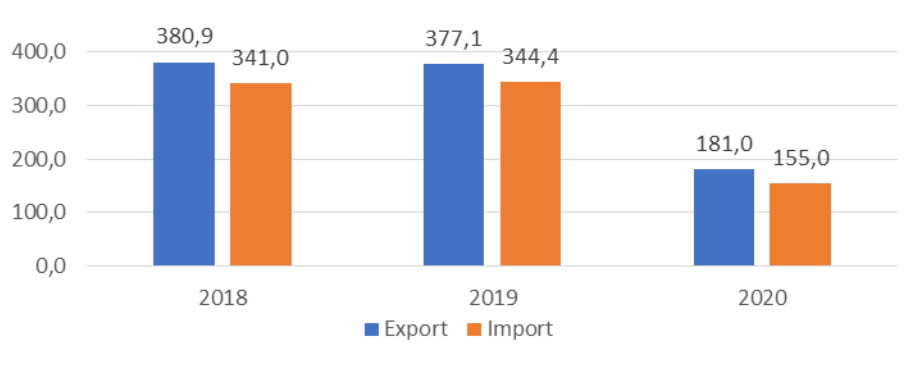

Figure 7 – Volume of international tourism, in billions of dollars by EU countries
Source: WTO, 2021

The decline of coronavirus-related tourism is threatening the economies of many countries. However, according to a UNWTO (2020) survey in Europe, only 1% of the population expects the returning of tourist flows to 2019 levels in 2021; at the same time, 47% expect that tourism will return to 2019 level in 2022. According to Tourism Economics (2021), there will be a 64.8 (inbound tourist flows) and 61.8% (outbound tourist flows) increase in 2021 compared to 2020, and by 2022 there will be a full resumption of 2019 numbers. In 2023, visitor growth is projected at 23.3 percent for inbound tourism flows, and 25.1 percent for outbound tourism flows. Today it is almost impossible to predict the recovery of the tourism sector because, as the data on COVID-19 shows, there are still many new infections in Europe despite the high level of vaccination among the population. To date, the leaders in the incidence of the disease are the United Kingdom, France, and Spain. In other countries, the incidence rate is much lower (see Fig. 7, 8, 9).

Factors influencing the development and resumption of tourism are very multifaceted. The presence of positive factors is the intensity of vaccination of the population in countries, leads to the predominance of individual regions and the country as a whole in world tourism. For example, Malta, Finland, Hungary, and the United Kingdom will finish vaccinating their populations the fastest. Thus, for the most part, vaccinating people in European countries will end in 2021.

5 Discussion

Today, the issue of resumption of the tourism industry is one of quite studied in scientific circles. Many believe that it's necessary to abandon new development methods, which were not used in the pre-crisis period. In particular, it is essential to focus not on increasing the tourist's flows but to ensure their safety.

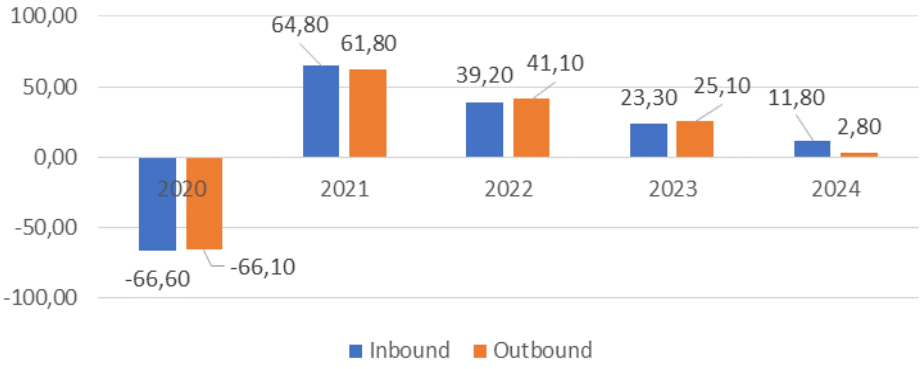

Figure 8 – Projected tourism growth in Europe in 2024
Source: Tourism Economics, 2021

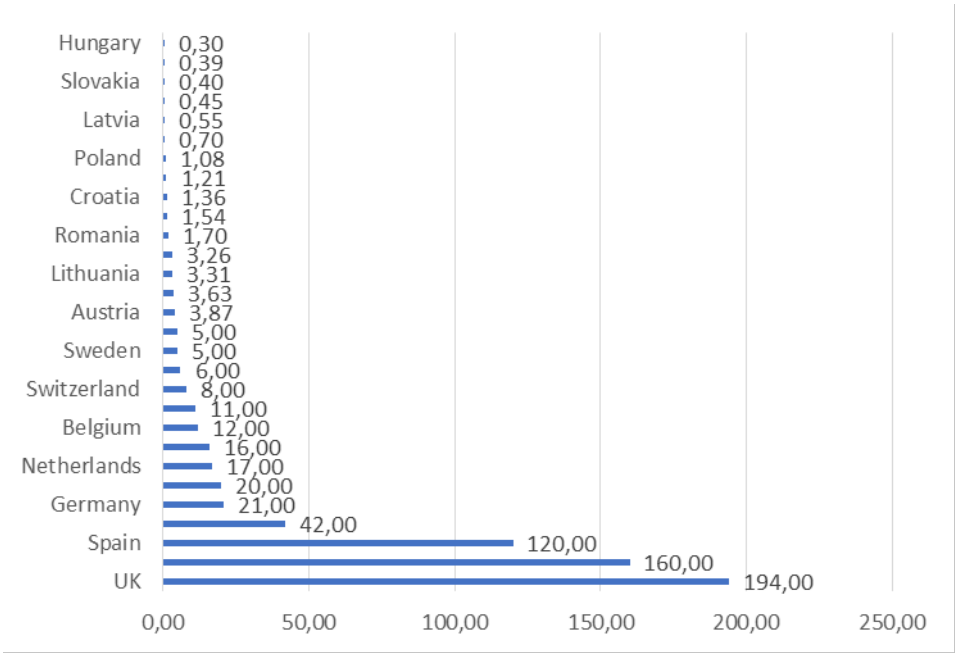

Figure 9 – Incidence rates in European countries in August 2021
Source: Worldometers, 2021

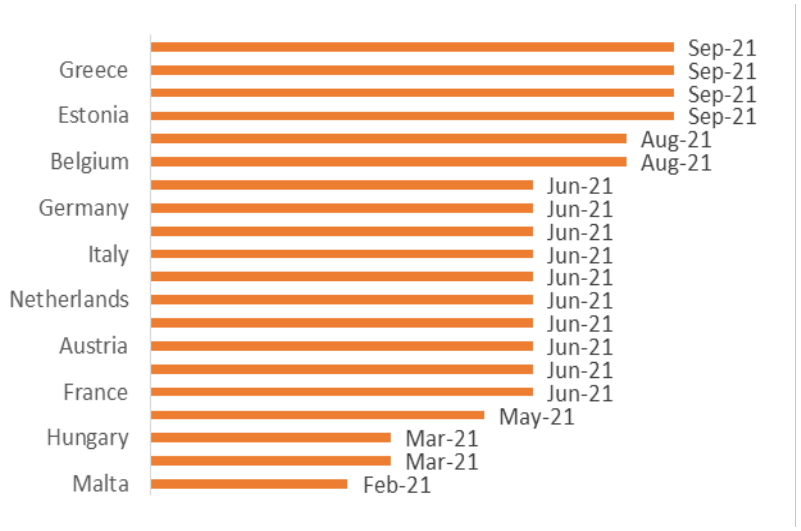

Figure 10 – Vaccination end dates in EU countries
Source: Tourism Economics, 2021

Some researchers believe that in order to renew the industry, it is necessary to apply measures not only on the part of the business but also the state. This is especially important for tourist companies that use raised funds for development and are unable to repay interest during a period of declining tourist numbers. The period of reduced tourist flows should be used to improve service standards and prepare for the resumption of tourist flows (Siby et al., 2021). Other researchers believe that the resumption of the industry must improve by risk management to cope with the recurrence of crises. In this case, some researchers believed that it takes one year to resume tourism, and others that full resumption of the industry will take much longer (Skere et al., 2020). It should be pointed out that for developing countries, the only way to restart the industry is to improve medical care (Ulak, 2020). In most cases, the resumption of tourism in different countries requires a comprehensive approach, which includes both improvements of tourist services and government support for tourism. Today, many researchers believe that the safety and health of humanity are the priority over the development of the tourism industry. Therefore, all funds are directed to the fight against new coronavirus cases in different countries. It is definitely possible to say that vaccination will directly impact tourism development because vaccinated people and people with immunity will be open to tourism services (Sönmez, 2019; Deb & Nafi, 2020; Jamal & Budke, 2020).

6 Conclusion

Tourism is one of the brightest industries that are actively developing under the influence of globalization processes. Today, tourism is not only socially but also economically important. In many countries, this industry forms a significant part of the GDP, which applies to those countries where recreation is not expensive. The main trends of tourism development have completely changed in the post-pandemic period. Whereas until recently, the development of tourism was predicted in the direction of market conquest by multinational companies, which provided comprehensive services, today people choose safe places with small tourist flows and even reorient to domestic markets. Furthermore, the digitalization of

the economy promotes tourism in unpopular countries. It allows for easy planning of tourist trips and efficient allocation of budgets, significantly reducing the cost of tourist services. At the same time, today, the question of the peculiarities of tourism development is quite different. People are focused primarily on health and environmental safety so that the tourism industry will develop in this direction. While France, Spain, and Italy received the main tourist flows earlier, today, as France remains among the countries with the highest number of diseases, the market will be reoriented toward those countries that can guarantee safety for people. Studies show that vaccination of the population is the primary tool for the resumption of tourism in the country. Still, this issue is not scientifically proven, so it acts as a hypothesis, which can only be proved or disproved with time. Tourist flows today are gradually resuming in countries with low levels of disease, so the main part of tourists will be directed to the countries with low levels of disease, including Croatia, Bulgaria, Austria, Norway, Sweden, Portugal.

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Primary Paper Section: A

Secondary Paper Section: AE

THE MAIN ASPECTS OF THE INTERACTION BETWEEN GOVERNMENT, BUSINESS, AND SOCIETY THROUGH THE PRISM OF THE DECENTRALIZATION REFORM

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Abstract: The purpose of the research is to define the concept, which includes the fundamental aspects, tools, methods, stages, and directions of the interaction of authorities, business, and society under conditions of implementation of the decentralization reform. In the course of the research, the general scientific methods of cognition were used, gathered on the survey results from information and the normative-legal support of administrative management were analyzed. The article suggests innovative directions of such interaction realization based on the improvement of information support; building of corresponding institutes; technical support with the use of cloud services, which would provide transparent access to the information to all participants of an interaction.

Keywords: Tripartite Interaction, Decentralization, Territorial Community.

1 Introduction

The world and European experience, in particular, convincingly shows that an effective decentralized system of territorial organization is an integral part of a modern democratic and rule-of-law state. Many countries passed the way of decentralization several decades ago, so most issues on effective territorial-administrative community building are solved for them. As for Ukraine, the low level of organization of the decentralization process and, consequently, of interaction between government, business, and society at the level of local self-government is a legacy of the Soviet command-administrative system of public administration. As a result, political decisions that do not consider the public's point of view are still being implemented in most regions of Ukraine. Also problematic is the issue of conformity of local authorities with the interests, needs, and expectations of members of territorial communities (Levchuk, 2008).

Today, the European Charter of Local Self-Government (1985) is an essential reference point on decentralization and local self-governance reform. Implemented changes provide the principles of subsidiarity, the omnipresence of local self-government, financial independence, wide application of democratic mechanisms. In addition, an important role in the decentralization reform is the establishment of effective interaction between government, business, and communities, which allows the progressive development of territorial communities and the state following the social and cultural characteristics of a particular district. As a result, this interaction makes it possible to solve the pressing problems of the communities and strategically develop the region.

The main problem of the organization of this interaction is the lack of organizational and technical possibilities of communication between the three parties of interaction. The implementation of such a possibility will allow to receive appeals from the population quickly, process them, determine the most pressing needs, and make management decisions that best meet the needs of business and society.

The purpose of the research is to determine the main aspects, tools, models, and directions of interaction between the government, business, and society in the conditions of implementation of decentralization reform on the example of Ukraine, taking into account European experience.

2 Literature review

The interaction of government, business, and communities forms a tripartite partnership, or as it is called, "inter-sectoral tripartite partnership". The issue has become particularly relevant today and is reflected in the works of the world and Ukrainian researchers. The majority of researchers consider the interaction of government, business, and society at the macroeconomic level. As for the regional level or the level of territorial communities formed due to decentralization reforms, such tripartite partnership has not received proper scientific analysis.

In the economic literature, the concept of interaction between government, business, and the public has a multidimensional meaning and is interpreted as "social partnership", "tripartism", "bipartism", "micro" and "mesocorporatism" (Slyusarenko, 2014). Accordingly, there are different approaches to understanding the essence of interaction as a method and mechanism of social and labor relations regulation, solving social and labor relations between employees and employers, solving problems between government and business.

Peregudov, S. (2007) characterizes social partnership as a complex socio-economic phenomenon that occurs between employees and employers with the authorities' involvement. In the "Economic Encyclopedia" the essence of this category is interpreted as "the principles and practice of tripartite consultations in order to developtose agreement of trade unions, entrepreneurs and the state" (Gavrylyshyn, 2020). In foreign literature, the inter-sectoral social partnership is most often interpreted as cooperation between governmental organizations, business corporations, and non-profit organizations, the purpose of which is to achieve sustainable development of the territory. For example, Warner & Sullivan (2004) and Clarke& Fuller (2010) offer the following definition of cross-sector social partnership: "an alliance between parties representing government, business, civil society, in which the resources and abilities of each party are strategically combined. This union is based on the principles of sharing risks, costs and obtaining common benefits". At the same time, in the works of foreign authors, this tripartite interaction is often perceived as a new structure of society, which begins to organize and respond to social problems.

The generalization of the above definitions of the interaction between government, business and society indicates their truncated nature, inconsistency with the global nature of this complex and multidimensional phenomenon. Tripartite partnership goes beyond the social context and covers a whole range of economic, social, ecological, institutional and informational problems at all levels of management. This allows us to consider tripartite partnership as a self-organized institution, normalized at the legislative level and social rules, which solve key problems of citizens' lives and harmonize society's interests, state, and business. Such an understanding of the socio-economic nature of tripartite partnership indicates the multifaceted nature of this phenomenon, the multiplicity and complexity of problems that require consensus in their solution. In addition to the issue of interaction between the authorities, business and society models, the normative-legal documents regulating the issues of decentralized administrative management were studied. The legal regulation of decentralization in Ukraine began with the adoption in 2014 of the Law of Ukraine "On Cooperation of Territorial Communities" (2014). This law defines the basic principles of cooperation and provides the means to stimulate them for further

unification. The Law of Ukraine "On Voluntary Unification of Territorial Communities" (2015) allowed the first stage of decentralization through the formation of territorial communities without amending the Constitution of Ukraine. In 2017, amendments were made to the Law of Ukraine "On Voluntary Union of Territorial Communities", thanks to which the legal regulation of the village status or settlement headman was improved. Some obstacles were also removed in the appointment of first elections in OTGs formed by territorial communities located in neighboring districts.

3 Materials and research methods

To determine the main aspects of the interaction between the authorities, business, and society, the current normative-legal documentation regulating the issues of decentralization of European countries and Ukraine, in particular, was processed. Based on regular reporting by territorial communities, the main problems were determined; areas, methods and models of interaction between the authorities, business and society were formed. The main purpose of this concept is to determine the key demands of the society, which were analyzed in 2020 by Ilko Kucheriv Democratic Initiatives Foundation together with the sociological service of Razumkov Center from August 14 to 19, 2020 in all regions of Ukraine except Crimea and occupied territories of Donetsk and Luhansk regions. According to the study results, 2022 questionnaires were received on a sample representing the adult population. The theoretical sampling error does not exceed 2.3% (Ilko Kucheriv Foundation for Democratic Initiatives, 2020). The results of the study confirm the relevance of the research towards finding ways to accelerate the decentralization reform and building such tripartite models of interaction between the government, business, and society, which would allow territorial communities to develop at a faster pace, and the population to feel the positive impact of reforms and improve their quality of life.

4 Results

Interaction between the government, business, and society is a constant, uninterrupted process, which allows realizing the development of the territorial community, which is in the conditions of decentralization of administration and use of financial resources. Effective interaction should be organized in all directions: economic, social, informational, and ecological, involving all three links of tripartite interaction. At the same time, under the conditions of decentralization, when the budgets of territorial communities are transferred to direct interbudgetary relations, and the development of the region occurs according to the vision of its population, it is necessary to build new methods of interaction between the links of tripartite interaction. They allow an independent region's economic development and provide the basis for its progressive growth in all spheres. Undoubtedly, the critical link in the process of tripartite interaction is the government because it can ensure the organization of effective interaction. But at the same time, the community is the driving force of such a process, and business is the source of funding for all management decisions. Each of the links has its tools and interaction methods; at the same time, the possibility of this collaboration is built on informational support and the organization of communication processes between all parties.

In solving these problems, a special emphasis should be placed on the innovative development of the economy, increasing the efficiency of public administration, rising incomes of the population, local and state budgets. At the same time, resource provision of the implementation of national goals in the social and environmental-economic spheres in the implementation of the strategy of national projects is extremely important. Businesses, in turn, must take joint responsibility for compliance with the law, improving working conditions, the environmental component of the implemented projects. Civil society, or as it is also called "the third sector," should initiate the solution of the critical problems of life and provide permanent control over their implementation. At the same time, the specificity of control functions extends throughout the hierarchy of public administration and to all parties of interaction (Slyusarenko, 2014).

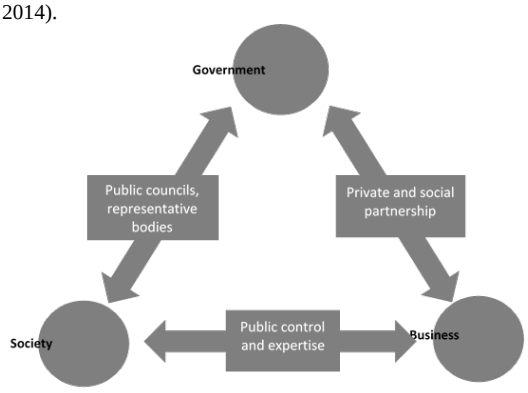

Figure 1 – The components of the institution of tripartite partnership and forms of interaction between its participants

A study by Wordtips (Wordtips, 2021) showed that today there are more than 7,000 vernacular languages in the world. Moreover, the most spoken languages are English, Mandarin Chinese, Hindi, Spanish and French, which are spoken by more than 3.67 billion people in the world (Fig. 2.)

Government | Business | Society

The institution of tripartite partnership
Institutional support - "Office of Reforms"
Technological support - Electronic territorial platform

Purpose	Formation of the legal and regulatory framework, organization and control over the effectiveness of interaction
Tasks	Adoption of regulatory documents Control over liabilities Solution of main problems of society Harmonization of subjects' interests Resource mobilization Increasing mutual responsibility
Forms of interaction	State private partnership, social partnership, representative bodies, self-organization bodies, condominiums, public councils, coordination councils, public hearings, public expertise, control
Principles	constructive dialogue, mutual trust, and resource mobilization by all parties to the interaction
Directions	economic, social, ecological, informational
Methods	Dialogue between the three parties, initiative, resource and investment attraction, social entrepreneurship, training, consulting, etc

Figure 2 - The concept of interaction between government, business and society

Let us consider the current state of the decentralization reform in Ukraine. According to the survey results (Ilko Kucheriv Foundation for Democratic Initiatives, 2020), we can conclude that the process of decentralization with the current methods of its implementation will be long-term. For example, if in 2016 the positive changes from decentralization were felt by 16% of the population, it took four years for the indicator to increase by 10% only. Today, the development of the decentralization process is slow and insensible. To fully realize the importance of developing their own well-being for the population, it is necessary to organize an effective interaction mechanism between government, business, and society.

As of 2020, the biggest problem for the population is health care (69%) and the fight against corruption in the city government (28%) (Ilko Kucheriv Foundation for Democratic Initiatives, 2020). Corruption is the key factor in solving the issue of territorial community development. For example, the profitability of some Ukrainian OTGs population does not depend on the size of the city or its business activity. In the absence of corruption in governing bodies, some small territorial communities could organize local businesses and provide their population with high wages and infrastructure development (Kazyuk, 2021). The government's initiative in establishing effective tripartite interaction becomes the key to rapid regional growth. Even though the interaction of government, business, and society is a continuous process, this process is carried out in stages in solving specific tasks. The author's team defined six stages of the interaction of authorities, business, and society to solve certain problems, which are reflected in Fig. 3.

