FOSTERING INFORMATION CULTURE OF FUTURE PRIMARY SCHOOL TEACHERS

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Abstract: This paper deals with the problem of fostering the information culture of future primary school teachers. The notion "information culture" is explained, the findings of foreign studies are explored and summarized. The empirical evidence with regard to strengthening the information culture of students of Mordovian State Pedagogical University named after M.E. Evseviev is analyzed. It is argued that the active use in educational process of the academic disciplines and internships with the upgraded content developed by university allow to train highly competitive graduates demanded in the labour market, meaning that the professional training of a modern teacher should be revolving around fostering their information culture.

Keywords: information, information culture (IC), pedagogical university, future teachers, electronic educational resources (EER), primary school teacher.

1 Introduction

The modern life demands knowledge, skills, abilities and competences which seem extraordinary within a traditional paradigm. The new opportunities emerge for truly free and boundless communication; the unchaining of human resources leads to the discovery of new intellectual perspectives. Information becomes the driver of human's wellbeing. It would be impossible to process, analyze and use it without the information technologies, which in turn may hold some lurking dangers: the knowledge becomes nominally virtual leading to possible manipulations with human's consciousness. The individual may become an insatiable consumer of information, while the educational space, and consequently the society, move towards the global market of information services. The existing threats call for the urgent creation of a new mindset and worldview based on the information culture (IC) in each member of the society.

For the above reasons, a concern for building the IC is justified, along with the sorely needed assessment of a possibility to use the modern information technologies in education, and development of the text competence (as an element of language, speech and communication competence of students).

Educational process is forward looking: those who are junior schoolchildren today will tomorrow manage the settled information system. An important part of education improvement efforts is preparation of a primary school teacher for fostering in junior schoolchildren the elements of IC.

In this context, education plays the leading, yet most challenging role: inculcating in students the culture of a new kind - the information culture. Being in constant interaction, different types of inner culture spur a person's growth as a personality and as a professional. The distinguishing feature of pedagogical activity in all times was and remains responsibility for its result, quality and level, which are identified not so much by direct measurements over a certain time, but rather indirectly based on the prospective forecasting. This explains the constant tightening of requirements placed upon representatives of the pedagogical profession (Vershinina & Kuznetsova, 2019).

The qualitative accomplishment of professional goals requires from the students pursuing training in the field of Primary Education the knowledge of techniques, methods, methodologies and technologies of teaching and educating junior schoolchildren and skills of organizing own research efforts. The effectiveness of scientific research endeavors is largely predicated upon the

level of IC of a future teacher. Therefore, the professional training of modern teachers should be revolving around the information culture.

2 Literature Review

The foreign researchers most often understand information culture as computer literacy (Tyner, 1998). As Khan Abdul Wahid (2006) noted: "To be information literate you need to know why, when, and how to use all the wide range of information sources and formats and think critically about the information they provide... In the long-term, a vigorous information literacy campaign may result in the emergence of an information culture". Mike Sandbothe (2000) believes that information culture is "the foundation for Internet-based teaching that bids defiance to the basic traditional assumptions on the nature of knowledge and teaching".

Information literacy is quite often interpreted as a digital competence of educators (López-Belmonte et al., 2019) and learners (Lopez-Gil & Garcia, 2020), the term *information competency* appears in the works of other scientists (Horton, 2007).

As the analysis of scientific studies suggests, the above concepts are closely interrelated, which is why the researchers often use them interchangeably as synonyms: IC is defined by the foreign authors as the basic computer literacy and as an element of professional competence.

Present-day researchers in their definitions approach IC from different perspectives. In the 1980s I. Ya. Lerner (1981) made an attempt to describe the concept of information culture from a pedagogical point of view, noting that the information culture of an individual is integral to their general education culture. IC is represented as a chain of interrelated general academic knowledge and skills essential for effective digestion of various information. This idea is embedded in the Federal State Standard of Primary General Education in the form of metadsubject requirements (including universal learning activities) that ensure the development of key competencies (FGOS NOO, 2009). Basically, these skills or universal learning activities can be referred to the IC content. It includes the ability to handle information of adequate content, including its generation, critical evaluation, transmission, memorization and transformation.

 The most exhaustive description of approaches to the study of this concept is provided in the paper authored by M. A. Antonova (2014) who explored how the IC evolved, analyzed how representatives of different sciences define this concept, and distinguished several components of IC. According to the scientist, "information culture is one of the components of a personality that is associated with the social nature of a human and is an extension of human's creative abilities, characterizes his worldview, systematizes his knowledge and skills, and helps him to take care of his information needs independently".

According to S. M. Konyushenko (2004), the development of IC depends on the level of human abilities; should this process be oriented towards development of the necessary abilities, the level of information culture will be higher.

E. V. Shirshov (2017) interprets the IC as "the achieved level of organization of information processes, the degree to which human needs in information communication are satisfied, the efficiency of creation, collection, storage, processing and transfer of information".