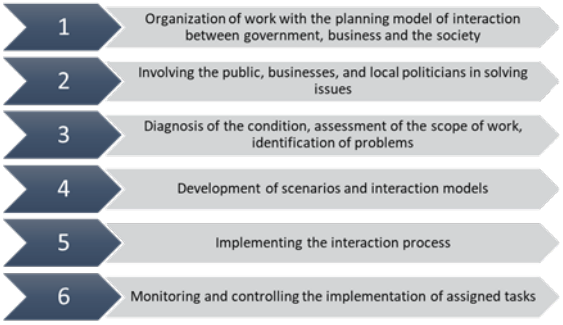

Figure 3 – Stages of interaction between government, business and society to solve certain problems
Source: authors' development

According to Fig. 3, any management decision-making process is based on the key elements of management: organization, planning, implementation, and control. In order to ensure the implementation of all these stages, it is necessary to involve institutional structures and technical means, which will ensure the implementation of all phases of tripartite interaction.

Institutional support. "Offices of reforms" opened in every country region were to become the main institutions of decentralization and interaction between the government and society. Some of them have their representation in the Internet and disseminate information in social networks (Office of Reforms, 2021). Naturally, the information content of these resources varies from region to region. Still, in general, they highlight regional news about the progress of forming united territorial communities, discussions, meetings, and round tables dedicated to the implementation of decentralization (Volkovynska, 2020).

Technological support. It is necessary to note that the current information support devoted to decentralization does not solve the problems of interaction between the authorities, business, and society but only has an accountable function. To create an effective territorial platform, it is necessary to develop an electronic service that can be used by each territorial community and determine its basic requests. Such services should be created using cloud technology (Iatsyshyn, 2019), which will allow access to all parties of interaction. Since the results of the interaction between the state, government, and society should be transparent and subject to easy control by the community and stakeholders, commercial organizations can organize such services in terms of long-term support.

Directions of tripartite interaction. The interaction of government, business, and society should be carried out in all possible directions, particularly in economic, social, environmental, and informational development.

Economic development is the priority, the engine, and the resource of the change process. The economic direction of development must ensure a balance between the interests of business, community, and environmental development in the long term (Trusova et al., 2019). When economic growth is booming and rapid, it is necessary to prioritize social well-being with environmental safeguards in the first place. Conversely, when the economy is stagnant, it is essential to pay attention, first of all, to the solution of economic development problems.

The development of territorial communities without an economy is impossible. Business is engaged in creating additional value. The better the conditions for business development, the better the conditions for community development. These conditions depend on the interaction of national and local authorities, the maturity of civil society, the culture and readiness of local communities to take responsibility for managing the development of the territory, the quality of life today and in the future. In general, the success of sustainable development depends on the business environment. It is not inherent in the nature of the business to create a public product, care about the environment or the sustainable use of non-reproducible resources, worry about socially vulnerable people, or engage in patronage and the like. The main goal of business is profit maximization. However, high quality of life, a developed economy, a favorable business climate, and a welcoming business environment foster a culture of paying taxes and participating in the development of the territorial community with a sense of social responsibility. In addition, a highly profitable business in a stable economy pays taxes and engages in philanthropy, creates a community product, and cares about the quality of life of the community, the environment, and safety.

The social development of society compared to economic development will always suffer. The main problem of most major cities is the distortion of tripartite interaction in the business direction, while social issues remain unresolved. The main problem of social development in Ukraine today, as mentioned above, is medical care. In pandemic conditions, the quality of medical provision becomes an increasingly urgent issue. The indicator of general health and the protection of the population is essential, as it guarantees its economic activity. The problem of morbidity rate directly depends on the state's decisions on the organization of restrictive measures and control over their implementation. That is why the spread of infectious and viral diseases is controlled in cities with a positive experience in this direction. However, in addition to problems with medicine, socio-cultural development is also significant. The problem is particularly acute for socially important educational institutions, culture, protection of the elderly, and people with physical disabilities. Especially acute is the problem of a shortage of schools in large cities, where, with active residential development, programs for the construction of educational institutions are not implemented. The authorities must address such problems at the stage of the formation of construction projects.

Ecological development is particularly acute when businesses that use natural resources to support their activities intensify. These issues must be coordinated with the community, allowing for thoughtful decisions that allow the industry to operate without restrictions and the community to benefit from the added tax benefits of such a business.

Information support is the primary tool for the functioning of civil society and control over the activities of the authorities. Many factors can contribute to confidence in the authorities, among which information activities occupy an important place. Thus, the correspondence between the statements of politicians and their actions works to increase their credibility. At the same time, there are other possibilities for building such trust, and first of all, it is carried out at the legislative level. Particularly in Ukraine, this issue is regulated by the Law "On Prevention of Corruption". (National Agency for the Prevention of Corruption, 2021), which separates two types of conflicts of interest and

methods of their resolution. But despite the normative techniques of counteraction, today, the existing "conflict of interests" is obvious for the society when the heads of communal enterprises, being simultaneously deputies of local councils, participate in the distribution of budgetary funds. This fact creates a vast field for corruption and abuse of fiscal funds. It is clear that every presence of such a conflict, even if it is not confirmed, already causes mistrust towards the deputies and activity of local councils in general. Different methods can solve such a problem; the most widespread and proven are open discussions.

Open discussions are an essential factor in the success of reforms, but in the case of Ukraine, there is also the time factor. Numerous experts and officials believe that when territorial communities need active change, there is no time to waste on discussions because decisions must be made as quickly as possible.

At the same time, European government representatives state that when the executive authorities were established in Ukraine, no tasks were set for the development of the regions (Decentralization, 2015). Until this happens, it is impossible to understand how the whole system works on the ground. To solve the problem, the government must offer the model it has created and talk to community leaders to convince the population to start working on the model the government has proposed (Decentralization, 2015).

However, the difficulty lies in the possibility of engaging citizens in large-scale discussions of reforms. The majority of the population believes that such issues should be realized by specialists and specially selected people who represent their will. In addition, the aforementioned study by the Ilk Kucheriv Democratic Initiatives Foundation notes that the percentage of people who are willing to endure material hardship for the sake of reforms has decreased over the past year. More than half of those surveyed are not willing to do anything to bring reforms to life. Professor of Political Science Department of the National University of Kyiv-Mohyla Academy A.Haran does not consider these data negative because not all people will take an active position and spend time on some active actions. Most ordinary people are quite passive. In Western societies, most people are also inactive, so we can say that in Ukraine, there are pretty high rates of people who are willing to do something (Borsch, 2015).
Today there are five problems in supporting the interaction of government, business, and society:

- corruption in government;
- distrust in official sources;
- insufficient amount of information;
- discrepancy of the form in which the information is presented to the expected reports;
- inability to collect information promptly in response to public inquiries.

The regional offices of reforms struggled with some of these shortcomings, but their activities in different areas were carried out differently. In addition, they have not now prepared public reports on their work, which would show the amount of information that has been accomplished on the ground. Such information would allow evaluating the progress of the authorities' work with the public. In addition, the active work of the officers on the part of reporting, control, and organization would allow the transition to the second stage of implementation of the decentralization reform, which makes the inflow of investment in the regions. Being fully informed, the population could design investment programs and development strategies for the regions (Volkovynska, 2020).

As already defined, each of the components of tripartite interaction has an essential place in the development of territorial communities. Therefore, the responsibility for the development of the state cannot be transferred solely to the government. To ensure effective tripartite interaction, it is necessary to define its clear methods from each side. We propose to consider them in Fig. 4.

According to the presented Fig. 4, it can be concluded that society and businesses should have practical tools to communicate their problems and intentions. For this purpose, it is necessary to create information systems that allow identifying the most problematic aspects in the region, enabling the authorities to contribute to their solution by attracting state and commercial, and international resources.

For today, social security programs are very progressive methods of interaction of authority, business, and society. They are embodied by business with the application of floating prices for goods or services following the demands of society. Hybrid trade strategies (Pogodayev 2013) become, in this situation, an effective tool for solving society's problems, stimulating business and practical government work. By processing public requests promptly, the government can provide businesses with recommendations for certain groups of goods or services that are currently in demand.

In addition, there are several international programs for the development of territorial communities in different directions, which allocate funds for its development. In order to receive such funding, there is a need for power and public activity in this direction, which could organize requests and organize the development of funds.

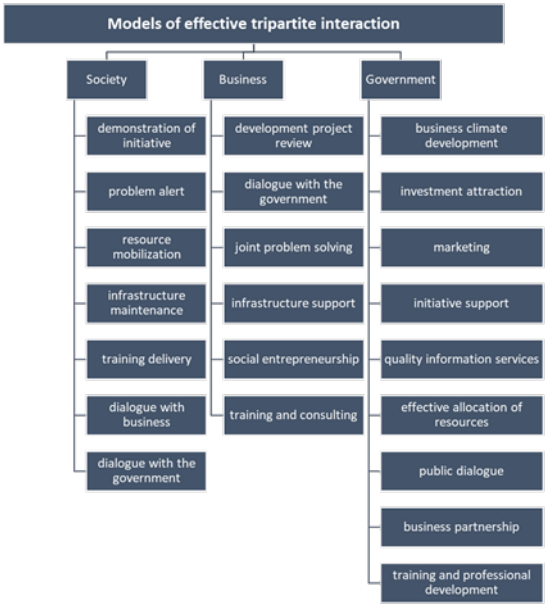

Figure 4 – Methods of effective interaction between government, business and society
Source: authors' development

Financial resources occupy an important place in building effective interaction between government, business, and society. The problem is not only to obtain them but also to distribute them effectively. Today, many territorial communities can accumulate financial resources from the payment of taxes by businesses. These resources can be used to invest in urban infrastructure or even to create profitable organizations. Gathering public input on the creation of such institutions is important in the effective allocation of such resources. In addition, public members can submit their business ideas, which can be financed from local budgets or even by crowdfunding and international investment funds. By organizing the voting for certain projects, the territorial community will receive information on the public opinion and directions of investment development. In this case, the evaluation of the investment project should be carried out by experts with the help of

developed methodologies (Shvets et al., 2013). Experts can also participate in forming strategic development plans for such organizations (Kostiukevych et al., 2020). State organizations, higher educational institutions, and business representatives can be involved in their development for evaluation.

Such tasks could be assisted by the regional authorities that form regional reform support groups. At the same time, it is necessary to create opportunities for practical public participation in the development of territorial communities. Measures to popularize the reform should be aimed not only to present relevant information but also to form the public's need to search for it independently. By creating relevant and informative information, it is possible to restore trust in the information provided by the authorities and increase the general level of education of citizens.

5 Discussion

The interaction of government, business, and society have been studied by many scholars (Holtzman et al., 2011). At the same time, the main studies are conducted on the basis of specific countries to solve certain socially important problems. Holtzman et al. (2011) conducted a comparative analysis of the tripartite interaction between the United States and China. We can confirm that information support is the key to successful cooperation between government, business, and society. At the same time, the more independent the information support is, the more progressive such cooperation will be. Of course, of great importance has the availability of independent information resources and historical and cultural prerequisites for forming such collaboration. Democratic countries, unlike authoritarian ones, build effective links between society, business, and power, which contribute to improving the living standards of territorial communities and the country as a whole. An authoritarian regime prevents the development of such interaction.

Digital technologies and electronic resources are of great importance in building effective interactions between government and society (Maisigova et al., 2021). It has been empirically proven that such interaction methods reduce the administrative costs of communities and ensure reliable protection of information and data storage. Puksas et al. (2019) also investigated different kinds of interconnections between government, business, and society using search engine network queries. The data confirm closer ties in shaping economic interests over social ones. The authors point to a lack of government interaction with academic organizations fostering more intensive community development.

6 Conclusion

Effective interaction between government, business, and society is built on the construction of such relationships, which could solve the main problems of society, harmonize the interests of all parties of the interaction, mobilize resources and increase social and mutual responsibility. Interaction between government, business, and society is permanent; it is carried out between all participants with the help of state-private partnerships, social partnerships, self-organization bodies, public hearings, councils, expertise, and control. The main principles of interaction between government, business, and society are constructive dialogue and mutual trust. As of today, the main problems in implementing the effective concept of tripartite interaction are distrust of official sources of information, insufficient volume of information, and discrepancy of the form of information presented to regular reports. Besides that, today, engaged in decentralization government in Ukraine, do not always make reports on the implementation of their works. All this occurs firstly through the lack of desire on the part of authorities, business and society to establish profitable models of interaction, secondly through the lack of operating institutions, which could undertake such tasks, and thirdly through the lack of operating information systems, which would make the relations between the authorities, business and society open. Thus, the creation of such information solutions is proposed, allowing the authorities to collect, sort, process public requests, and make quick management decisions based on the analysis results. Such platforms should work on transparent conditions with the possibility of control by society.

The study's practical significance lies in the possibility of accelerating the development of the regions of Ukraine using the methods and technologies proposed in the study.

Prospects for further research lies in the creation of effective systems of interaction between government, business, and population in decentralization, depend on the results of further study on the construction and development of forms, methods, mechanisms, and tools of interaction, as well as a clear legislative and financial support of such a system.

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Primary Paper Section: A

Secondary Paper Section: AE

AN IMPACT OF THE CRISIS ON THE STOCK MARKET EFFICIENCY

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Abstract: In the midst of crisis, the stock market's efficiency tends to decrease due to growing uncertainty and chaos in the financial environment. The purpose of the research was to analyze the stock market's efficiency on the example of the European countries (Germany, France, Italy and Spain) in the crisis period 2020-2021. The practical value of the research lies in revealing the dependence of the European stock markets on external shocks through the economic slowdown in the European countries, dependence on the state of the US and Chinese economies, trading policy and demand for Chinese consumers goods.
Keywords: stock market, efficiency form, crisis period, stock market's efficiency.

1 Introduction

In a chaotic and crisis-ridden financial environment, investors are more responsive to change by increasing the risk of investing in assets. As a result, the stock market's efficiency decreases, forasmuch as the information volume grows several times; by the way, the information is poorly predictable leading to a high volatility level of stock prices. Consequently, investors prefer to invest in the post-crisis period. Analysis of the stock market's efficiency in the crisis period allows forming recommendations for investors on the distribution of assets in the stock markets. The stock market's efficiency in the pre-crisis period is characterized by low volatility and heterogeneity, however, high volatility and homogeneity is observed in the post-crisis period. During the crisis period, the stock market is characterized by increased returns volatility, which arises due to growing uncertainty and rising levels of information. The issue of reducing market profitability can be solved by controlling the information dissemination.

The purpose of the academic paper lies in analyzing the stock market's efficiency on the example of the European countries (Germany, France, Italy and Spain) in the crisis period 2020 – 2021.

In order to achieve the purpose outlined, the following objectives are defined, namely:

- To assess the dynamics of stock markets' indices in Europe (Germany, France, Italy and Spain) for the period 2019 – 2021, in particular, to identify features of profitability and volatility in the pre-crisis period (2019) and in the crisis period (2020 – 2021).
- To construct autocorrelation functions of the yield indices dependence on stock market indices in Europe (Germany, France, Italy and Spain) for the period 2019 – 2021.
- To determine the stock markets' efficiency based on stock indices of the European countries (Germany, France, Italy and Spain).

2 Literature Review

The stock market's efficiency means that the stock prices' formation is based on all available information that is easily disseminated and comprehensible (Mishra, Das & Pradhan, 2009). Stocks and their prices do not depend on historical prices and other factors (the industry, market development), as well as on external information (Jain, Vyas & Roy, 2013). Efficiency also implies the absence of a systematic way of using trading opportunities and generating excess profits (Mishra, Das & Pradhan, 2009). The stock price is generated randomly, and its change does not depend on the previous values; the investor cannot apply any useful information to get additional profit (Jain, Vyas & Roy, 2013).

Reilly and Brown (1997) define an efficient market as one in which a stock price responds instantly when new information is obtained; consequently, the current stock price instantly reflects all the stock information. Due to its efficiency, the market does not contain a template for using a trading opportunity and generating additional economic profit. Fama (1970) defines an efficient market as the one, where prices always reflect recent information and insists on three efficiency types depending on the information availability, namely: weak, semi-strong, and strong.

Weak efficiency of the market form exists provided that the securities prices reflect all the information about the history of past prices and returns. In the case of the stock market's weak form, investors do not obtain excessive yields on trading strategies based on past prices and profits. Thus, stock returns are unpredictable and follow random wondering. In case of semi-strong market's efficiency, securities prices reflect all public information available on the market to investors. Investors in this case receive a profit not higher than the average one, making decisions based on public information. A high efficiency form involves price formation based on all information, even confidential company's information; consequently, the investor cannot make excessive profit when investing in the asset.

The negative and positive impact of the financial crisis on the efficiency of the stock market is being discussed in the scientific literature. A systematic review of the literature conducted by Lim & Brooks (2011) on weak market's efficiency suggests that there is abundant empirical research on the predictability of returns based on past price changes in stock markets. The crisis of 1997 had a negative impact on 8 stock markets in Asia, including Hong Kong, Singapore, Korea, Thailand, and the Philippines, which recovered in the post-crisis period (Lim, Brooks & Kim, 2008). The financial crisis of 2008 had a negative impact on the Indian stock market's efficiency (Mishra, Das & Pradhan, 2009). Along with this, Jain, Vyas & Roy (2013) revealed the weak form of the Indian stock market's efficiency during the economic downturn.

The 2008 crisis negatively affected the stock prices' efficiency in the stock markets of the Eurozone countries, which led to the emergence of patterns of stock price movements aimed at returning to the average level (Anagnostidis, Varsakelis & Emmanouilides, 2016). Liao et al. (2019) found that the efficiency of 16 EU markets was affected by the financial crisis of 2018. Todea & Lazar (2012), based on the efficiency assessment of ten markets in Central and Eastern Europe, revealed changes in market inefficiency over time, proving the adaptability of markets; after all, efficiency was found in 7 markets out of 10. The investigation conducted by Mahmood, Xinping, Shahid & Usman (2010) proved the weakness or efficiency of the Chinese stock market after the 2008 crisis, namely: past data on market movements are of little use for obtaining super-profits in the current period, and the global crisis does not significantly affect the market efficiency. Emenike Kalu (2017), based on studying the weak form of the Nigerian Stock Exchange efficiency after the global crisis, revealed the profitability of the exchange and its sectors. Investors forecast the profit-making capacity of the banking sector using a fundamental analysis of profitability. A nonlinear model and fundamental analysis should be used to forecast the profitability of the stock exchange and Sharia shares. The consumer goods sector as well as the oil and gas sector can be predicted by

applying technical and fundamental analysis (Emenike Kalu, 2017).

Choi (2021), in the light of investigating of the US stock market sectors' efficiency during the 2020 pandemic have revealed that the consumer sector has the highest efficiency, and the utilities sector – the lowest efficiency. Fazlollahi, Ozatac & Gokmenoglu (2020), examining the stocks of energy companies and the weak stock markets' efficiency form of the US, China, Canada, Australia, Saudi Arabia and India, found different efficiency levels that vary and deviate. The financial crisis of 2007-2009 and changes in the energy sector in 2015 significantly influenced the evolution schedule of market efficiency, which has recovered over time, excluding the Indian energy sector. The US market proved to be the most efficient. Zhu et al. (2019) revealed the efficiency of seven Latin American markets and little volatility in the post-crisis period, which ensured the investment growth. Sabbaghi & Sabbaghi (2018) found weak efficiency in most advanced stock markets, while the US market was identified as a weak and inefficient one. Vieito et al. (2013), investigating the markets of the G20 countries, revealed strong simultaneous effects as a result of the 2007 crisis, except for Saudi Arabia, associated with increased activity. In general, the 2007 crisis resulted in lower yields and increased volatility with greater efficiency of individual markets.

Thus, the review of the literature points out to the limitations of studies on the stock markets' efficiency in the European countries in the face of external shocks, including the pandemic spreading. Perception of the efficiency of developing countries' markets cannot be used when making investment decisions in asset management.

3 Methodology

The values of the following indices have been used in the research, namely: Euro Stoxx 50 (STOXX50E) (50 largest enterprises in the Eurozone), DAX (GDAXI) (the largest companies in Germany), CAC 40 (FCHI) (40 largest companies in France by capitalization), IBEX 35 (IBEX) (35 largest companies in Spain), Italy 40 (invit40) (40 largest companies in Italy). The sample comprised observations for the period 01.01.2019 – 08.07.2021, which includes the values of closing, opening, minimum and maximum prices, yields indices.

The following formula has been used to calculate the yields indices, namely:

$$R_t = \log\left(\frac{I_t}{I_{t-1}}\right) \quad (1)$$

where I_t – stock price at the time of market closing.

A standard deviation based on closing prices has been used to calculate volatility. Volatility is an important indicator of the stock market, assessing the change in the asset's price over a certain period of time and estimating the risk of future price changes. The difference between the minimum and maximum stock price has been also used to calculate volatility (Average True Range).

In order to examine the stock market's efficiency, an autocorrelation test has been applied. Autocorrelation function (ACF) makes it possible to conduct assessment of the linear dependence between the yields of the current period and the yields assets of previous periods.

Autocorrelation of the sample (autocorrelation function ACF) $lag - i$ of yields values R_t is determined by the formula:

$$\rho_\ell = \frac{\sum_{t=\ell+1}^{T}(R_t-\bar{R})(R_{t-\ell}-\bar{R})}{\sum_{t=1}^{T}(R_t-\bar{R})^2}, 0 \le \ell < T-1 \quad (2)$$

where ρ_ℓ – sequential correlation coefficient of the yields index with lag ℓ, T – number of observations, R_t – yields for the period *t*, specified in the equation (1.1), $\bar{R}$ – the average value of the return sample and ℓ – lag period. ACF is used to detect differences in sequential correlation coefficients in different periods during which the yields indices change. The null ACF hypothesis: $\rho_\ell = 0$, that is, the correlation is 0, alternative $\rho_\ell \neq 0$. If R_t is an uncorrelated sequence, value ρ_ℓ is bigger than the significance level α. Therefore, the null hypothesis of random yields wandering (stock prices) should be rejected if the profitability R_t is consistently correlated (Emenike Kalu, 2017).

In order to perform joint testing of several yields correlation values of R_t the modified Ljung – Box Q test is used (Box and Pierce Q modification). "Ljung– Box Q involves subjecting the squared error series to standard tests of serial correlation based on autocorrelation structure using portmanteau tests as follows" (Emenike Kalu, 2017):

$$Q_{LB}(m) = T(T+2)\sum_{\ell=1}^{m}\frac{\widehat{p_\ell^2}}{T-\ell} \quad (3)$$

where T – sample size, m – the number of autocorrelation coefficients used in the test. Provided that R_t is "an inid sequence", Q-statistics is an asymptotically random variable chi-square with freedom degrees equal to the number of autocorrelation coefficients (m). The null hypothesis is as follows: the first m ACF autocorrelation lags from ε_t^2 are equal to zero (Tsay, 2005). Therefore, the decision rule lies in deviating from the null hypothesis if the value ρ is less than or equal to the α significance level.

4 Results

The reasons for the volatility of the European stock market are diverse. One of the reasons is the expectation of economic decrease in the Eurozone leading countries in early 2019, namely: Italy, the construction sector in the UK, the technology sector and Germany's retail sector. The basic factors include the reduction of oil prices due to the risks of the global economic contraction, which led to a reduction in demand for risky assets (as of January 3, 2019).

The reduction in oil prices is caused by reserves decrease by 2,3 million barrels. The contraction of the European stock market is also caused by reduced activity of the European companies in the field of health, technology, transport and finance. The report of the German company specialized on the technology SAP development in January 2019 informed investors about the reduction of orders, which led to a potential loss of 950 million EUR in revenue. The stocks' price of Siemens Healthineers Company has decreased due to the rising cost of its services. Problems with the delivery of Royal Mail Company led to a reduction in its shares.

Write-off of bad loans of the Spanish bank Bankia in the fourth quarter of 2018 resulted in loss emergence. Net Loss Reports of Deutsche Bank for the fourth quarter of 2018 as well as Spanish banks Caixabank and Sabadell led to a decline in their stock prices. Air Shuttle (a Norwegian carrier) stock pricing also declined due to abandonment of short-term expansion plans. Ryanair has published a report on reducing profits due to low ticket prices, which caused decrease of stocks of other airlines (Air France-KLM, Lufthansa, Wizz Air, EasyJet). However, the growth of companies in other sectors of the economy (for example, the Dutch Philips conglomerate) kept the increase of Euro Stoxx 50. Industrial companies have become leaders in growth and ensured the increase of Euro Stoxx 50: the forecast of flat path in tariffs on Chinese goods has caused the growth of stocks of Daimler, BMW, Volkswagen, Ferrari and Fiat

Chrysler. The stock market also grew in early 2019 due to the growth of companies specializing in the production of luxury goods, namely: Kering, LVMH, Salvatore Ferragamo, Moncler and Burberry. In early 2019, news about China – the US trading relationship and the potential of the Chinese economy significantly determined the dynamics of the European stock market. Herewith, the business activity of the industrial sector to a lesser extent determined the stock market growth, despite the decline in Germany, Great Britain, Italy and China.

In 2019, the volatility of the European stock market depended on the growth or decline of certain sectors (or the largest companies) of the economy worldwide. However, in early 2020, news of the emergence and spread of the pandemic had a significant impact on the European stock market's volatility, holding back growth even with the increase of the European companies or positive forecasts for the EU economy.

During the period 21.01 – 24.01.2020, the news release about the spread of the virus in Asia led to a reduction in the value of German futures on DAX by 110 points or 0,8%, French futures on CAC 40 by 45 points or 0,8%, British futures on FTSE by 46 points or 0,6%.On January 21, 2020, the news of the virus spreading caused a reduction in the cost of Euro Stoxx 50 by 24 points or 0,6%. In general, on January 21, 2020, the German DAX decreased by 69 points or 0,5%, the French CAC 40 – by 58 points or 1%, the British FTSE 100 – by 84 points or 1,1% under the influence of corporate news. The pan-European Euro Stoxx 50 index decreased by 30 points or 0,8%. The potential risk of reduced demand for air travel to Asia due to the virus spreading caused a reduction in the share price of national European airlines: the stock price of Deutsche Lufthansa decreased significantly (by 2,2%), Air France KLM – by 1,7%. Along with this, the share price of budget airlines increased due to the growth of EasyJet's revenues by 4,9% in the first quarter. Companies of luxury sector were also affected. News on the state of the virus spreading and morbidity determined the dynamics of Asian stock markets, which affected the volatility of the European markets during January – March 2020. For instance, for the period 27.01 – 05.02.2020 the news dissemination on morbidity and mortality, isolation of Chinese cities in China restrained the growth of the European stock markets. This is caused by the dependence of the European certain economic sectors on Chinese consumers. World Health Organization news on the potential of anti-virus measures to some extent restrained the stock market decline (for instance, the WHO lifted restrictions on trade with China on travel to the country).

In addition to the pandemic, the European stock market's volatility was affected by the factors as follows: weak economic growth in the EU and the risks of declining GDP (for instance, weak economic indicators in Germany and France); risks of trade conflict in Europe; the process of Britain's exit from the EU (for instance, on March 12, 2020, the market grew due to the decision of the British Parliament to vote against the exit without approval, which means the lack of drastic decisions); dynamics of sales of the largest manufacturers in Europe (for instance, the reduction of profits of the semiconductor manufacturer STMicroelectronics in the first quarter of 2020).

The European stock market is dependent on external shocks, including pandemic and government measures to counter its spreading, caused the decrease of stock prices. The dynamics of the Euro Stoxx 50 index for the period February – March 2020 was mostly negative: the average value of stock prices of 50 most European companies decreased by 4,17% in February compared to January, by 3,41% in March compared to February 2020 year (see Figure 1). The stock prices included in the index fell sharply in the period of 01.02 – 01.03.2020: from 3,329 to 2,786 EUR. According to news reports, the core reason for the sharp drop is the spread of the virus within Europe, in Germany, France, Italy, and Spain, which led to a decrease in the forecasts for economic growth in the Eurozone countries.

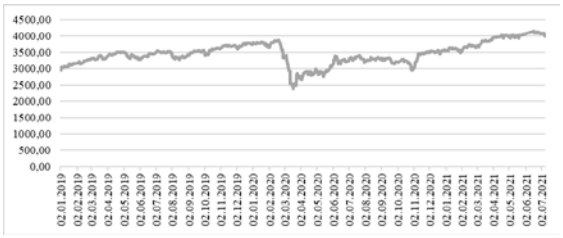


Figure 1 – Dynamics of the Euro Stoxx 50 index (STOXX50E), January 1, 2019 – July 08, 2021
Source: Investing (2021c).

Thus, the European stock markets depend on the foreign policy of the United States and China (including trade and customs), economic growth in Asia, the US and Asian stock markets, the economy and certain sectors (companies) of Europe. The decrease of the American and Asian markets leads to a decline in the European stock market; after all, the volatility of the Euro Stoxx 50, DAX, CAC 40, IBEX 35 and Italy 40 indices are interrelated (Figure 2-5).

The yields of the DAX index began to decline steadily from February 20, 2020 to March 12, 2020 (Figure 2), in particular due to the stocks' reduction of Daimler AG manufacturer by 41% during this period, Volkswagen AG Vz by 34%, Bayerische Motoren Werke AG by 32,6%, Siemens AG Class N by 35%, Delivery Hero AG by 28%, Linde PLC by 29,7%, Deutsche Telekom AG by 30,2%, Deutsche Bank AG by 51%, Munchener Ruck AG by 39%, Fresenius Medical Care AG & Co by 21,4%, SAP SE by 29,8%, Deutsche Boerse AG by 24,9%, BAYER AG by 36%.

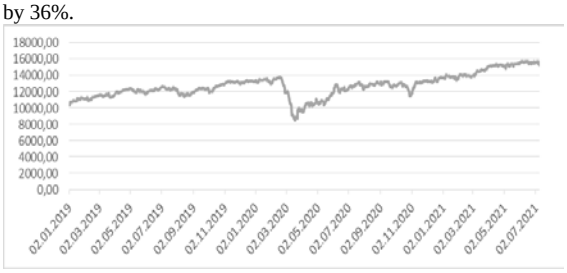


Figure 2 – Dynamics of the DAX index (GDAXI), January 1, 2019 – July 08, 2021
Source: Investing (2021b).

The CAC 40 yield index fluctuated in January 2020. On the whole, it decreased by 2,87%; in February 2020, the yield decreased by 8,55%, in March 2020 – by 17,21% (significantly for the period 05.03 – 12.03). The yields decrease was caused by stock price slump of Kering SA by 12% 12,03, Hermes International SCA (HRMS) by 5,82%, EssilorLuxottica SA by 7,17%, Engie SA by 17,2% and other stocks included in the index.

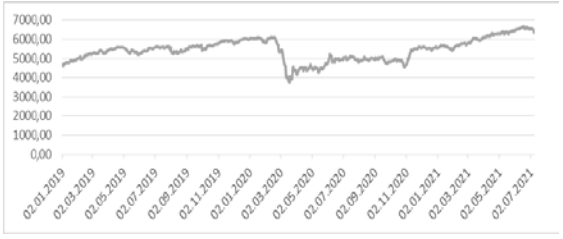


Figure 3 – Dynamics of the CAC 40 index (FCHI), January 1, 2019 – July 08, 2021
Source: Investing (2021a).

The volatility of the IBEX 35 yield index was negative for the period from February 20 to February 12, 2020. In particular, on March 12, 2020, the yield decreased by 14,06%; therewithal, crash of the market was due to a reduction of the companies' shares value in various sectors of the economy.

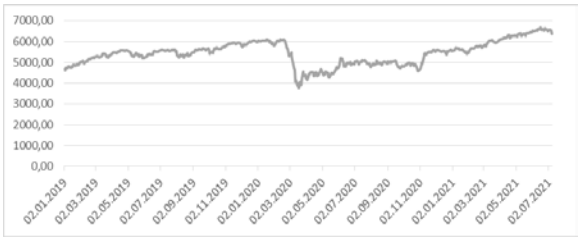


Figure 4 – Dynamics of the IBEX 35 index (IBEX), January 1, 2019 – July 08, 2021
Source: Investing (2021d).

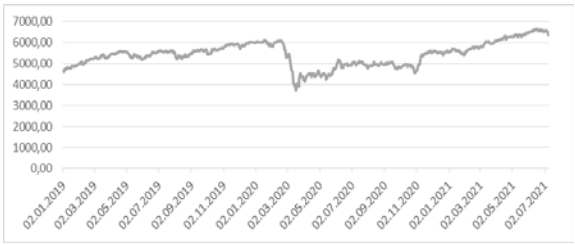


Figure 5 – Dynamics of the Italy 40 (invit40) index, January 1, 2019 – July 08, 2021
Source: Investing (2021e).

Share prices of the index Italy 40 (invit40) fell sharply for the period 01.02 – 01.03.2020 (from 2,151 to 1,659 EUR). The drop was due to a decrease in share prices in all sectors of the economy. Similar to the dynamics of the IBEX 35 yield index, the Italy 40 (invit40) yield index decreased for the period 20.02 – 12.03.2020 by 41,4% (on 12.03.2020 – by 16,64%). The average value of the yield index for the period 2019 – 2021 was as follows: EuroStoxx50 – 0,0513%, CAC40 – 0,0561%, IT40 – 0,0545%, IBEX35 – 0,0081%, DAX – 0,069% (Table 1). It stands to mention the significant volatility of the yield indices, namely: the standard deviation of EuroStoxx50 for 2019 – 2021 was 1,4275%, CAC40 – 1,4361%, IT40 – 1,5796%, IBEX35 – 1,5004%, DAX – 1,4793%. Herewith, volatility increased due to significant growth in 2020 – 2021. In the pre-crisis period (2019), the average yield was as follows: EuroStoxx50 – 0,09%, CAC40 – 0,0958%, IT40 – 0,01021%, IBEX35 – 0,0354%, DAX – 0,0943%. During the crisis period (2020 – 2021) the average yield was as follows: EuroStoxx50 – 0,03%, CAC40 – 0,03%, IT40 – 0,02%, IBEX35 – 0,0009%, DAX – 0,0542%. This means that during the crisis the stocks yield of the largest companies decreases, while the stock market volatility increases (the standard deviation of the analyzed indices during the crisis is characterized by higher values compared to the pre-crisis period or the average for 2019 – 2021).

Table 1: Descriptive statistics of Indices return 2019-2021

2019-2021	EuroStoxx50	CAC40	IT40	IBEX35	DAX
Average	0,05%	0,06%	0,05%	0,01%	0,07%
Standard error	0,06%	0,06%	0,06%	0,06%	0,06%
Standard deviation	1,43%	1,44%	1,58%	1,50%	1,48%
Dispersion	0,02%	0,02%	0,02%	0,02%	0,02%
Minimum	-12,40%	-12,28%	-16,64%	-14,06%	-12,24%
Maximum	9,24%	8,39%	9,06%	8,57%	10,98%
Number	635	635	635	635	635
During crisis (2020-2021)	EuroStoxx50	CAC40	IT40	IBEX35	DAX
Average	0,03%	0,03%	0,02%	-0,01%	0,05%
Standard error	0,09%	0,09%	0,10%	0,09%	0,09%
Standard deviation	1,71%	1,72%	1,89%	1,82%	1,75%
Dispersion	0,03%	0,03%	0,04%	0,03%	0,03%
Minimum	-12,40%	-12,28%	-16,64%	-14,06%	-12,24%
Maximum	9,24%	8,39%	9,06%	8,57%	10,98%
Number	389	389	389	389	389
Prior to crisis (2019)	EuroStoxx50	CAC40	IT40	IBEX35	DAX
Average	0,08%	0,10%	0,10%	0,04%	0,09%
Standard error	0,05%	0,05%	0,06%	0,05%	0,06%
Standard deviation	0,80%	0,82%	0,91%	0,78%	0,89%
Dispersion	0,01%	0,01%	0,01%	0,01%	0,01%
Minimum	-3,26%	-3,57%	-2,87%	-2,77%	-3,11%
Maximum	2,17%	2,31%	2,44%	1,91%	3,37%
Number	246	246	246	246	246

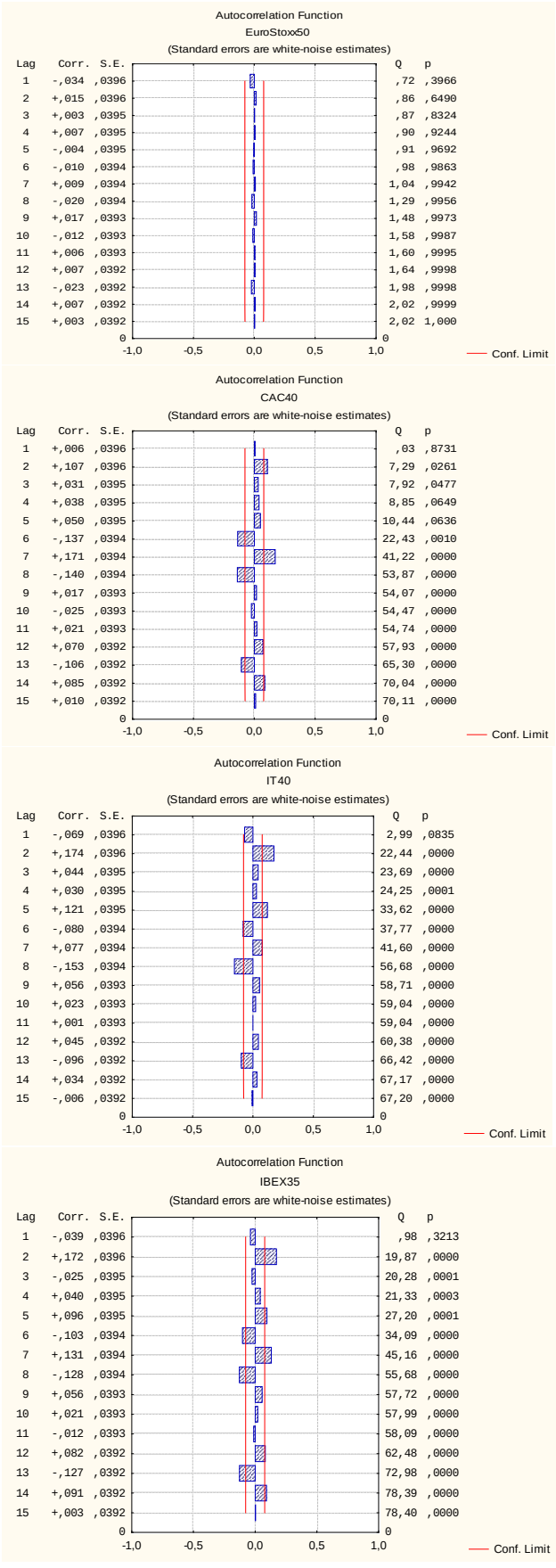
Source: author's calculation

Analysis of autocorrelation functions of yields indices (Figure 6) shows the absence of a linear dependence of current yields on past yields values of shares included in the indices DAX, CAC 40, IBEX 35, Italy 40 (correlation coefficients do not exceed -0.2 – +0, 2). This means that during the crisis, the European stock markets are efficient in a weak form; investors decide to invest in assets based on publicly available information, including public information and reporting of international organizations as well as leading companies' reports. However, efficiency is diminishing due to the proliferation of information and rumors, resulting in increased uncertainty. However, the analysis of news content bears evidence of reduction in stock prices, which are included in key European indices with any information available, which raises concerns about the negative impact of the virus spreading, especially in the transport sector. The decline of indices return also occurred in the case of news dissemination about the situation in the US or Asian stock market. This indicates the dependence of the European market on the two most influential financial centers: the United States and China; the government's international policies of these centers instantly affect the volatility of the company's shares.

5 Discussion

The present research has revealed that investors possess information from different sources that is equally accessible to all market participants and instantly affects the stock prices of the largest companies in Europe (Germany, France, Italy and Spain). Decisions of international organizations, such as the WHO, influence the decision to invest in stock markets' assets, the volume of which has decreased in the event of increasing investors' concerns about the virus spreading when news has been released on an increase in morbidity, mortality, and potential negative consequences of the virus. Over the period February – March 2020, news about the virus was released every two days and changed investors' sentiment, hindering the market, which had been growing due to certain economic sectors despite the slow growth in the European countries. During this period, the return of the indices DAX, CAC 40, IBEX 35, Italy

40 steadily decreased with a certain difference in time and decline rate. After a significant downturn in February – March 2020 and rising volatility, stock markets have gradually.