Information culture in the broad sense may be defined as an array of principles and mechanisms that enable interaction between ethnic and national cultures, and their amalgamation in the common experience of mankind; in the narrow sense it refers to the optimal ways of handling and presenting information to the consumer for addressing theoretical and practical problems; the mechanisms for improving the technological means to better

produce, store and transmit information; the improved system of education preparing a person for the effective use of information tools and information itself (Kravets & Kukharenko, 2015).

The analysis of scientific literature showed that the existing interpretations of IC are not contradicting each other and are mutually complimentary. Views of foreign scientists on the need to strengthen computer literacy and information competence attest to the importance of fostering the IC among students of pedagogical universities. "The society constantly undergoing inevitable transformations dictates the same requirements for dynamic modifications in the modern educational paradigm: "Educational outcomes must meet the needs of the new society. The teacher's skills in the current situation are assessed against the highest possible scale of knowledge, skills and abilities forming the foundation of professional competence" (Vershinina et al., 2020). The urgency of determining the effectiveness and potential of pedagogical education for raising information awareness among students was underlined by E. A. Barakhsanova, N. P. Olesov, L. V. Popova, A. I. Danilova, N. S. Dyachkovsky (Barakhsanova et al., 2020).

When analyzing IC as part of the general culture, it should be borne in mind that this part is peculiar. On the one hand, it is knowledge helping a person to navigate the information space. On the other hand, it is a qualitative characteristic of student's information activity concerned with receiving, transmitting, storing and using information.

Speaking about the efforts to foster information culture of a primary school teacher, we shall note that resorting to various information and communication tools and technologies boosts the ability of students to navigate the data deluge, to exchange the information using the electronic means of training and education; to acquire practical skills of handling various kinds of information. In other words, a teacher should be prepared to use modern teaching technologies at the lessons, including information technologies. Such lessons hold ample opportunities for: improving the quality of training, igniting interest to the subject matter, strengthening students' information, language and communicative competence, skills of critical thinking, IC, making the lesson more engaging, rich in information and relevant to the modernity.

In the concept promoted by new educational standards the importance of building IC of teachers and students is clearly underlined.

Primary school is the bedrock for further education, at this stage of school education the initial IC skills are cultivated: the use of various methods for searching, collecting, processing, analyzing organizing, transferring and interpreting information in accordance with the communicative and cognitive goals and technologies of teaching; including the ability to enter text using the keyboard, to record in a digital form the measurable values and analyze images and sounds, prepare and deliver a speech using audio, video and graphic aids; abide by the standards of information filtering, ethics and etiquette. Effectiveness of fostering the primary schoolchild's IC depends on the information literacy, information competence and professional readiness of a primary school teacher to embrace the computer technologies.

3 Research Methodological Framework

The purpose of this research was to showcase the possibilities to foster the information culture in the process of training future primary school teachers. The stated purpose predetermined a range of objectives: give a definition of the concept *information culture*; reveal the potential of academic disciplines taught at Evseviev's MSPU for preparing the future primary school teachers; facilitate the development of IC in students. The following research methods were used: theoretical analysis, generalization and interpretation of scientific data, study and consolidation of pedagogical experience, method of pedagogical designing (planning, modeling and conduction of classes),

classification, synthesis, generalization, analysis of empirical data.

4 Results and Discussion

Modern teachers should have a developed information culture as part of their professional culture. Information culture of a teacher is a type of the professional IC, forming part of the personal IC pertinent to the field of pedagogical activity, representing a fusion of information outlook and information competence as transferred into the educational process, defining the quality of informational-educational products and directed at developing the IC of students. The leading role in meeting this challenge belongs to a system of education, which redesigning and content update should result in developing a personality with strong IC.

The guidelines for organizing the work aimed to foster the IC in future primary school teachers are laid down in the Federal State Standard of Higher Education (FSS HE) in the field of training 44.03.01 Pedagogical Education. Thus, FSS HE in the field of training 44.03.01 Pedagogical Education sets out the key competences that a graduate needs to have a developed information and research culture, in particular: UK-1 (ability to search for, critically analyze and synthesize information, apply a systematic approach to solve the outstanding tasks), UK-4 (ability to carry out oral and written business communications in the official language of the Russian Federation and foreign language(s)), OPK-1 (ability to carry out and optimize professional activities in compliance with the existing regulations in the field of education and standards of professional conduct); OPK-8 (ability to design teaching activities with reliance on special scientific skills and research results) (Federal 3++).

The provisions of these documents became the guiding principles underlying the design of curricula for bachelor's and master's degree courses that address the requirements of standards for fostering IC and skills of research based on the content of theoretical disciplines and practical training, providing for writing and defense of a graduate qualification work. Each of the mentioned educational activities requires the higher level of students' IC.

The fostering the IC of a future primary school teacher at Evseviev's MSPU occurs in the context of studying various disciplines. The use of electronic learning resources has proven to be effective for fostering the IC in future primary school children. "In the design and content of professional training of a future teacher the crucial role belongs to the subject methodology education... The methodology training of future bachelors of science is built upon the knowledge of modern methods and technologies of education, on the one hand, and the ability to apply them in professional activity, on the other hand. The array of modern technologies in education rightfully includes multimedia technologies being effective tools with high educational potential... A pedagogical university graduate should be ready to create, transform and adjust information and communication learning environment to facilitate acquisition by students of certain components of the educational content" (Babina et al., 2020).

In the context of the IC fostering, a significant role belongs to the development of the text competence of students. The philological cycle subjects assume the studying of texts of different styles and genres, the learning of skills necessary to work with the text information (production and analysis of texts, text transformation, plan, title, brief outline, quotes). Students learn the skills of planning cognitive activities and building information models, searching for information and processing it (how to choose the language means appropriate for the speech situation, learning text creation rules, gaining knowledge about language, speech, ethical and communicative norms, the ethics of using quotations and references). Students independently make presentations, develop video lessons using the electronic resource Electronic Designer of Methodology Puzzles, work with an interactive board; Internet sources, skill drillers, that contribute to the development of their IC.

The ICT and Media Literacy discipline aims to develop the ability and willingness of future primary school teachers to use the ICT. The objectives of the discipline include creation of conditions favourable for developing the ability to use information and communication technologies for navigating the modern information space, for developing the ability to independently build the information space for learning and future professional activities; for acquiring and using the new knowledge and skills with the help of information technologies.

When studying the discipline Pedagogy, the future primary school teachers learn the rules of work with information sources, EBS, the sources database, with the requirements to the selection and design of the list of references, master the methods of referencing, abstracting, reviewing, summarizing, learn how to work with primary sources.

One of the ways to develop the IC is to strengthen the teacher's ability to organize the students' work with textbooks. Analyzing school textbooks, students come to a conclusion that the programs of academic subjects target the development of the basic skills of work with information. In an epoch of wide ranging integration of digital educational resources in school practice a textbook becomes not only the carrier of new information, but also the means of organizing the learning activity of students.

The training of future primary school teachers involves the extensive use of electronic textbooks, training manuals, tests and drills at all stages of educational process from goal setting to final outcomes, focused on fostering the information competence of students (Babina & Vinokurova, 2019).

For improving the level of IC, a system of tasks has been developed that covers all types of practical training. The purpose and objectives of the educational introductory practice are aimed at fostering the information competence as the bedrock for IC of future primary school teachers. Students gain experience in preparing documents of professional nature using ICT and develop the skills essential for the IC: developing professional ethics and speech culture; defining an effective model of communication; improving the skills of making the best use of methods and techniques helpful in studying and systematizing the educational content; developing the ability to glean the language and information facts and analyze the materials pertinent to the communicative situation; developing communicative competence; improving all kinds of speech activity; learning the technical and software tools and methods of their use in work with documents of professional nature; getting the knowledge of how to benefit from the network professional communities; unveil the great possibilities of information and communication technologies for the better implementation of professional activities in order to meet the educational needs of students.

The forced shift to distance learning from April 2020 required an immediate revision of all learning programs, assessment tools, tasks of work placement internships. The students embarking on the work placement in the remote format perform the following tasks: prepare a detailed lesson flowchart embracing the EERs (video format, except for tests) consistent with the curriculum of the learning programs for each primary school subject. EERs should be prepared by each student personally without infringement of copyright or other license rights. The lesson flowcharts are made to cover one topic or section to be studied during the internship. The reporting materials include: a detailed lesson flowchart; EER containing a video explanation/ consolidation/ control of the studied topic; EER containing an interactive game to the lesson; EER containing an electronic test to the lesson. Depending on the subject specifics, the tasks can be modified, for example, a literary reading lesson can be complemented with the EER providing a video biography of the author, depiction of his works, film based on this author's book. Lessons in fine arts, technology, music may include a step-by-step video demonstration of the production process.

In the period of distance learning, among its pros both teachers and students noted that the use of EERs facilitates formal and informal communication which in turn strengthens the information and communication culture of the educational process participants (Onete et al., 2011; Chigisheva et al., 2016; Soltovets et al., 2019).

5 Conclusion

Mordovian State Pedagogical University named after M. E. Evseviev has accumulated positive experience in the fostering of the IC in future primary school teachers based on the disciplines and internships included in the curriculum for the field of training 44.03.01 Pedagogical Education, training specialty Primary Education.

The updated content of the aforementioned disciplines and types of practical training, their effective and wide-ranging use in the educational process allow to foster the information culture of future primary school teachers, to prepare highly competitive graduates demanded in the labor market.

Nowadays, when the whole planet is confronting a dangerous virus and students and schoolchildren are forced to shift to distance learning, the developed information culture becomes crucial both for teachers and students.

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