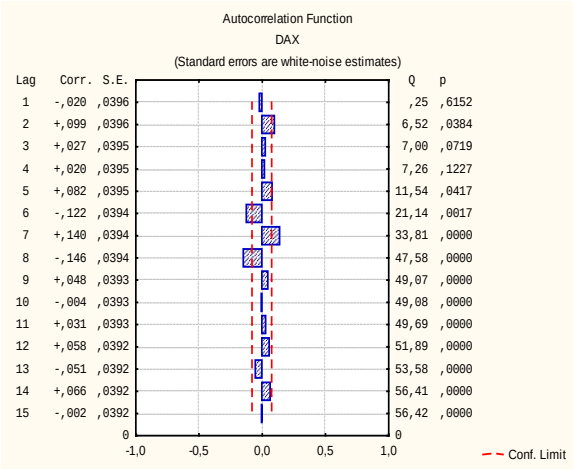


Figure 6 – Autocorrelation Function of Indices return
Source: author's calculation

Herewith, in case the reporting of the leading companies, the shares of which are included in the analyzed indices, to a lesser extent has determined the decline level of return, the news about the virus (due to uncertainty) has caused a restraint in market growth or a significant decline.

The negative impact of the 1997 crisis on Asian stock markets (Hong Kong, Philippines, Malaysia, Singapore, Thailand and Korea) has been revealed in the scientific work of Lim, Brooks & Kim (2008). Similar to the present research, Lim, Brooks & Kim (2008) also argue for the recovery of most markets in the post-crisis period in terms of improved market efficiency. Based on the working assumption of Lim, Hinich, & Brooks (2006) about the deviation of markets from equilibrium based on the nonlinear serial dependences identified by the authors, caused by external shocks, market inefficiency may be associated with the news release during the crisis period. Kaminsky and Schmukler (1999), in their investigation, have collected news releases in order to identify those causing significant market shocks. However, the authors have found a significant increase in the number of news and rumors during the crisis, which makes it difficult to control new information. Thus, the results of the present research on the growth of index returns volatility are not surprising, forasmuch as the crisis leads to an increase in the uncertainty of the financial environment, in which investors sharply and instantly react to each piece of news by reducing investments in the company's assets. The present research has revealed that news from the US and Asian markets affected the situation in European stock markets. As Kaminsky and Schmukler (1999) point out, "in such a chaotic financial environment, investors will overreact not only to local news but also to news coming from other markets, especially when news events have been unfavorable". It has been revealed in the research that information spreads quickly; it is easily accessible to market participants, and, after all, it is one of the conditions for stock market efficiency (Mishra, Das & Pradhan, 2009). Along with this, according to autocorrelation analysis of the European index stocks, shares prices do not depend linearly on historical prices, but are contingent on other factors, in particular, news coming from different sectors of the economy, and from information available from the outside (Jain, Vyas & Roy, 2013).

For instance, external information about the risk of rising customs rates between China and the United States, or slumping of the US or Asian stock markets, immediately affected the fall of stock indices in Europe. This means that the efficiency of the European stock market declined during the crisis. Another condition of efficiency – the lack of a systematic way to use trading opportunities and generate excess profits (Mishra, Das & Pradhan, 2009) – was met; after all, the yield of stock indices decreased significantly during the news spreading about the

dangers of the virus with simultaneous increase in yield volatility. Taking into consideration that the current values of stock prices depended on the past ones, and the autocorrelation of some indices yields ranged from -0.2% to +0.2%, the stock prices of the European companies were formed and changed taking into account previous values (Jain, Vyas & Roy, 2013). However, it can also be a consequence of the instantaneous adaptation of stock prices of the European indices (Reilly and Brown, 1997) upon receipt of new uncertain information, as a result of which the current stock price instantly reflects all information about the stock. Take all these points together, it cannot be argued about the efficiency of the European stock markets during the crisis, forasmuch as the market contained templates for seizing a trading opportunity and generating additional economic profit, including templates similar to the 2008 crisis. Thus, the conducted research has made it possible to conclude about the weak form of European markets' efficiency, as evidenced by the reflection of securities prices of all information about the history of past prices and returns. In the period after the momentary fall of the market in February – March 2020, stock markets gradually restored the average yield value at the level of the pre-crisis period.

6 Conclusion

The academic paper has introduced various reasons for the volatility of returns on the European stock market. Whilst in 2019, the growth of the market was negatively affected by expectations of economic downturn in the leading countries of the Eurozone (Italy, the UK construction sector, technology sector and Germany's retail sector), the decline in oil prices due to the risks of global economic downturn, then in early 2020, news of the emergence and spread of the pandemic significantly affected the volatility of the European stock market. As a result, the increase of shares' prices of the leading stock indices was restrained even with the growth of the European companies or positive forecasts for the growth of the EU economy. The yield dynamics of stock prices of Euro Stoxx 50, DAX, CAC 40, IBEX 35 and Italy 40 indices for the period February – March 2020 was negative and began to decline steadily during this period. An analysis of the autocorrelation functions of the index returns indicates that there is no linear dependence of the current return on the past yield stock values included in the indices (the correlation coefficients do not exceed the values -0,2 – +0,2). This means that during the crisis, the European stock markets are efficient in a weak form. However, efficiency is diminishing due to the proliferation of information and rumors, resulting in increased uncertainty.

Analysis of news content bears evidence of stock prices reduction included in key European indices, with any information raising concerns about the negative consequences of the virus spreading, especially in the transport sector. The decline in the yield of the indices also occurred in the case of the news releasing concerning the situation in the American or Asian stock market. This testifies to the dependence of the European market on the two most influential financial centers of the United States and China, the foreign policy of the government of which instantly affects the volatility of company's stocks.Further investigations should be aimed at identifying the reasons for the recovery of stock markets in the post-crisis period and the effectiveness of government policy towards ensuring the stability of the European stock markets.

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Primary Paper Section: A

Secondary Paper Section: AH

FORMATION OF PROFESSIONAL RESPONSIBILITY OF PRIMARY SCHOOL TEACHERS

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Abstract: It was found out that the systemic nature of responsibility is revealed through the synthesis of four components: cognitive, emotional, motivational, and behavioral. It is indicated that the result of the formation of professional responsibility allows the primary school teacher: to form the image of an honest and decent employee; to find contact with the participants of the pedagogical process faster; to stimulate self-discipline; to be more independent; to develop personally; to outline prospects for career growth; to feel safe and stable within the teaching profession. The practical significance of the intelligence lies in the provision of methodological recommendations for the education of professional responsibility of future teachers of primary school.

Keywords: Higher Education Institutions (HEIs), Professional Responsibility, Primary School, Primary School Teacher, Education System.

1 Introduction

Since the very notion of responsibility is extremely abstract and difficult to structure, it is difficult to talk about the totality of factors influencing the formation of this trait in a person. However, it is accurate to say that the professional aspects of responsibility directly depend on the general tendency of a person to be responsible.

The problem of formation of the responsible personality of the future primary school teacher in the institution of higher education is based on the reform of the content of education, makes adjustments to the system of education and, in particular, the specifics of training of future teachers. Since educational changes began with the primary level of education, through the introduction of the New Ukrainian school, respectively, to pay attention to the training of specialists in primary education. The leading role in the formation of the future elementary school teacher is entrusted to higher education institutions, where the foundation is laid for the further development of the personality of the teacher, who in the future professional activity will be able to form a creative children's personality. The added aspect of the professional roles of the responsibility distribution model provides: 1) logical reflection of alternative meanings of the phenomenon of responsibility; 2) implementation of the socio-psychological approach to the interpretation of the concept; 3) the opportunity to study the fundamentally important dichotomy of dominant and auxiliary roles in the semantic circle of social and personal responsibility.

The relevance of the study relies on the concept of professional responsibility, little directly related to the experience of teaching. At least not noticeable positive dynamics of responsibility growth in teachers with experience. Therefore, we should look for other factors in the education of professional responsibility. In particular, the ways of its formation in primary school teacher applicants in the process of professional training.

2 Literature Review

Responsibility in modern contexts is interpreted as a socio-psychological term. The foundations for a broad application of social determinants to the understanding of this term, previously defined mainly as narrowly psychological, were laid at the end of the twentieth century. In particular, we were talking about the professional paradigm of the concept, since the professional activity of the individual is always a certain social attachment. Responsibility is also interpreted as an important indicator of the level of professional development of a specialist in any branch and can also characterize the degree of personal development. The phenomenon of responsibility in the paradigm of professional activity of teachers, including primary school, has been investigated in the works of such contemporary scholars as Bakx et al. (2015), Niemi et al. (2016), Dahl (2017), Cochran-Smith et al. (2017), Lauermann (2017), Sugrue (2017), Sugrue & Mertkan (2017), Bulgakov et al. (2020), Jedemark & Londos (2020), Mercer-Mapstone & Bovill (2020), Sengupta et al. (2020), Tamir (2020), Viskovic & Višnjić-Jevtić et al, (2020).

Lauermann (2017) considers the notion of teacher responsibility in relation to the motivational component of the teaching profession, in accordance with the motivational particle, – as an element of the more general concept of professional competence of teachers. González & Solovieva (2020) also investigated the analysis of elementary school teachers' professional motivations and their attitude towards the learning process. Grigg (2019) draws on theory, research, and real-world examples to discuss what it takes to become an outstanding modern primary school teacher. The reasoning of the need to develop a culture of speech as a component of professional responsibility is given in Esmaganbetova (2020). Vasantina & Kondratiuk (2021) confirm the importance of integration processes in primary education for the inclusion of this didactic category to the professional characteristics of the teacher.

According to Chepurna (2019), the features of the professional training of the future elementary school teacher and the implementation of its professional responsibility can be successful only if there is a practical training of future teachers and fixed bases of pedagogical practice. Tashpulatova (2021) suggests discussing the professional profile of primary school teachers and analyzing approaches to improve it through the compilation of professionograms. Chirkova (2021) is of the same opinion, emphasizing the leading task of modern teacher education, which should be realized by providing opportunities for personal and professional self-improvement of teachers. Tyshchenko (2020) argues that the education of professional responsibility in future elementary school teachers in the conditions of pedagogical institution of higher education also has a narrow specificity, as it also involves the identification of essential structural components of inclusive competence as an integral part of professional and educational competence of teachers. Jess, et al. (2017) argue that the complexity of the process of professional learning responsibility of future elementary school teachers in HEIs, is based in the reflexive criticism of non-linear and "disorderly" trajectory of professional learning efforts of teachers. To solve this problem, the authors resort to transformative forms of explaining the concept of "professional responsibility" based on dynamic systems, social constructivism Lee.

Niemi et al. (2016), analyzing the impact of the concept of active learning on the formation of professional competencies of future teacher students (based on the experience of Turkey and Finland), also refer to the issues of teachers' professional responsibility and its formation in the process of active learning at university. It is about the fact that the professional competencies of future teachers contain a wide range of job responsibilities of the teacher: both directly in the school and in society as a whole. The openness of school systems and active public participation in school life, according to Cochran-Smith et al. (2017), are external stimulants of teacher professional accountability. Because the teacher is accountable about the progress and outcomes of his or her professional activities. All of this forces the teacher to act responsibly, make balanced pedagogical decisions, and choose didactic strategies carefully.

Bulgakov et al. (2020) consider the relationship between the pedagogical experience of an elementary school teacher and the level of formation of professional responsibility. For the profession of an elementary school teacher formed traits of

responsibility are especially important through the special sensitivity and plasticity of the psyche of the child of primary school age in accordance with the age features of psychophysiological development. Therefore, primary school teachers, who began their professional activity in a short period after obtaining the appropriate professional qualification, is the most responsible.

Sugrue (2017) Tamir (2020) addresses the notion of teacher professional responsibility tangentially to the notion of professional rigor. Jedemark & Londos (2020) use the experience of the Swedish education system and university teachers to explore how teachers' work behavior balances between professional accountability and professional responsibility. The more accountability required of teachers, the less responsibly and exhaustively it is implemented. In Mercer-Mapstone & Bovill (2020), teacher-training models of 11 HEIs in the UK were the object of the study. Mentoring schemes are recognized as an effective means of increasing the professional responsibility of future teachers in university professional training.

Integrative and comprehensive is the vector of scientific attention of Sengupta et al. (2020): the concept of teacher professional responsibility is introduced in the context of corporate social responsibility. Higher education institutions are given a central place in the implementation of sustainable development programs. Teachers at all levels are the implementers of these programs in the paradigm of educational tools. Therefore, the need to involve future teachers as early as possible in public work at the level of local government is noted. Similar content insights also in Viskovic & Višnjić-Jevtić (2020), which examines the professional responsibility of teachers, in particular junior high school, to implement the educational transformations that are introduced in the innovative development of education. The study of Bakx et al. (2015) consisted in recognizing the traits, in the imagination of elementary school students are compared to the image of the ideal teacher. It was found that traits related to professional responsibility have an important role in the structure of the ideal teacher's image.

The angle of Dahl's (2017) attention is also interesting. It is analyzed how too close cooperation between teachers and parental teams, a traditional practice in Danish schools, affects teachers' attitudes towards their professional responsibility. This is especially relevant when it comes to children in the junior high school, for whom parental hyper-parental care, hyper-anxiety, and consequently attempts to control the school process as much as possible, are very frequent. Too much parental interference in school affairs has an extremely negative impact on a teacher's professional responsibility.

Sugrue & Mertkan (2017) point out that many elementary school teachers have very limited opportunities to participate in professional development programs.
Consequently, teachers need to continually develop responsible work attitudes to enhance their professional performance. Despite the large number of scientific studies devoted to the current topic, there is still a mandatory for the study of a step-by-step system of education of professional responsibility in future elementary school teachers in the conditions of the pedagogical institution of higher education.

2.1 Aim and Research Objectives

The aim of the study is to make recommendations for the education of professional responsibility of future primary school teachers in the conditions of a higher education institution.
Research objectives: comprehensive study of theoretical foundations of formation of professional responsibility of primary school teachers in the framework of university training experimental determination of diagnostic indicators of professional responsibility education depending on the level of academic success.

3 Materials and research methods

The following research methods were used in the preparation of scientific exploration:

- observation and description (when considering and describing the features of the structure and semantics of professional responsibility of future teachers of junior school);
- method of theoretical analysis (while studying the actual literature on the topic and ways of theoretical representation of the phenomenon of professional pedagogical responsibility in case studies)
- analysis of statistical data (in the study of the results of student testing)
- complex analysis (when analyzing the phenomenon of professional responsibility);
- functional method (in determining the functions of professional responsibility and functions of university approaches for effective education of sustainable attitudes)
- the method of system analysis (in the establishment of structural links between the factors of professional responsibility education);
- method of generalization (in forming conclusions from the conducted theoretical research).

45 graduate students (applicants of education and qualification level “bachelor”, fourth year of study) were involved in the survey. According to the indicators of academic performance, respondents were divided into 3 groups: *Group 1:* students with success rates exclusively A (15 respondents); *Group 2:* students with predominance of B, C in their record book (15 respondents); *Group 3:* students with a predominance of D, E grades (75% or more of all grades of the winter and summer credit-examination session 2019-2020 academic year) (15 respondents).

The information base of the study was:

- The works of contemporary authors on the professional responsibility of the teacher;
- European Commission / EACEA / Eurydice (2020) report documents
- Program documents of UNESCO;
- Eurostat data (2020).
- Job profiles of Primary school teachers on job search sites (in particular, the British site prospects.ac.uk)
- The author/s' own observations.

Respondents were asked to correlate the stages and elements of teachers' actions in HEIs aimed at the successful implementation of professional responsibility education in order to present a generalized scheme for further scientific and practical use. The questionnaire is based on the information base and sent to the students to their email boxes. The time for responses is limited to one month. The author mechanically processes the results.

4 Results

The first block of the questionnaire was aimed at determining the general attitude to the system of education of professional responsibility in HEIs of all the participants of the experiment. The results of the diagnostics of the level of professional responsibility of the students of pedagogical HEIs are presented in Table 1. The General Responsibility Test scores of “highly responsible person,” “quite responsible person,” and “relatively responsible person” were considered qualitative criteria for positive professional responsibility among respondents. In the What Kind of Teacher Are You? – “teaching is totally your's profession”, “you are conscious teacher with tendency for self-improvement”, “relatively responsible attitude to the future teacher profession”. For each respondent, whose results were positive qualitative indicators for each of the tests, the group was assigned 1 point (Number of positive answers).

Table 1: Summarizing the indicators of professional responsibility diagnostics by groups of respondents

General Responsibility Test	Number of students	Test "What Kind Of Teacher Are You?"	Number of students	Number of positive answers x/30 max possible	Group professional responsibility rate, %
Group I					
highly responsible person	9	teaching is totally your's profession	11	28	93%
quite responsible person	3	you are conscious teacher with tendency for self-improvement	3		
relatively responsible person	2	relatively responsible attitude to the future teacher profession	1		
not too responsible person	2	you take little care about your future job responsibilities	0		
mostly not responsible person	0	you regard teacher profession as not too serious and responsible job	0		
not responsible person	0				
Group II					
highly responsible person	5	teaching is totally your's profession	6	22	73%
quite responsible person	3	you are conscious teacher with tendency for self-improvement	3		
relatively responsible person	3	relatively responsible attitude to the future teacher profession	2		
not too responsible person	2	you take little care about your future job responsibilities	3		
mostly not responsible person	2	you regard teacher profession as not too serious and responsible job	1		
not responsible person	0				
Group III					
highly responsible person	1	teaching is totally your's profession	0	9	30%
quite responsible person	2	you are conscious teacher with tendency for self-improvement	2		
relatively responsible person	2	relatively responsible attitude to the future teacher profession	2		
not too responsible person	6	you take little care about your future job responsibilities	6		
mostly not responsible person	2	you regard teacher profession as not too serious and responsible job	5		
not responsible person	2				

The second block of the questionnaire was divided for each individual group. The content of the second block involved inferring a comprehensive vision of students with different academic performance of the structure of fostering professional responsibility in HEIs. Respondents were asked to correlate in one group such indicators: the systemic nature of responsibility; the
main factors of professional responsibility of a primary school teacher; the result of the formation of professional responsibility; the main criteria of professional behavior, as well as the definition of measures for the successful implementation of professional responsibility (a set of pedagogical conditions and forms of educational and pedagogical activities). The results correlated with the first group are presented in Tables 2, 3, 4 respectively.

Table 2: The complex assessment of the structure of education of professional responsibility in HEIs by students with remarkable success

Systemic nature of responsibility	The main factors of professional responsibility of a primary school teacher	The result of the formation of professional responsibility	Basic criteria of professional behavior	The identification of measures for the successful implementation of professional responsibility	
				complex of pedagogical conditions	forms of educational activities
reflects the individual's feelings for the quality of their work, anxiety in case of failure, in general, emotional attitude to professional responsibilities	reporting and control mechanisms as external factors stimulating responsible professional behavior;	to form the image of an honest and decent employee; find contact with the participants of the pedagogical process faster; outline career prospects	stability of career guidance determinants and the formation of professional orientation of the individual; the ability to consciously relate to one's professional role and to oneself in the context of the performance of professional duties	implementation of a professional-oriented approach based on the use of interactive methods of training applicants	research work (development of presentations, organization and participation in thematic debates, "round tables", scientific discussions, etc.); reflection on educational material and personal experience .

Table 3: The complex assessment of the structure of education of professional responsibility in HEIs by students with success level B, C

Systemic nature of responsibility	The main factors of professional responsibility of a primary school teacher	The result of the formation of professional responsibility	Basic criteria of professional behavior	The identification of measures for the successful implementation of professional responsibility	
				complex of pedagogical conditions	forms of educational activities
awareness of the essence of responsibility as a personal characteristic, understanding of the social significance of pedagogical activity; predicting the results of pedagogical activities, understanding the profession through understanding the rules, conditions of the pedagogical situation, drawing up an imaginary work plan	mechanisms of formation of professional responsibility while studying at the university	to stimulate self-confidence; be more independent;	ability to correctly set pedagogical goals and effectively achieve them in the process of work; awareness of the dynamics of professional development, the need to develop creatively within the profession, to improve the initially formed pedagogical competencies.	formation of a sense of belonging and morality of the teacher's professional position through the creation of a positive emotional environment of university education	theoretical researches of problems of pedagogical activity within the limits of elementary school

Table 4: The complex assessment of the structure of education of professional responsibility in HEIs by the students with the scores of level D, E being prevailing

Systemic nature of responsibility	The main factors of professional responsibility of a primary school teacher	The result of the formation of professional responsibility	Basic criteria of professional behavior	The identification of measures for the successful implementation of professional responsibility	
				complex of pedagogical conditions	forms of educational activities
independence of acting as a primary school teacher, denial of expansive outside guardianship and external control over their professional activities, bringing the case to an end.	the level of formation of responsibility as a general feature of character	to develop personally; to feel safe and stable within the pedagogical profession.	the ability to understand the consequences of their actions	demanding to applicants for the pedagogical profession, the orientation of applicants to high standards of the teaching profession; development of reflection through the involvement of students in autonomous learning	solving practical problems (working with professionally-oriented situations of problematic nature: simulated situations, cases from the experience of university teachers; cases of teachers-practitioners who work with children of primary school age, cases from students of educational and industrial practices).

So, the line of education of professional responsibility in future elementary schoolteachers in the paradigm of university training should attract:

- responsible attitude to subject teaching;
- knowledge of the psycho-physiological peculiarities of the development of primary school children;
- teaching applicants the ability to constructively solve problem situations;
- conscious attitude to the teaching profession and the formation of pedagogical professional orientation;
- preventive measures to ensure the resistance of the established attitudes of professional responsibility to ensure sufficient resistance to professional responsibility and prevention of professional burnout.

5 Discussion

The results of the survey showed that in the process of university education it is extremely important on the part of the teaching staff to make sure that the process of professional burnout does not enter immediately before the start of professional activity in school. The objects of control and stimulation should be the category of sustainability of vocational self-determination of the applicant and the related category of professional orientation (Bulgakov, 2020). The institution of higher education should not only impart to the future teacher knowledge, formation of abilities and skills, but also turn the whole system of knowledge and skills on professional competence.

The main professional qualities of a teacher are considered to be socio-moral, professional-pedagogical and cognitive orientation. For effective training of future specialists in primary education should be applied in the educational process modern pedagogical technologies Riaboshapka, O. (2020). Çermik, (2011) in his

study appeals to 6 components of professional responsibility education ethical and humanistic values; pedagogical skills; cultural and scientific knowledge; personal qualities; interaction with society, environment and parents; and self-esteem. The elementary school teacher plays an important role in implementing societal reform within the framework of sustainable development and other visionary perspectives of our time. The tools at the teacher's disposal to integrate change into society are determined by educational approaches and tactics. The teacher, as the engine of the education system, is thus also almost the main subject of national progress as a whole. In this context, the implementation of educational programs can be successful only with the help of responsible teachers.

Based on the study we understand that the concept of professional responsibility is closely related to a conscious attitude to their learning, indicators of academic performance, and understanding of future job responsibilities. Glavas (2016) also confirm this view. The phenomenon of professional responsibility is considered through the prism of social responsibility, acts as a generic concept for all its derivative components: professional, moral, environmental, civic, legal, etc., Also identified in the works of Hamilton (2006); Glavas (2016) Sengupta et al, (2020). In the structure of social responsibility, professional responsibility is the core in relation to other substructures of social responsibility. The presence of established professional responsibility in the individual is determined by factors such as academic performance, personal values, internal locus of control, and low levels of anxiety in the subject of professional activities, are outlined in Bulgakov et al. (2020).

In addition, professionally responsible elementary school teachers, as a rule, require a responsible attitude towards learning and from their students and even parents – in their attitude towards the process of learning in school. This is very important, because at the beginning of their schooling elementary school students still very often need organizational and motivational help from their parents in the process of actively developing independent learning skills. Because of the complexities of the early school learning process and the need for close interaction between the various actors (active and passive) in the learning process (teachers-pupils-school administrators-parents or children's guardians), it is important that applicants for a degree in early childhood education have the opportunity to interact directly with school tutors-practitioners during their university studies. It is also appropriate to compare the notion of professional pedagogical responsibility with the notion of teachers' positive attitude toward their profession (Miočić et al., 2020).

In the theoretical aspect, among the current research on the education of professional responsibility of future teachers there are noticeable limitations such as: Lack of works that focus exclusively on the aspects of professional responsibility of future elementary school teachers; Lack of works that would disclose the issues of formation of professional responsibility in the conditions of pedagogical institution of higher education.

On this basis, unprofessional behavior of the teacher is very often determined just by the lack of formation of professional responsibility. The peculiarity of professional error of a junior high school teacher is that it can appear NOT immediately, but only in the long term. However, this is not the greatest danger of pedagogical irresponsibility. For example, an inappropriate attitude towards the students of a young school in the long run leads to the formation of maladaptive behavior. The competence to understand the consequences of one's own actions is a central component of the structure of the concept of professional responsibility of a young schoolteacher.

6 Conclusion

The results of theoretical analysis of the problem of professional pedagogical responsibility allow us to conclude that teaching the essence of professional responsibility is possible through targeted didactic influence within the framework of university education, which involves mastering the subtleties of this phenomenon by applicants. The main task of the process of fostering professional responsibility in future teachers of junior school is to achieve sustainability, resistance of this phenomenon. This is possible through the perspective of the fullest and non-idealized representation of the profession in the formation of professional competencies of applicants. At the same time, it is important to create a positive image of the profession, focusing on the benefits, and social significance of the role of an elementary school teacher.

The conducted study of the features of fostering professional responsibility among future elementary school teachers in the conditions of pedagogical institution of higher education allows to state that the effective formation of responsibility among students during the educational process is possible with the implementation of the proposed recommendations:

- control over the academic performance of students, demanding;
- communicative-activity approach to the formation of responsibility;
- humanistic attitude of university teachers to each student, the prospects and dynamics of his/her professional development;
- theoretical and practical competence of university teachers;
- using the dialogue “teacher-student” as a leading technology in the formation of responsibility;
- partnership-friendly model of relationships between teachers and students;
- personal example of responsible attitude to professional activity on the part of university teachers.

Creating the field of students' responsibility already during their study at HEIs can be formed through the involvement of applicants to the active teaching and educational activities.

In order to develop in the applicants for the teaching profession an understanding of the consequences of professional actions and responsibility for these actions it is necessary within the framework of university education:

- provide students with a system of knowledge of rights and responsibilities, values, professional ethics, norms of pedagogical behavior, morality, permissible and impermissible social actions;
- to form a positive attitude towards responsible behavior in general and in pedagogical activity in particular;
- to form students' conscious perception and acceptance of the requirements society offers to the person of a modern elementary school teacher;
- to create conditions to ensure the development and self-development of the candidate's personality, his readiness to fully and morally, based on the partnership and cooperation to build professional activity.

Further research on the topic can deal with the practical aspects of the implementation of professional responsibility, developed during university education, in the process of pedagogical activity of an elementary school teacher. As well as the practical aspects of the formation of professional responsibility of the teacher within the framework of pedagogical training. It is appropriate to develop empirical means of measuring the sufficiency of the formation of professional responsibility of the future primary school teacher.

The practical value of the exploration is to provide methodological recommendations for the formation of professional responsibility of future primary school teachers.

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Primary Paper Section: A

Secondary Paper Section: AM

CLOUD TECHNOLOGIES IN MANAGEMENT OF PEDAGOGICAL EDUCATION INSTITUTIONS

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Abstract: This article highlights the features of cloud technologies in the management of pedagogical higher education institutions. The aim of the study is to systematize relevant information on the use of cloud technologies in the management of pedagogical higher education institutions. According to the results of the study, we can conclude that before the pandemic, the situation in the field of cloud computing was quite different. Only some of the world's best universities were implementing cloud technology in their management processes. Today, almost every higher education institution in the world fully or partially implements cloud technology to provide distance education.

Keywords: Cloud Technology, Pedagogy, Higher Education Institution, Distance Education.

1 Introduction

Information technologies and computerization in all education spheres have been one of the main trends in the development of society for many years. Although new information technologies are introduced into the educational process, higher educational institutions are equipped with computers and permanent access to the Internet, which teachers and students openly use.

These processes have formed a new scientific and technical foundation for developing and functioning virtual tools in education. Creating a virtual educational environment is one of the essential methodological and pedagogical tasks for the effective organization of the educational process. It consists of the development of university infrastructure, namely the information environment, which implies the introduction of new information services. New information technologies serve as tools used to solve individual pedagogical tasks and provide new opportunities for the learning process.

The expansion of information technology capabilities requires the creation of new information infrastructure to meet the needs of the learning process, which is undoubtedly a significant burden on the university. Different approaches and methods form the basis of information systems that support the activities of the virtual space of an educational institution. One of these tools is cloud computing, which forms a promising area that offers enormous advantages in data management. Cloud computing technology is understood as a model that allows combining information and technological resources of different hardware into one and providing user access through a local or a global Internet network (Fofarti, 2011; Emelyanova, 2014).

2 Literature review

The issue of cloud technologies in education is widely researched in the scientific literature. In general, studies can be classified into general studies that define the structure and models of such technologies. Also, some studies determine the usefulness of cloud technology for individual universities or countries. Much of the research is quite specific and focuses on assessing the effectiveness of cloud services for the teaching of specialists in certain professions.

Pardeshi (2014) Islam et al. (2017) looked at the use of cloud service in the interactions of different universities. The author noted the main benefits of using technology and identified leading models: IaaS, PaaS, and SaaS, and their benefits in the educational process. The author also defined the classification of models in terms of their availability: private, collaborative, public, hybrid. The study focuses on the implementation of these models in the educational process.

Hasibuan & Selviandro (2013), Viswanath et al. (2012) identified the importance of cloud technologies for distance learning. They showed the benefits of cloud services for higher education institutions and the features of the architecture. Almajalid, R. (2017) surveyed the use of cloud technology by educational institutions. As a result, the main advantages of the transition to cloud technology were identified: data protection, information quality, integration capabilities, and the like. The research was carried out on the example of The University of California (UC), The University of Westminster (UOW), Eastern Michigan University (EMU). According to the study results, it was determined that the use of cloud technology could save money, increase the number of studies and improve the interaction between the participants in the educational process. Zhao, K. (2017) examined the specifics of using a Google cloud service in the educational process. The main emphasis was placed on implementing this environment in the educational process, which aims to build effective interaction between students. And in turn, Kasiolas, V. (2017) conducted a study on the effectiveness of cloud services for teachers.

The research on the implementation of cloud models in the educational process of dentists is also interesting. This study was conducted by Zorina, Berkutova, Petruhina (2016); it summarizes the information on models and types of cloud environments and studies the practical use of cloud services and their importance in training future specialists. Averina, I. (2014) carried out similar research for the training of economists and accountants in Belarus. However, as for studies in pedagogical higher education institutions, they are sporadic and insufficiently covered. At the same time, most of these studies were carried out before introducing mass distance learning associated with the pandemic. Therefore, modern studies of cloud technologies are not enough to assess their importance and relevance for educational institutions. This fact forms the significance of the research and allows us to formulate the aim of the study: to systematize current information on the use of cloud technologies in the management of pedagogical higher education institutions.

3 Materials and research methods

This research includes general scientific methods: analysis and synthesis. To build the study, the information was systematized with its synthesis into the following components: the importance of cloud services in the educational process, the main advantages of using such technologies, a practical analysis of technology using by universities on the basis of survey data. The paper also makes a critical approach to defining the essence of cloud service and its structure. Based on the literature study results, a list of the most used cloud technologies by higher education institutions was collected. The main problems in using technology in higher education institutions are highlighted. Based on this information, a proposal for the functional use of cloud technology for pedagogical universities was made, the problems of technology implementation and ways to solve them were identified.

4 Results

In the global community, many universities are allocating more and more resources to improve their positions in international rankings. For example, Lone Star College System (Texas, USA) today ranks second among the most innovative universities, and it uses cloud technology in its educational process. Purdue University (West Lafayette, Indiana, USA) actively uses social media in the educational process, in particular Twitter, Facebook. Massachusetts Institute of Technology (Cambridge, Massachusetts, USA) has assembled one of the largest artificial

intelligence labs; 77 MIT scientists are Nobel laureates (Stefanovich, 2018). The truth is simple: many institutions need to enter a new stage of their development to be among the most prestigious universities. One of the main tasks is to solve the problem is to implement electronic services and cloud computing technology. As the result the students will get teaching materials, the teachers – control of the learning process and preparation for lectures, the manager of the university – the levers of management, the accounting department – accounting services. Each of these users has the need to obtain the necessary information, and at the same time, it does not matter how it is implemented, who provides these services, and where they are physically located.

Foreign scientists have also paid attention to the use of cloud technology in the educational process. So, Italian scientist Fini A. (2009) notes that the main promising direction in the development of information technology based on cloud computing is the possibility of practical use by students of convenient network tools in learning and obtaining new knowledge (Fini, 2009).

The use of cloud technology has many advantages among other educational programs and services (see Fig.1).

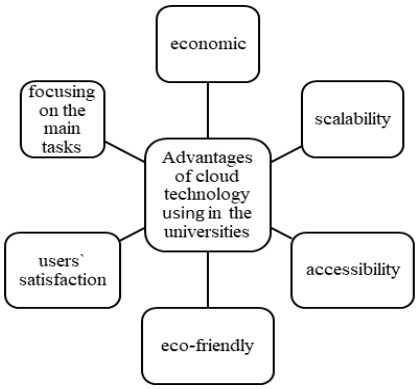

Figure 1 – The main advantages of using cloud technology in the management of pedagogical higher education institutions

Economic advantages. The use of cloud technology does not require capital expenditure on the creation and maintenance of data centers, the purchase of server and network equipment to create your IT infrastructure. The purchase and installation of expensive software and regular updates of platforms and systems are also unnecessary. The cloud solution provider bears all these costs. As a result, the workload of technical staff is reduced, allowing the same research staff to be involved in other projects useful to the institution.

Flexible scalability. Due to such characteristics of cloud services as elasticity, the institution has an opportunity to gradually increase the volume of used services without significant up-front investments. During peak usage periods (for instance, during sessions), there is no need to plan additional information capacities because cloud services can scale automatically and almost infinitely.

High availability. According to Internet service providers, cloud services are available 99.9% all the time. This is very convenient for all participants in the educational process since they can implement learning opportunities virtually at any time and not depend on the institution's local information and educational resources. As a result, this leads to tremendous time savings. In addition, constant accessibility removes barriers to distance education, for example, in remote regions where the learning process can be affected by time differences. The high availability of educational resources has a favorable effect on the rating of the educational institution.

Reducing the impact on the environment. Many countries have embraced energy-efficient ("green") technologies that are less damaging to the environment than traditional technologies. Following the "green" concept, data centers must use energy-efficient technologies in their design and operation. As practice shows, it is more advantageous to use cloud services that use "green" technologies to reduce the environmental impact than to implement such technologies in the local IT infrastructure. For example, Google claims an 80-fold increase in energy efficiency when using its cloud technologies (Google Apps for education).

Meeting the needs of end-users. For end-users, cloud technology provides even more benefits. It is very convenient when data is available from any place with the Internet and from any device (personal computer, smartphone, tablet, etc.). Users don't have to worry about backing up their information because it is safely stored in the cloud. The cloud infrastructure guarantees data security. Talking about a standard office package delivered to educational institutions free of charge and can be used for a wide range of tasks, users will not need to spend money to buy software and time to install and update it on their computers. The only software that will require an upgrade is the web browser.

Concentration on key tasks. In any field of education, the main task of educational institutions is to focus on education and research. Using cloud technology reduces the cost of deploying and maintaining applications used in work, freeing up human resources that can be used in the educational process.
According to a study regularly conducted on cloud services, higher education institutions use cloud technologies for 25% as computing power, 29% to organize correspondence within the university, and 31% for information storage (see Fig.2).

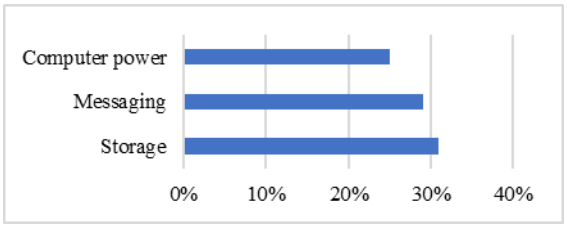

Figure 2 – Goals of using cloud technology in higher education institutions
Source: CDW's 2013 State of the Cloud report

In this case, universities use and apply different technologies that belong to the cloud. In order to study the issue on a scientific level, first, we need to understand what cloud technology is. There are many different interpretations of cloud technology; in particular, if we talk in simplified terms, it is a centralized, remote data center in which computer resources and capacities are provided to the end-user as an Internet service (Kolesov, 2014).

According to the US National Institute of Standards and Technology NIST, which is likely to be adopted at the JTC1 ISO/IEC level as well (Carlson, 2011): "Cloud technology is a model for providing ubiquitous and convenient network access as needed to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be quickly provisioned and released with minimal management effort or interaction with the service provider" (NIST).

In order to understand the specifics of using cloud technologies, it is necessary to study their structure. In general, there are three main types of cloud models:

- IaaS (Infrastructure as a Service) is the provision of computer infrastructure in the form of virtualization as a service.
- PaaS (Platform as a Service) provides an integrated platform for developing, testing, deploying, and maintaining web

applications as a service. The architecture is designed at Microsoft and consists of several components.

- SaaS (Software as a service) is a business model for selling software. Using this software, the developer, aka a vendor, develop a web application and manages it independently, providing customers with access to the software over the Internet (Fogarty, 2011).

Let us consider these cloud models to identify the possibility of applying them in the university's educational process. The IaaS model consists of an operating system and an application; its service provides the consumer with network processing and storage systems and many other fundamental computing resources to host and use various software. Thus, the consumer controls the core components of the cloud but has no control over the operating system (Ratushnaya & Kovalchuk, 2014).

The PaaS model provides the ability to rent a platform for developing and hosting applications. This model is a service provided over the Internet and consists of software, an operating system, and a database. Typically, this platform focuses on specific programming languages such as Java or Python and primarily uses software developers.

The SaaS model allows the consumer to use off-the-shelf application software, as the provider maintains the service in a cloud infrastructure. Applications are available using various devices or through thin client interfaces, such as a web browser or software interfaces, which move a large amount of information processing tasks to the server. The user does not directly manage the underlying cloud infrastructure, networks, and servers in this model. Today, many SaaS offerings range from specialized industry-specific projects to consumer applications such as email (Rudenko, 2020). The research showed that SaaS technologies, i.e., software for organizing education, are used the most (see Fig. 3).

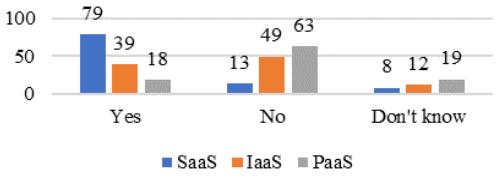

Figure 3– Most used cloud technologies at universities, %
Source: eCampus News, 2015

But it should be noted that the COVID-19 crisis has completely reshaped the cloud technology market. As a result, in 2021, the top priority for higher education institutions is the transition to modern cloud technology (see Fig. 4).

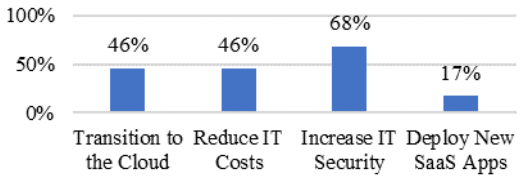

Figure 4 – Top priorities of higher education institutions for 2021
Source: OKTA, 2021

At the same time, universities in different countries are trying to choose one technological solution in order to organize at least communication processes. However, today there is a problem in communication between the student and the teacher and in providing quality education. Therefore, it is necessary to transfer the entire educational process to cloud platforms to help students easily find the essential information and use it without restrictions (see Table 1).

Table 1. The most popular cloud platforms for education

№	Name	Field of use
1	Moodle	Developed by Australian programmers, and is one of the most popular in the world. The platform has about 20 million users and three million courses. It is a boxed solution; it can be freely downloaded from the Internet. Payment is made for additional services and space for storing files (Sclater, 2010).
2	IBM Lotus (Workplace Collaborative Learning, WCL).	A development by IBM. Universal, flexible, and easily scalable platform for organization of distance electronic education, management of educational resources and materials. It can be used for professional development in big companies as well as in educational institutions.
3	Shareknowledge	Developed by Competentum. It is a free out-of-the-box solution. The platform's main advantage is the ability to independently organize the whole cycle of distance learning, from course development, preparation, delivery to class management and students' knowledge control level. Text and multimedia files are used in training. Teachers can give students tasks with a time limit, starting and finishing tasks, etc. Assessment of trainees' knowledge level is realized with the help of electronic tests.
4	WebTutor	The program is developed by the Russian software manufacturer WebSoft. It has a modular approach, allowing to organize adjusted systems on the basis of a set of program modules, which functions depend on the customers' purposes.
5	G Suite for Education	G Suite for Education provides a set of services from Google but is available in the *.edu domain. Gmail, Drive cloud storage, services for creating spreadsheets, documents, presentations, and websites (Sheets, Docs, Slides and Sites). Since the product is focused on covering an entire institution, a corporate account is supposed to be registered for the person in charge. User accounts with different access rights are created within the corporate account. (Leonov, 2012).
6	Microsoft Office 365	Microsoft Office 365 for Education allows educational institutions to take advantage of all the features of cloud services, helping to save time and money and improve student and employee productivity.
7	Windows Azure in education	Offer educators the opportunity to incorporate one of the most innovative and fastest-growing technologies into their teaching, both in theory and in practice (Safonov, 2013).
8	Learning Management Systems	Its use is reasonable for those educational institutions which cannot afford the purchase and maintenance of software and expensive equipment.

The most common cloud-based service systems used in education are Live@edu from Microsoft and Google Apps Education Edition from Google (Aleksanyan, 2014). Google office suites, Google Apps for Educations, Office Online, Office 365, and Zoho Office are examples of service applications and can provide collaboration capabilities. Google packages for education include a free and ad-free suite of tools that enable teachers and students to interact, teach and learn more successfully and effectively. All the listed features of cloud storage services allow professors to store all the methodical documentation in the “cloud” and organize joint access to cloud storage for students and other professors, quickly monitor the student's progress and results of the educational process. This is one of the promising opportunities to expand the available

toolkit of modern teachers and their management regardless of the geographical distance. This is a more advantageous proposition than creating a virtual one among universities, which have long been ineffective in a pandemic environment. Table 2 describes the problems that arise when supporting software and equipment with and without cloud technology.

Table 2: Comparative characteristics of cloud technology in the management of higher educational institutions

Challenges of using cloud technology	Opportunities to use cloud technology
High purchase and maintenance costs of hardware for teachers	Possibility to use data from any computer connected to the Internet
The need to maintain the equipment, which leads to an increase in the staff of IT-specialists at pedagogical university	Possibility to process data from various devices, including cell phones, which is especially important for students
High labor costs to maintain rather than develop educational infrastructure	Possibility to process data from any operating systems and browsers
The difficulty of organizing corporate mobility of licensed software	No need to copy data to move it from one workplace to another
Non-intrusive access to the database of persons who can disrupt the educational process	Possibility of quick recovery of the software (if a licensed version is available)
Problems of integration and interaction of information of different cloud technologies	Easy organization of laboratory and practical classes on pedagogy with the connection to the pedagogical process of any school

Pedagogical universities need to train such specialists who will be able to teach in a distance education environment. Based on the above, it is possible to highlight the main functions of cloud platforms for higher education pedagogical institutions, which are shown in Fig. 5.

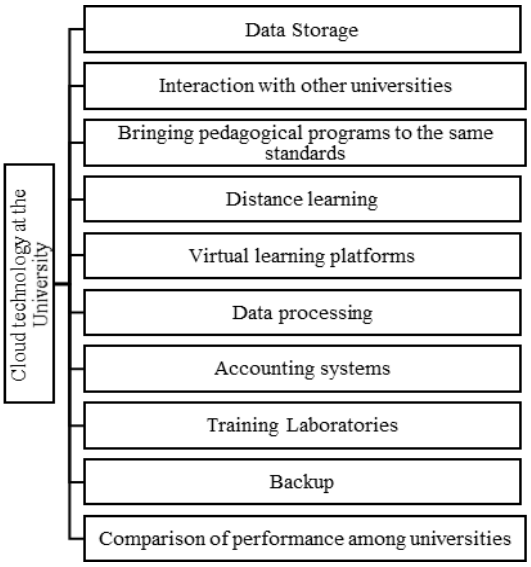

Figure 5 – Functionality of cloud technology in pedagogical universities

To this end, it is necessary to study and use different cloud technologies in education so that future specialists will be ready to solve such technical tasks in practice. In this case, it would be advisable to use popular technical solutions, which are guaranteed to have good prospects and develop over time. Furthermore, it is necessary to make a conscious choice of cloud products to consider online platforms that could unite the scientific process in all connected educational institutions. In this way, teachers could actively interact with colleagues from other institutions, share experiences, and solve problems together.

5 Discussion

Nowadays, when different educational institutions use different cloud technologies in the educational process, it is important to consider the issue of shell interoperability. Practice shows that educational institutions often need to organize joint conferences, virtual meetings and efficiently exchange data. The main problems of cloud technology interoperability are:

- different approaches to storing and configuring operating systems and applications;
- the use of different security standards and management interfaces;
- the inability to quickly integrate into a pedagogical environment (Fojtik, 2018).

Standards describe certain approaches and elements necessary for the infrastructure of universities and various business structures that face the challenge of creating universal standards of management and the possibility of interoperability of cloud platforms. A profile implies an agreed set of standards that must be compatible and updated as new standards are added. The Cloud Computing Profile should be based on documents such as the National Institute of Standards and The IEEE Standards Association (Aleksanyan, 2014).

Based on the above, the following conclusion can be made:

- higher education institutions have actively started to develop and find more and more applications for cloud computing, with the applied aspects significantly overtaking the fundamental aspects, so it is necessary to start studying this direction in the teaching programs to prepare qualified specialists who are ready for distance education;
- cloud computing represents, in general, the interconnection of different networks, servers, and workstations with different systems, for which the problem of interaction of heterogeneous information systems is most relevant. In the context of distance education, it would be right to use common cloud platforms to enhance students' education, which can compensate for the lack of information with available information of other universities.

The problem of interoperability, the possibility of interaction, joint work according to the experience of application in the world practice should be solved on the basis of open systems technology and the use of unified standards of information technology.

Many organizations around the world are addressing the problem of interoperability, interoperability, and collaboration for cloud computing, but the work is patchwork. Since institutions of higher education choose all cloud services on a competitive basis, there is no simple solution to the problem at the moment. On the contrary, with the development of new technologies, the issue only worsens, as more convenient and affordable services will constantly appear on the market, used by different higher education institutions looking for the best technological educational solutions. To improve the educational process, educational institutions in a city, region, or country can choose common platforms to work with, which will help educate students more efficiently and allow the efficient use of financial and human resources.

6 Conclusion

The issue of using cloud technology is quite studied in the theoretical aspect. When cloud technology emerged, the best universities in the world understood that it would allow a more effective interaction between administration and teachers,

between teachers and students, and between students. However, in the market, commercial companies present different technologies, and each of them has weaknesses and problems in use. Thus, to date, universities are looking for the best proposals that could provide the organization of the educational process and resource management (information, labor, financial) within the institution. Today, the transition to cloud technology is a must for every educational institution that provides distance learning. In light of the COVID-19 pandemic, all higher education institutions need to move to the cloud, but pedagogical institutions especially. Students of pedagogical universities should be ready to teach students and schoolchildren using cloud technologies, and therefore the implementation of such technologies in the educational process should be present today. At the same time, students should be able to use different platforms and configure their work as needed. At the same time, much higher education institutions have faced problems with the lack of online information for learning. Therefore the everyday use of common platforms could solve this issue. For example, instead of searching all over the Internet for necessary lectures, students could use one platform for universities of a particular specialty and find all the information they need. But the introduction of such platforms comes from the initiative of universities, which should unite and form more effective platforms for education, which is possible to do in the context of cloud educational platforms.

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Primary Paper Section: A

Secondary Paper Section: AM

TRAINING OF ETHNODESIGN SPECIALISTS IN A POSTINDUSTRIAL SOCIETY

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Abstract: The aim of this article is to reveal the peculiarities of training specialists in ethnodesign on the application of institutions of higher education of the United States of America, Canada and Japan. It was found that the peculiarities of the training of experts in ethnodesign should be disclosed by identifying the impact of the level of training of students of the future experts in ethnodesign on the employment level of the experts in ethnodesign – former graduates of Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art + Design, Ryerson University, Simon Fraser University, Seian University of Art and Design and Musashino Art University.

Keywords: Design Education, Higher Education Institutions, Postindustrial Countries, Regression Analysis

1 Introduction

Under the influence of the development of science and technology, every nation wants to preserve its cultural heritage. That is why the task of modern institutions of higher education is all-round and effective training of specialists in ethnodesign. Getting a design education for the direction of "Ethnodesign", the future specialists learn the art of creation and dissemination of ethnic style products. In order to preserve cultural values and traditions, institutions of higher education must conduct proper training of students in the field of "Ethnodesign" so that the students as the future specialists in ethnodesign formed design-creative, art and knowledge, information and professional competence.

Training of highly qualified specialists in ethnodesign at institutions of higher education should also be focused on the examination and study of each of the artistic and stylistic trends of ethnodesign, including industrial design, graphic design, environment design, clothing design, etc. Focusing attention on such aspects, relevance of topics of this research is caused by the peculiarities of training of specialists in ethnodesign.

2 Literature review

Macías et al. (2020) argue that ethnodesign is a model for the creation of ethnography in the context of including it in the design process. Brueggemann et al. (2017) argue that it is important for the training of ethnodesign practitioners to undergo reflective practices in the context of design education. Chalmers (2019) asserts that ethnodesign is one of the areas of art education. Müller (2020), examining the peculiarities of ethnography of design from the point of view of epistemology and methodology, states that ethnodesign is a process of combining reflections on creative art. Kornytska (2020), examining the peculiarities of ethnomystical education, notes that students, as the future specialists in ethnomystical design and art education, form an art and professional competences in the process of education. The combination of modern and innovative teaching methods and traditional art education has a special influence on the formation of such competences. Kukhta et al. (2015) argue that ethnodesign is the basis for the formation of a tolerant attitude to other traditions and cultures. Barab et al. (2004) argue that ethnodesign education should include collaborative project work. Mohedas et al. (2014) argue that ethnodesign is one of the key components of design and is focused on the individual, her desires and needs. Diachenko et al. (2021), examining the peculiarities of professional training of students, as the future specialists in ethnodesign, state that, acquiring higher education, students acquire new knowledge in the fields of philosophy, history of ethnos, applied art and ethnoculture. Buchkivska et al. (2020) have argued that ethnodesign plays an important role in the formation and development of ethnoculture.

Miyata et al. (2017) argue that design students should take an educational course based on innovative design, which is aimed at the development of creativity in such students as future design practitioners. Sudarmin et al. (2019) argue that the training of design practitioners should be based on the implementation of a model of design education in the teaching process. This model should be integrated into the relationship between the approach of using technology and the approach of using mathematics in teaching ethnology as design education. Kapaniaris et al. (2019) argue that the acquisition of new knowledge by ethnodesign practitioners can also be achieved by taking online training programs in folklore and ethnography.

Chyrchyk (2017) examines the methodological and organizational aspects of the training of teachers of graphic design and argues that the students, as the future specialists in graphic design, should form a cognitive interest to learning with the use of innovative methods of teaching on this basis. Cranz et al. (2014) state that in order to prepare students as future specialists in ethnodesign, especially in the field of architecture, semantic ethnography should be included in the educational process.

Thanks to the study of this discipline, the students, as future specialists in ethnodesign, will be able to distinguish the peculiarities of human behavior and their cultural values. Malpe (2020) argues that during the training of experts in ethnodesign special attention should be paid to the specifics of the design of ethnographic methods. Thanks to this, the specialists in ethnodesign will be able to better understand the ideas and desires of their future clients (for example, the design of ethnographic methods plays a special role in the sphere of environment design and graphic design). Rapp (2020) points out that while pursuing design education, students, as future specialists in ethnodesign, should be able to combine elements of ethnodesign with the development of new design projects. Noel (2020), reviewing the peculiarities of universal design education, states that the training of design craft is often the most popular in countries with a strong industrial-oriented economy. Bud et al. (2017) argue that the industrial design curriculum should be continuously introduced with new technologies. At the same time, Cezzar (2020) states that the educational process of the disciplines "Graphic and Communicative Design as Varieties of Ethnodesign" should also include the use of modern and innovative teaching methods in order to raise the level of knowledge of students as future specialists in graphic and communicative design.

Thus, based on the review of problematic aspects of ethnodesign we can say that the problem of training of specialists in ethnodesign from the practical approach is not fully solved. The aim of this article is to reveal the peculiarities of training of experts in ethnodesign based on higher education institutions of the United States of America, Canada, and Japan.

In the course of achieving the research aim, it is necessary to solve the following tasks

- to present the institutions of higher education of the United States of America, Canada, Japan, which carry out the training of students – prospective specialists in ethnodesign;
- to disclose the areas of training for students, who are graduates of the Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art and Design, Ryerson University, Simon Fraser University, Seian University of Art and Design, and Musashino University of Art;

- to detect the impact of the training level of students, who are aspiring ethnodesign practitioners at Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art and Design, Ryerson University, and Simon Fraser University, Seian University of Art and Design and Musashino Art University to the employment rate of ethnodesign practitioners – former graduates of Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art and Design, Ryerson University, Simon Fraser University, Seian University of Art and Design and Musashino Art University.

3 Materials and methods

In the article a number of research methods were used, in particular: 1) methods of theoretical analysis, synthesis, abstraction, observation and description – to reveal theoretical aspects of formation and development of ethnodesign as an educational field; 2) methods of system analysis and comparisons – to present the peculiarities of the training of students – graduates in ethnodesign, in institutions of higher education of the United States of America, Canada and Japan; 3) methods of measuring, regression analysis and consolidation – to determine the impact of the level of training of students – graduates of ethnodesign, in institutions of higher education of the United States, Canada and Japan on the employment rate of graduates of higher education institutions in the United States, Canada, and Japan. The study, which is based on the features of the training of specialists in ethnodesign, was conducted on the application of higher education institutions of the United States of America, Canada and Japan because the United States, Canada and Japan are one of the leading postindustrial countries in the world.

The informational basis of the study consists of:

- QS World University Rankings by Subject: Art & Design (Quacquarelli Symonds, 2021);
- part of the students who are receiving design education at the Parsons School of Design at The New School (Parsons School of Design at The New School, 2021), Rhode Island School of Design (RISD) (Rhode Island School of Design (RISD), 2021), School of the Art Institute of Chicago (School of the Art Institute of Chicago, 2021), Art Center College of Design (Art Center College of Design, 2021), Emily Carr University of Art + Design (Emily Carr University of Art + Design, 2021), Ryerson University (Ryerson University, 2021), Simon Fraser University (Simon Fraser University, 2021), Seian University of Art and Design (Seian University of Art and Design, 2021) and Musashino Art University (Musashino Art University, 2021).
- part of the employment of students who have received design education – former graduates of Parsons School of Design at The New School (Parsons School of Design at The New School, 2021), Rhode Island School of Design (RISD) (Rhode Island School of Design (RISD), 2021), School of the Art Institute of Chicago (School of the Art Institute of Chicago, 2021), Art Center College of Design (Art Center College of Design, 2021), Emily Carr University of Art + Design (Emily Carr University of Art + Design, 2021), Ryerson University (Ryerson University, 2021), Simon Fraser University (Simon Fraser University, 2021), Seian University of Art and Design (Seian University of Art and Design, 2021) and Musashino Art University (Musashino Art University, 2021).

4 Results

To identify the institutions of higher education in the United States and Canada for which this study was conducted, we use data from QS World University Rankings by Subject: Art & Design (Quacquarelli Symonds, 2021). Thus, focusing on the QS World University Rankings by Subject: Art & Design for 2021 established that our research is based on such institutions of higher education of the United States as Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art + Design, Ryerson University, Simon Fraser University and Canadian institutions of higher education such as Emily Carr University of Art + Design, Ryerson University and Simon Fraser University. The influence of the level of training of students – future experts in ethnodesign on the level of experts' employment in ethnodesign in Japan will be determined on the application of Seian University of Art and Design and Musashino Art University. In the course of the research, we will identify the areas of training of students – future specialists in ethnodesign at the institutions of higher education of the United States of America, Canada, and Japan (Table 1).

Table 1: Areas of student's training – the future specialists in ethnodesign at Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art + Design, Ryerson University, Simon Fraser University, Seian University of Art and Design and Musashino Art University

High education institution	Areas of training for students
United States of America	
Parsons School of Design at The New School	This high education institution trains students in Architectural Design, Communication Design, Fashion Design, Interior Design, Design History and Practice, Industrial Design
Rhode Island School of Design (RISD)	This high education institution provides training in "Apparel Design", "Industrial Design", and "Graphic Design".
School of the Art Institute of Chicago	This high education institution provides training of students in "Fashion Designing".
Art Center College of Design	This high school trains students in "Graphic Design".
Canada	
Emily Carr University of Art + Design	This high education institution is training students in Integrated Design, Industrial Design
Ryerson University	This high education institution is training students in "Interior Design".
Simon Fraser University	This high school is training students in interior design.
Japan	
Seian University of Art and Design	This high school is training students in Graphic Design, Costume Design
Musashino Art University	This high education institution trains students in "Industrial, Interior and Craft Design".

In view of the lack of information about the number of students who are studying design education (to express the level of training of students – future experts in ethnodesign) and the number of students, who have received design education – former graduates (which is an indication of the employment rate of design professionals – former graduates) of the Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art +

Design, Ryerson University, Simon Fraser University, Seian University of Art and Design and Musashino Art University. These institutions of higher education were officially requested to provide this information, as it is not confidential. Having obtained the information we need, we will present it in Table 2.

Table 2: Input data for the impact of the training level of students who are graduates of the Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art + Design, Ryerson University, Simon Fraser University, Seian University of Art and Design and Musashino Art University on the level of employment of the graduates of Parsons School of Design at The New School, Rhode Island School of Design (RISD), School of the Art Institute of Chicago, Art Center College of Design, Emily Carr University of Art + Design, Ryerson University, Simon Fraser University, Seian University of Art and Design and Musashino Art University

High education institution	Years / Indicators									
	2015		2016		2017		2019		2020	
	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2	P_1	P_2
Parsons School of Design at The New School	28,5	24,1	27,6	23,9	29,4	25,1	30,2	26,5	31,1	26,4
Rhode Island School of Design (RISD)	15,4	14,5	15,2	14,9	15,1	14,9	14,9	14,4	15,3	14,8
School of the Art Institute of Chicago	8,4	8,1	8,5	7,9	8,1	7,8	8,4	7,6	8,9	7,7
Art Center College of Design	7,1	6,8	7,5	6,9	8,1	7,5	7,9	7,6	7,9	7,4
Emily Carr University of Art + Design	13,2	12,8	13,8	12,7	13,5	12,5	13,6	12,8	14,0	13,1
Ryerson University	9,5	9,1	8,9	8,4	9,1	8,5	9,2	8,4	9,1	8,7
Simon Fraser University	13,1	12,5	13,5	12,7	13,4	13,0	13,8	13,5	14,1	13,7
Seian University of Art and Design	16,2	15,4	16,4	15,4	16,8	15,7	16,7	16,4	16,9	16,5
Musashino Art University	19,2	18,7	19,4	18,8	19,7	19,1	19,6	19,1	19,8	19,2

Definition:
P1 – the share of students who acquire design education out of the total number of students of this educational institution, %.
P2 – the number of students who received design education – former graduates of higher education institutions, %.

The results of the regression analysis allow us to note that the variation in the proportion of students who have received design education – the former students who have received design education. The results of the regression analysis (appendix 1 – 11) allow us to state that the variation in the number of design students – former graduates of the surveyed higher education institutions is due to the variation in the number of students at the Parsons School of Design at The New School – by 89.83%, the Rhode Island School of Design (RISD) – by 4.91%, the School of the Art Institute of Chicago – by 4.30% and the Art Center College of Design – by 85.64%. This data points to the fact that only two institutions of higher education we surveyed in the United States, i.e. at Parsons School of Design at The New School and Art Center College of Design the level of training of students – future specialists in ethnodesign significantly influences the level of specialists employment in ethnodesign – former graduates of these institutions.

As for the results of the regression analysis of Canada's institutions of higher education, the variation in the number of design students – former graduates of the institutions of higher education surveyed is due to the variation in the number of students at Emily Carr University of Art + Design by 25.18%, Ryerson University by 68.54%, and Simon Fraser University by 88.38%. The findings indicate that only Simon Fraser University has a significant impact on the employment rate of the students who will become ethnodesign professionals, the former graduates of this institution.

Emphasizing the results of the regression analysis of higher education institutions in Japan, it should be noted that the variation in the share of students who received design education – former graduates of the studied higher education institutions is due to variation in the share of students receiving design education from the total number of students at Seian University of Art and Design – by 61.51%, and at Musashino Art University – by 95.41%. Summing up the regression analysis in Japan it should be noted that only at Musashino Art University the level of training of students – future specialists in ethnic design significantly affects the level of employment of specialists in ethnic design – former graduates of this institution.

5 Discussion

Revealing the peculiarities of training specialists in ethnic design, we note that this issue is quite relevant in the research of many scholars. Namely Macías et al. (2020), Chalmers (2019), Müller (2020), Kornytska (2020), Kukhta et al. (2015), Barab et al. (2004), Mohedas et al. (2014) in the context of research note that ethnodesign as an educational direction is and at the same time affects: model of ethnography reproduction, development of reflective practice, key art, creative art, development of artistic and professional competencies, formation of tolerance in others other cultures and traditions, development of joint project work, orientation on the person.

Applicants in design education in the field of ethnodesign develop and update knowledge of philosophy, history of ethnos, ethnoculture, applied arts, ethnoculture, ethnography, folklore (Diachenko et al. (2021), Buchkivska et al. (2020), Kapaniaris et al. (2019)). We strongly agree with the results obtained by other scholars, but note that the disclosure of the peculiarities of training ethnodesign should be based on identifying the impact between the level of training students – future ethnodesign professionals and the level of employment of ethnodesign professionals – former students.

Because of our hypothesis about the influence of the level of training of students – future specialists in ethnic design on the level of employment of specialists in ethnic design – former students, we conducted a regression analysis on the example of higher education institutions in three postindustrial countries – USA, Canada and Japan. The results of the regression analysis showed that in two of the four higher education institutions in the United States, i.e. the Parsons School of Design at The New School and the Art Center College of Design, one of the three Canadian higher education institutions, i.e. Simon Fraser University and in one of the two higher education institutions in Japan, i.e. in Musashino Art University, the level of training of students – future ethno-design specialists significantly affects the level of employment of ethno-design specialists – former graduates of these educational institutions, as the variation of students of the studied higher education institutions is due to the variation of the share of students who receive design education

from the total number of students in these institutions by 89.83%, 85.64%, 88.38% and 95.41%, respectively.

6 Conclusion

It was found that the peculiarities of training of experts in ethnodesign should be carried out on the application of such three post-industrial countries as the United States of America, Canada and Japan in the context of determining the impact of the level of training of the students of the future graduates of higher education institutions of these countries on the level of employment of the graduates. It has been established that higher education institutions in the United States, Canada and Japan generally carry out the training of specialists in ethnic design effectively. This conclusion was made based on the regression analysis, which revealed the impact of the level of training of students – future specialists in ethnodesign, receiving design education at Parsons School of Design at The New School, Art Center College of Design, Simon Fraser University and Musashino Art University at the level of employment of specialists in ethnic design – former students of these institutions of higher education.

The practical significance of the results obtained by us in the study is that this approach to identifying the impact of student training on employment after design education is of universal importance, as it will be implemented in the context of disclosing training features of other specialties. The prospects for further exploration are to reveal the features of the training of specialists in ethnic design in the countries of the European Union.

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AUDIT IN DEVELOPING COUNTRIES: THE CASE OF EASTERN EUROPE

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Abstract: The purpose of the study is to implement a comparative analysis of audit activity is carried out on the example of Eastern Europe. The article is used methods of comparison, analysis, synthesis. In Eastern Europe, the audit develops in one direction, but has different stages of development, according to the economic and political state of countries. In countries that are not associated with the EU, audit is characterized by formality, pricing problems and low quality and practical usefulness for businessmen. EU-member countries need a more qualitative audit, which is associated with a high level of development of international relations, but depending on the development of the economy of the state.

Keywords: developing countries, Eastern Europe, Audit activity, Adjustment of audit activities

1 Introduction

The development of global integration processes pushes audit companies in developing economies to understand the role and significance of using international audit standards to ensure audit quality. Without audit activity, the development of a market economy is impossible, such as understanding the actual economic status (Yurieva et al. (2015)). However, the audit develops in accordance with the development of the economy. It is an instrument of its exit from the shadow and organization of state and public control. Audit activity in Eastern Europe develops following the development of countries. The general trend of the industry is simple: in countries with a more advanced economy and international relations, the audit performs consulting services to improve the efficiency of the enterprise. In developing countries, the audit conducts a more formal function for controlling institutions, so in practice, private businesses do not order audit services because of a one-sided combination of price and benefit that the company will receive as the audit results.

2 Literature Review

Not all countries of Eastern Europe are characterized by the same level of audit activity development, since economically and politically, the countries are different, despite the common thirty years old historical roots. Particularly tangible today is the difference between countries that are already European Union members that standardized their accounting and audit standards to European, and countries that only plan to become EU-member. It should be noted that most of the developing Eastern-European countries are already EU members; therefore, their economy is regulated by the system of supranational law, and the mandatory audit is regulated by EU legislation (Maijoor et al (2012)). In order to implement euro integration at the enterprises of these countries, changes in accounting were introduced, and therefore the audit Institute became the basis for financing and cooperation between international companies in the European market (Juhászová et al. (2014)). Today, all countries that have become the EU-members have implemented legislation on the regulation of audit activities.

As for scientific research in audit activity in different countries, there are sufficient quantities of research in the last ten years. In particular, Bralatan (2012) and Kashperska (2018) have made a deep study of the development of audit activities in Ukraine in the direction of standardization according to international requirements. A similar analysis based on Poland is carried out by Dobija (2015), which describes the features of audit activities, the main problems for the current state. Studies on Slovakia are described by Damarcka et al. (2020); The development of Hungary's audit is described in the research of Judit (2015). Nevdakh and Pivchevsky (2012) describe the problems and prospects for developing an audit in Belarus.
Nevertheless, the comparative characteristics of the audit in developing countries were not carried out, so this study has novelty and practical value. The purpose of the research is to create a comparative characteristic of audit activities in developing countries by the case of Eastern Europe. In the course of the study, the peculiarities of audit activity regulation, the current status of audit in each country, and the main problems faced by audit companies and private auditors will be identified.

3 Results

First of all, let's classify Eastern European countries based on membership in the European Union to get a more detailed research of audit features in these countries (see Fig. 1).

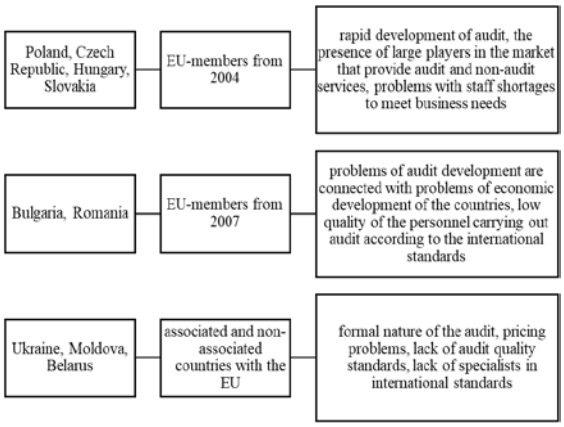

Figure 1 – Classification of developing countries (on the example of Eastern Europe) according to the peculiarities of audit development

Ukraine has been associated with the EU since 2014. For this time, governing auditing legislation has already been adapted according to international standards. On the other hand, Belarus, which is not associated with the EU, develop an audit in its unique direction, which is not typical for other countries. The top three non-EU countries include Moldova, which got the association, but auditing in this country is developing differently from Ukraine or Belarus.

In Ukraine, the regulation of auditing is in accordance with the Law of Ukraine "On Auditing", the Statute of the Audit Chamber of Ukraine, the Decision of the Audit Chamber of Ukraine. International auditing standards are applied by auditing entities as National Auditing Standards from 01.01.2007 on a mandatory basis. However, the Law "On Auditing Financial Statements and Auditing" was introduced only in 2018. The transition to international standards was recommended long before the signing of the Association Agreement with the EU, which is associated with long-term preparations for the country's accession to the EU and the interest of Ukrainian companies in attracting foreign investors. To achieve this goal, financial results must be presented following international auditing standards. However, today the accounting processes of most Ukrainian enterprises are not carried out by international standards but following national accounting standards (Bralatan, et al. 2012).

Audit Chamber of Ukraine is the official regulator of the Ukrainian audit, an independent institution, and a legal entity that deals with essential issues in the methodology and organization of audit management. In 2018, the Ukrainian Audit Chamber was reorganized following EU requirements.

In turn, Belarus has introduced its own Law on Auditing. The republican rules of activity are mandatory for audit organizations, auditors-individual entrepreneurs, and persons who have to go through the audit. Based on international auditing standards, 38 national audit rules have been developed, containing the relevant requirements and principles of auditing. The republican rules of auditing were as close as possible to the international auditing standards, and a number of republican measures contained additional norms and provisions that corresponded to the legislation of the Republic of Belarus (Ministry of Finance of the Republic of Belarus).

The Resolution of the Council of Ministers of the Republic of Belarus of 2020 "On the implementation of International Standards on Auditing" in the Republic of Belarus decided to move the standards of auditing to international. Still, in fact, most companies operate in accordance with national rules. That's why international standards mainly apply to a small number of multinational companies. The only self-governing institution of auditing is the Audit Chamber. Each auditor must be a member of the chamber on mandatory terms. The Audit Chamber of Ukraine and Belarus generally coordinates the activities and represents the interests of members in government agencies and organizations, conducts the external evaluation of the quality of audit companies, using external evaluation measures in the form of warnings or suspension of membership, or expulsion from the Audit Chamber.

Thus, as we see, Ukraine and Belarus have some similar auditing regulation features, which consists of the gradual adaptation of legislation and accounting standards to international ones. The primary motivator of these decisions is the desire of the financial to cooperate with international organizations.

In Moldova, during 2012, financial institutions, investment funds, insurance companies, and other financial enterprises had to move to international accounting standards, which in turn should be subject to audit according to international standards. Today in Moldova, auditing is regulated by the relevant Law on Auditing of 2012, according to which all mentioned above financial institutions should be regularly audited. This audit is carried out, but as in Ukraine and Belarus, it is formal. In Moldova, as well as in Ukraine and Belarus, the audit is not mandatory for small and private enterprises. It should be noted that auditing in Moldova does not have its own unique regulator. The regulation of auditing activities in this country is supervised by the Ministry of Finance of Moldova. Despite this, auditors can independently organize different audit unions and act according to national and international law (Ministry of Finance of the Republic of Belarus).

As for the general audit situation in Ukraine, Belarus, and Moldova, the audit services market is similar in some ways. The number of audit companies is declining in Ukraine due to some negative factors: the crisis in society, the strengthening of audit requirements and changes in domestic legislation. As a result, the volume of audit and non-audit tasks is declining, while the volume of initiative audit services, which decreased until 2016, in recent years increases. The same situation occurs in the scope of financial information review. Today, about 250 Ukrainian audit companies can conduct mandatory audits for public interest companies (Kashperska (2018)). As of 2020, about 1,390 auditors and 80 audit companies are registered in Belarus. The dynamics of the number of companies has a declining trend, but despite this, audit companies provide more services (Ministry of Finance of the Republic of Belarus (2020)). Moldova's audit activity is developing ambiguously. It is significantly affected by the economic crisis and the lack of political stability in the country. Moldovan business people, unlike foreign ones, often do not understand how necessary auditing is. Despite the fact that there are more than 100 audit companies in the country, and very few professional firms among them, that take a comprehensive approach to the client. Also, there is almost no healthy competition and questionable services quality provided by small audit companies in the country.

Today, Moldova, Ukraine, and Belarus have the four largest international companies whose services are most trusted. They are KPMG, Ernst & Young, Deloitte & Touche, PricewaterhouseCoopers. However, if we talk about audit development, it depends on the local market's growth (economic agents, investment, and business environment in the country). Given these circumstances, as well as instability in the political arena and the economy, the pace of audit market development is negligible. Therefore, demand for it will grow only in conditions of positive economic dynamics.

In these countries, the auditors do not yet understand the feasibility of moving to ISAs, as this need is understandable only by foreign investors. Domestic companies consider the audit only as a "shield" from the tax authorities. The most popular audit services on the market are financial audit and tax consulting. Also, Ukrainian, Belarusian and Moldovan businesses are interested in outsourcing services: accounting, payroll, and related consulting services, and interest is mostly shown by companies with foreign investment (IFAC, 2020).

Let's consider the features of auditing in EU member states. It should be noted that each of the studied countries carried out reforms in accounting and auditing at different times, which was reflected in the level of auditing development. The first group of developed countries includes Poland, Hungary, the Czech Republic, and Slovakia.

To begin with, it must be pointed out that auditing in Poland has been operating and regulated as a separate activity since 1991. The legislation was constantly amended and supplemented, and in 2009 Poland provides a law on audit regulation following international standards. Under the current Accounting Act, the companies that are PIEs are subject to mandatory financial audits. They are important companies for the state, chosen by the type of activity or number of employees and the financial and public sector companies.

In accordance with European legislation, the status of certified auditors has been finally approved. From that time, their self-government and organizations were entitled to audit financial statements and public oversight. Since then, it has been permitted to include auditors on the supervisory boards of companies to oversee financial reporting, internal control systems, internal audit, risk management, and external audit, in addition, to establish audit independence. The experience of Poland is of great interest to scientific research. In Poland, private property has never been completely eradicated, and there has always been a lively spirit of entrepreneurship, which has greatly facilitated the country's transition to a market economy. Both in Poland, Hungary, and the Czech Republic, the category of the expert-accountant has existed for a long time. The technique of accounting examination, professional and ethical requirements for expert accountants largely coincided with the methods of audit, business, and moral standards that meet the requirements for accountants-auditors. For example, expert accountants and auditors audited the reports and, above all, the balance sheets of enterprises, the state of accounting. They prepared their conclusions on the audit results, giving recommendations for improving the enterprise as a whole, not only in financial activities. Polish auditors quickly began to attend retraining courses funded by European Funds.

The Chamber of Auditors of the Czech Republic (PACR) was established in 1993 to implement a regulatory function over auditing in the Czech Republic. The powers of the Chamber are enshrined in the Law on Auditors of 2009, as amended in 2016. By law, external auditors must be licensed members of the PACR. The Chamber is responsible for issuing auditing licenses, maintaining registers of auditors and revoked licenses, organizing and conducting examinations for auditors, and implementing continuing professional development, ensuring compliance with applicable auditing and ethical standards, initiating investigations and disciplinary procedures for members, conducting research on the professionalism of its

members, carrying out any other activities that promote high professional standards and improve the quality of audit services (IFAC, 2020).

Since 2004, Slovakia has been one of the countries with a regulated economy with statutory audit requirements in all EU countries. Changes in accounting are intended to integrate the country's financial market into the EU common market, where these amendments are already in force. However, in the EU, small businesses are exempt from statutory audit, as this leads to an additional administrative burden on this category of business. If the amendments are made, it will be necessary to create new audit companies, as the number of inspections may increase to about 10 thousand (Damarcka, 2020).

In Hungary, auditing activities have started to comply with European standards since 2006, when the EM Directive 2006/43 established requirements for auditors and audit firms. Subsequently, a number of additional regulations were implemented that allowed to establish the Chamber of Hungarian Auditors on their basis. Its main tasks are licensing, registration of audit companies, organization of auditors' examinations, etc. The main mission of the audit in the country is to legalize the economic activity. Still, according to experts, the real results of the audit differ significantly from the expected (Chamber of Hungarian Auditors).

In Poland, Hungary, the Czech Republic, and Slovakia, the transition to a market economy faced a lack of auditors, but an effective training system allowed getting a sufficient number of high-quality auditors in a few years. For this time, Polish business is rather ambivalent with experts from the Audit Committee (the main regulator of auditors in the country). Most often, audit clients are foreign-owned companies (Dobija (2015)) (see Fig. 2).

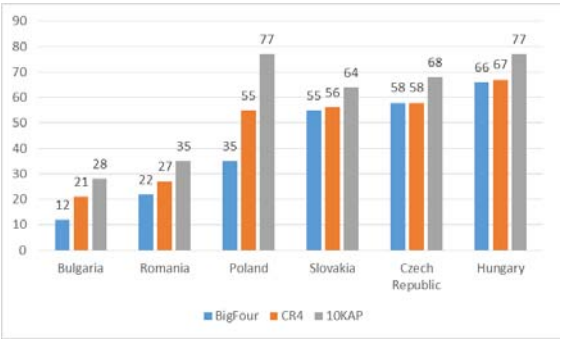

Figure 2 – Share of Statutory audit firms that carry out mandatory audits of PIEs
Source: European Commission, 2021

The companies of the Big Four include (European Commission (2021)):

- PWC (market capacity 19%);
- KPMG (18%);
- Deloitte (14%);
- EY (13%).
- In addition to these four, 10KAP is formed by:
- Mazars (market capacity 4%);
- BDO (4%);
- Grant Thornton (3%);
- Nexia (1%);
- Baker Tilly (1%);
- RSM (1%) and other small companies (22%).

In addition to auditing, such companies generally perform risk assessments (according to (ISA 330) 39), assessing the company value (according to (ISA 540) 41), testing internal control systems (according to (ISA 315) 42), perform group audits (according to (ISA 600) 43).

As for other countries that have recently joined the EU, the situation is in some ways similar. For example, in the audit services market of Bulgaria, Hungary, and Romania, there are a small number of audit companies whose main activity is focused on joint ventures and auditing in foreign subsidiaries in the market. The main market players are four audit companies, while other companies are characterized by a lack of qualified staff and low standards of audit quality, which is formal in nature.

In Romania, the Romanian Chamber of Financial Auditors (CAFR) was established in 1999 to regulate auditing. Since 1999, the legal framework for Romania's financial audit has been constantly updated. The Chamber has fully adopted international auditing standards. In order to integrate the country's economy into the EU, a law on the mandatory audit of annual corporate accounts and consolidated annual financial statements was adopted (GEO № 90/2008).

In Bulgaria, regulatory support for audits is provided by the National Assembly and the Institute of Certified Public Accountants (IDEB). IDEB is the regulator of the practice of independent auditing. Let's summarize the study in Table.1 and make a comparative analysis of auditing activities in Eastern Europe.
In general, we can say that auditing in Eastern Europe (even those that have joined the European Union), is still far from perfect for the following reasons:

- In Hungary, auditors agree to perform only those functions assigned to them by auditing standards, and the unprofessionalism of customer managers does not allow them to understand the audit findings properly.
- There is a shortage of qualified auditors in Romania.
- The introduction of EU auditing standards in Slovakia may lead to the decline of small businesses, etc.

Table 1. Comparative analysis of auditing in Eastern Europe

Country	Regulator	Legislation	Audit current status	Main Problems
Ukraine	Audit Chamber of Ukraine	About auditing activity On the audit of financial statements and auditing activities	Reducing the number of enterprises, centralized concentration; The presence of a big 4 players	Formality of services; Lack of audit quality criteria; Low level of IT services; Low qualification of personnel working under IFRS.
Belarus	Audit Chamber of the Republic of Belarus	About auditing activity On the introduction of the ISA on the territory of the Republic of Belarus	Reduction in the number of enterprises, a small number of audit companies	Inaccuracy of audit due to inconsistency of financial statements; Lack of audit quality criteria; Problems of pricing and tendering.
Moldova	Ministry of Finance of Moldova	About auditing activity	A small number of audit companies in the market that provide formal services. Foreign companies are serviced by auditing companies of the	Non-compliance of the audit with international standards due to non-compliance with international financial reporting standards; Low qualification of personnel

			big 4.	working under IFRS.
Bulgaria	Institute of Certified Public Accountants	Law on Independent Financial Audit	The presence of a large 4 players, a small number of audit companies, the concentration of companies in large cities. The most popular services: financial audit and tax consulting. Mandatory for all businesses except small businesses	Lack of audit quality criteria; Insufficient regulation of audit activities; Low qualification and responsibility of personnel working under IFRS.
Romania	Romanian Chamber of Financial Auditors (CAFR)	Law on Mandatory Audit of Annual Reporting of Enterprises		
Hungary	Chamber of Hungarian Auditors	Hungarian Chamber of Auditors, auditors' activities and public oversight of auditors	There are companies in the market that provide services only to public interest entities, as well as those that serve the requests of other companies. There are a big four, as well as audit networks.	Insufficient number of specialists who can provide qualified services, low level of motivation to conduct audits by private companies.
Poland	Polish Chamber of Statutory Auditors Polish Audit Oversight Agency	Law on Statutory Auditors, Audit Firms and Public Oversight		
Czech Republic	Chamber of Auditors of the Czech Republic (PACR)	Law on Auditors		
Slovakia	Audit oversight management	Statutory Audit Act		

Note: developed by the authors

- At the same time, in non-EU Eastern European countries, the situation is even more ambiguous:
- There is no audit regulator in Moldova, so many companies on the market are only called auditors but, in fact, are not ones.
- In Belarus, auditing only in 2020 came out of the Ministry of Finance, and ISA standards were introduced.
- Ukraine feels the lack of qualified personnel, there is high competition from foreign companies, and no regulatory framework for auditing.

4 Discussion

Today the issue of statutory audit of PIEs companies is quite researched and regulated. However, the problem of developing audits for the needs of small businesses and the private sector remains open. On this issue, many discussions arise since some researchers believe that it is necessary to make auditing mandatory for all activities, which will help bring the economy out of the shadows (Ojala et al., 2016; Iwisi et al., 2002). On the other hand, audit services are quite expensive, so not all small businesses can plan regular expenses for these services. At the same time, when the quality of audit is not regulated, it is not permissible to impose such a service by the state (Ojala, 2014, Kňažková, 2016).

The main reason is in audit objectives; the audit should not have a formal but a recommendation function. Its main task should be not just confirmation of financial statements but also searching for weak points of activity and offering recommendations for their elimination.

However, along with this, practically all countries were released of small businesses from a mandatory audit. The discussion on the need for small businesses is very active in recent decades (Ojala et al., 2016). Today, according to the Accounting Directive 2013/34/EU, small businesses with assets under 4 million euros, the net turnover under 8 million euros, and the average number of employees under 50 people may not be audited.

Some countries have established their own restrictions on small businesses, which depend on the peculiarities of the country's economy. In particular, the question of the audit in small enterprises is regulated by several institutions. The International Federation of Accountants (IFAC) protects the business using rules and standards for reliability and information protection. However, if the country will need to provide an audit for small enterprises, the state may require it following international standards of the audit (ISA) (Kňažková. 2016).

5 Conclusion

Auditing in developing countries is mainly characterized by a transition to international auditing standards. Since not all Eastern European countries are the same in economic and political terms, the preconditions for the development of audit are different. In particular, EU-associated countries are gradually reforming the regulatory framework for auditing, although auditors work mostly according to national standards. Auditing in such countries is formal, it is applied to socially significant enterprises that have state or joint ownership, and mainly financial sector institutions. Private companies rarely turn to auditors for advice and financial calculations. As for the EU member states, they make full use of the services of auditors, as any international business relationship requires an independent audit or legal assessment, and therefore there are more audit firms and auditors in these markets, so they are more competent in international accounting standards and auditing, and therefore can provide more informative and valuable services for businesses. However, in all developing countries, auditing is faced with a number of problems, including staff shortages, lack of quality criteria, reliability of the information, standardization, and pricing problems.

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PSYCHOLOGICAL HEALTH IN THE CONTEXT OF SHAPING PROFESSIONAL COMPETENCE OF STUDENTS IN THE FIELD OF PSYCHOLOGY

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Abstract: The objective of the article is to identify correlative links between the concept of psychological health and assessment of the level of maturity of knowledge management in the context of the formation of professional competence of students of psychology based on sociology. The sample of the sociological survey covered 250 undergraduate students and 150 master students of the field of knowledge 05 Social and Behavioral Sciences, specialty 053 "Psychology" on the basis of Taras Shevchenko National University of Kyiv, (Ukraine). The methodology of the research is based on the observational and descriptive, theoretical-methodological, sociological, functional, statistical paradigm, and the paradigm of complex and systemic analysis.

Keywords: Higher Education Institutions (HEIs), Psychologist's Professional Health, Components of Professional Competence, Knowledge Management, Educational Standard

1 Introduction

In theory and practice of professional development more and more often feel the need for a new understanding of the essence and sense of work of particular specialists, the specificity of professional self-identification, and the problems associated with the development of professional identity, become the first priority.

Based on the widespread dissemination of the profession of psychologist and the significant demand for qualified professionals' problem of development of their personal and professional qualities at the stage of the university education gains particular relevance. Lack of study of this problem in modern psychology determines the spontaneity and poor leadership of professional formation of future psychologists. In this context, the professional formation, readiness to the future professional activity and value-mental development of students, including future psychologists, is relevant in the context of the preservation of psychological health and management of the acquired knowledge, is fundamental in the process of improving the work of the modern institution of higher education through the implementation of conceptual and empirical principles of psychological and pedagogical support for the professional formation of students of psychology on the basis of the concept of personality-oriented education.

In this way, there is a need for understanding the key components of the professionalism of the future psychologist. The notion of psychological health is basic in the context of the formation of professional competence students' specialty "Psychology", designated by the Standard of higher education of Ukraine in the field of knowledge 05 Social and behavioral sciences, specialty 053 "Psychology" (the level of "bachelor") and the Standard of Higher Education of Ukraine in the field of knowledge of the 05 Social and behavioral sciences, specialty 053 "Psychology" (the level of "master"). We understand that the competencies listed in the Standards, become structural elements of the assessment of the level of maturity of management of acquired knowledge, as the positive correlation "psychological health – knowledge assessment" is an indicator of the high professionalism of the psychologist and the personal ability to control professional responses, which with great probability can threaten the status of the consultant.

2 Literature Review

The relevance of the psychology students' professional training problem is determined by the fact that in the period of study at the university the foundations of professionalism are being laid. The necessity and readiness for continuous self-education in dynamic conditions (Andrienko & Zubkova, 2020), as well as the need for support of the psychological health of the future practitioner are formed.

The profession of psychologist requires an increased respect for the moral side of the functions performed, because his or her professional activity is directly related to the interaction with people, to the impact on their inner world. That is why the ethics of his work is based on universal moral values. In the professional activity of the psychologist's main ideals are the integral and universal development of the person and his or her respect, the convergence of people and a clearly expressed orientation to the value of other people. Therefore, spiritual and moral development is a priority in the process of professional socialization of psychology students, during which special attention should be paid to the formation of the moral self-concept of the individual, honesty, sharing of experiences, self-esteem, and learning the moral values of professional activity by psychologists taking into account their ethical code (Koniaieva, 2021).

The paradigm of psychological health predicts a system of social and emotional competences through self-training through the methods of dramatization, role-playing, relaxation and awareness of the problem of consulthood (Vitalia & Ciucurel, 2019). Isaeva & Vereskunova (2021) argue that the preservation of psychological health is based on the orientation of psychology students in interaction with their professional motivation, professional identity, and image of the future profession, as well as on the relationship of self-actualization to temperament. A richly interactive approach to the analysis of professional identity is one of the possible strains of formation and correction of professional identity of future professors (Sadykova N. et al., 2019; Bezverkhyi, 2021).

Kolomiets et al. (2021) investigated the problem of interaction between psychology students and patients in the process of professionalization based on correlation and factor analysis. Assessments of knowledge management maturity of psychology students in HEIs can be accompanied by organizational stress, disengagement from knowledge exchange, and knowledge management maturity (Marques et al., 2019). Interesting in the context of psychology students' preservation of psychological health is the idea of a sense of hugeness, which has evolved as a way to protect oneself from diseases and is linked to aspects of disease control (Pehlivanidis, et al., 2020). Vyntyuk, 2020; Ruslyakova et al. (2019).

Positive correlates of psychological health in the context of the formation of professional competence of students in the specialty "Psychology" is an increased involvement in the educational purposes of the issues of ethical and social responsibility and professional development (Valdez & Lovell (2021).
Understanding the characteristics that contribute to the success of psychology students is important to better support them in their studies. Characteristics of psychological health, according to the study by Bebermeier et al. (2021), there are general and subjective criteria.

According to Haddad et al. (2021), Andrade et al. (2016), stress in psychology students is a negative mediator between sleep quality and high anxiety and depression, but not the state of anxiety. High stress, depression and insomnia are significantly associated with a decrease in mental quality of life. Higher rates of depression and anxiety were significantly related to the decrease in the level of physical rest for psychology students who have already begun their psychology internship. Diminished vitality and somatic symptoms are among the factors most indicative of psychology students' low level of psychological health (Silva et al., 2019).

Deo & Lymburner (2011) investigated whether psychology students have an illness analogous to medical student syndrome by making a link between self-assessments of psychological health and the number of psychopathology courses (through an assessment of the degree of anxiety based on symptoms of psychological disorders). A positive correlation between neuroticism and anxiety in psychological health was found (Chiracu & Dumitru, 2021; Bohler T. et al., 2021).

However, such a set of scientific work still does not provide a comprehensive answer to the context of the links between the psychological health of a psychology student and the assessments of the level of maturity of knowledge management.

The aim of the study is to identify correlative links between the concept of psychological health and the assessment of the level of maturity of knowledge management in the context of the formation of professional competence of psychology students.

3 Materials and research methods

The methodology of the research is based on:

- the observational and descriptive paradigm (descriptions of the context of professional health);
- theoretical and methodological paradigm (analysis of scientific basis of the topic)
- the sociological paradigm (conducting an interview with HEIs students);
- statistical paradigm (when studying the test results of the students);
- the paradigm of complex and system analysis (to correlate the concept of psychological health with the assessment of the level of maturity of knowledge management);
- functional paradigm (for giving practical recommendations).

A total of 250 psychology students studying for the Bachelor's Degree and 150 psychology students studying for the Master's Degree were enrolled in the study based on Taras Shevchenko National University of Kyiv, (Ukraine). Information base of the research.

The study was conducted online; the results were estimated by automatic calculation using Microsoft Office Excel. Opinion program – Woolclap allowed drawing results carefully, when students have completed giving answers to the questions.

Sociology consisted of two blocks: informational and analytical. In the informational block, the respondents were asked to correlate the causes of correlation of the notion of psychological health with the assessment of the maturity level of knowledge management, as well as to determine the educational correlation of the correlated pairs with the content. The analytical block included answers to the Beck's questionnaire for understanding the systems of giving recommendations on how to preserve the psychological health of a psychology student taking into account his attitude to the acquired competences. Tutorial laid based on information base and sent to students on electronic screencasts. The time for answers is limited to two months.

4 Results

The information block allowed us to draw a system of links between the analyzed understandings. In the content of the first question, respondents were asked to explain the reasons for correlation of the notion of psychological health with the assessment of the maturity level of knowledge management by means of models of psychological well-being, i.e. to evaluate the acquired competences to assess their significance in professional activity.

Undergraduate respondents presented the reasons for the correlation of the concept of psychological health with the assessment of the level of maturity of knowledge management by means of models of psychological well-being in this way: self-perception is actualized through axiologism in the opinion of 38% of the respondents, personal growth is actualized through instrumentalism in the opinion of 18% of the respondents, autonomy is actualized through the motivational aspect (15%), competence in managing the environment is actualized through the activity aspect (12%), positive relations with others are actualized through the developmental aspect (10%), the presence of life goals is supported by cognitive needs for 7% of the respondents. The results are presented in Fig. 1.

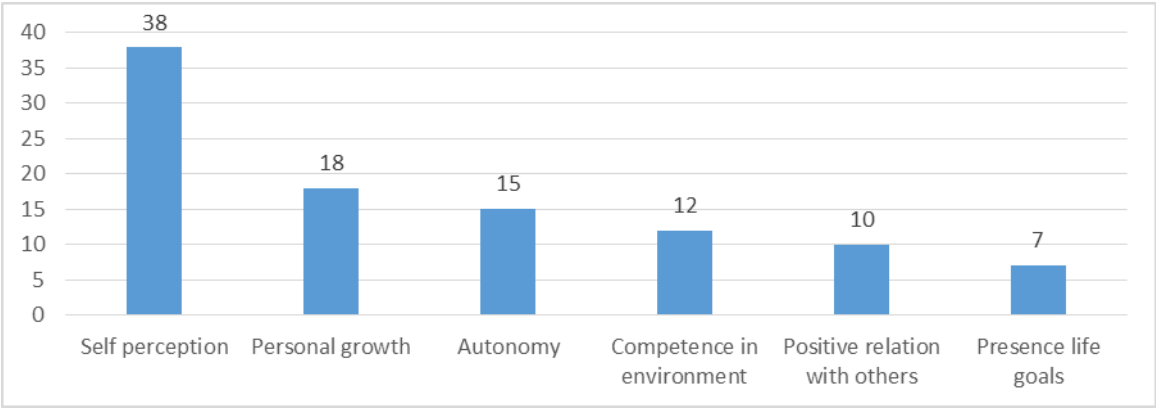

Figure 1 – Reasons of correlation of psychological health concept with assessment of knowledge management maturity level by means of models of psychological well-being (arranged by the authors based on Bachelors' answers)

Respondents-Masters presented the reasons of correlation of the concept of psychological health with the assessment of the level of maturity of knowledge management with the help of models of psychological well-being in such a way: self-perception in these respondents is actualized through cognitive needs (36% of the respondents), personal growth is actualized through axiology in the opinion of 28% of the respondents, autonomy is actualized through instrumentalism (15%), competence in managing the environment is actualized through motivation (10%), positive relations with recipients are actualized through the activity aspect (5%), and the presence of life goals is supported by the developmental aspect for 6% of the respondents. Respondents were also asked to rank the educational compliance of correlative pairs with the content of the Standards.

Undergraduate respondents indicated that integral competencies are realized based on awareness and acceptance of all aspects of their personality, general competencies are realized through the ability to resist social pressure, independence in assessing oneself and one's behavior, ability to self-regulation. Special competences are realized through the ability to achieve what is desirable, the ability to achieve difficulties on the way of realization of their goals. These indicators were received by 48%, 32% 20% respectively. The results are presented in Fig. 2.

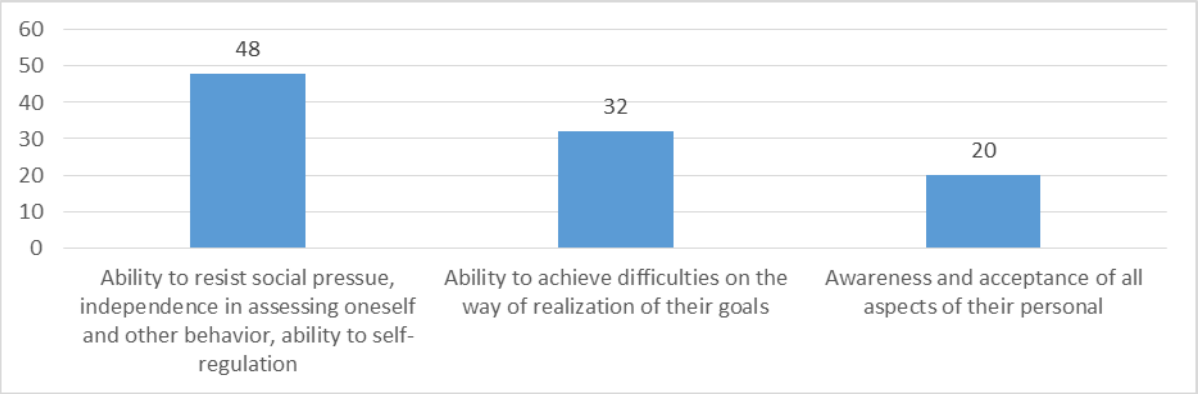

Figure 2 – Educational competence of correlative pairs with the content of Standards (for Bachelors)

Respondents-Masters have determined that integral competences are realized on the basis of the ability to establish three-year long-term relationships, capacity for empathy, resilience in interrelations with others, general competence is realized through the experience of comprehending one's own life, the values of the past, the present and the future. Special competences are realized through the ability to achieve what is desirable, the ability to overcome difficulties on the way of realization of their goals. These indicators were obtained by 36%, 32%, and 32% respectively. The results are presented in Fig. 3.

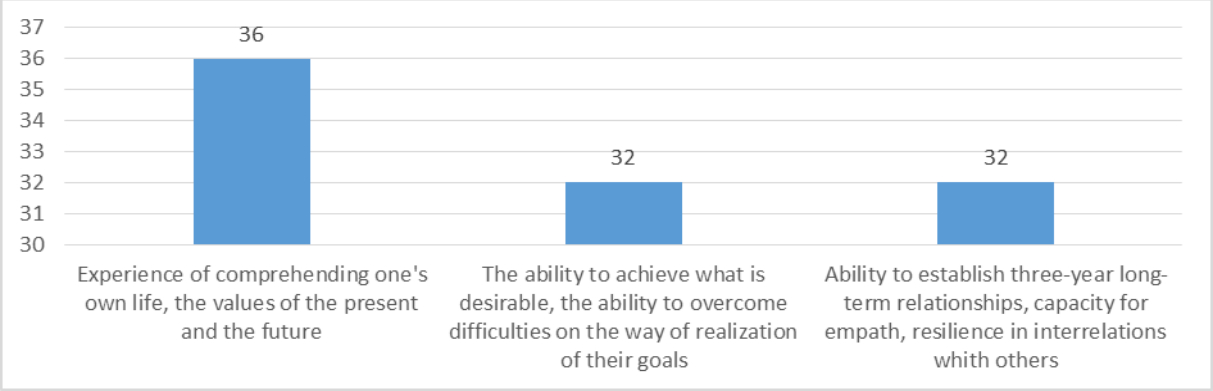

Figure 3 – Awareness of correlative pairs with the content of the Standards (for Masters)

The analytical block allowed us to make such a diagnostic picture of the depressive states of the respondents. According to the results, none of the respondents scored more than 25 points, which means that the students are not subject to deep depression. 17% of students placed in the intermediate group with a mild level of depression of situational or neurotic genesis. 83% of the students had no depressive tendencies and a good emotional state. The results are presented in Fig. 4.

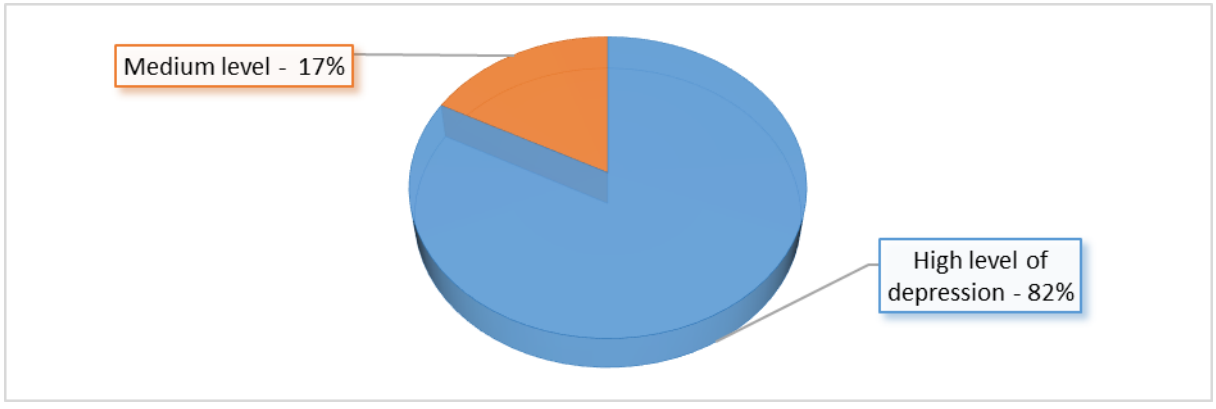

Figure 4 – Beck's Diagnosis of Depressive Stresses

5 Discussion

In the context of world scientific judgments for the application of the evaluation of acquired information, we choose experimental studies in psychology with their clear empirical cycle, which are subjected to the academic investigative approach to learning. Enrolling undergraduate students in a research collaborative brings baggage benefits not only for the overall quality of education in the undergraduate curriculum, but also for the preservation of psychological health (Fonteijn & Lugt, 2017).

Makelele & Wewirhu (2017) recommend using Beck's Opinion Analyst for determining the level of depression, which has become an aid for analytic type of discharges, as exemplified by our study.

Ukrainian and world educational institutions, as Sadusky et al. (2021), a systemic change in psychology courses is needed so that all psychologists acquire the basic knowledge and skills to support trauma victims' clients without overburdening themselves with the post-traumatic situation. As a result of the study, it was assessed that the psychology student in the context of support of own psychological health must have a significant development of all professional and supplementary competences. In the students' perception, the most developed is the competence in the team, and the most developed is the design and conduct of psychological activities. Ionescu & Stan (2019) point to this in their study.

Grankina-Sazonova (2018); Vasileva & Chumakov (2020) also examined the problem of optimal functioning of the personality of psychology students. Our and the analyzed reports focused on the importance of the problem of psychological well-being and living standards of young people for a high level of functional professionalism. Chesniak-Phipps & Terry (2019) have stated that mentoring is a critical component of the success of psychological health indicators in the context of shaping the professional competence of psychology students and assessing the level of maturity of knowledge management. Unfortunately, the notion of mentorship for our department is poorly written out just on the legislative level. To confirm the thought Filatova et al. (2017), we respect that the most effective method for maintaining psychological health in the context of the formation of professional competence of students is social and psychological training, which is the basis for the formation of professional identity of students of psychology in the university.

6 Conclusion

The results of the conducted research allow us to make recommendations for preserving the psychological health of the psychology student taking into account his/her attitude towards the acquired competences:

- when teaching psychology students, it is necessary to emphasize the technologies of effective communication; develop the need for communication, initiative and ease of contact;
- it is important to develop the ability to perform self-correction of the nervous and psychological state;
- teach how to increase emotional stoicism and self-confidence;
- focus attention on the ways to improve the nervous system and the general energetic tonus;
- to teach constructive ways to regulate conflict situations.

The practical value of the study is a system of recommendations for preserving the psychological health of the student-psychologist taking into account his attitude to the acquired competencies. Subsequent scientific studies will be focused on the study of the typical links for the ROC “doctor of sciences”.

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Primary Paper Section: A

Secondary Paper Section: AM, AN