

PECULIARITIES OF AWARENESS BY TEACHERS OF THE NEW UKRAINIAN SCHOOL AND TEACHERS OF HIGHER EDUCATION INSTITUTIONS OF UKRAINE OF THE ESSENCE OF EFFECTIVE TEACHING METHODS

^aOLEKSANDR GURA, ^bTETIANA GURA, ^cALONA KHODAKOVSKA, ^dTATYANA VOLOSHKO, ^eVALERIYA DIACHKOVA

^{a,c,d,e}Zaporizhzhya National University, 66, Zhukovsky Str., 69600, Zaporizhzhya, Ukraine

^bCommunal Institution «Zaporizhzhya Regional Institute of Postgraduate Pedagogical Education» of Zaporizhzhya Regional Council, 57-A, Independent Ukraine Str., 69035, Zaporizhzhya, Ukraine

email: ^aguru.oleksandr@gmail.com, ^btatianagura16@gmail.com, ^ch_alyona_v@ukr.net, ^dvoloshkotv21@gmail.com, ^evaleria880220@gmail.com

Abstract: The article analyzes the main provisions of the effective approach in education, the essence of effective teaching methods as well as highlights the results of a comparative analysis of the perceptions of teachers of the New Ukrainian School and teachers of higher education institutions on effective teaching methods. According to the results of the study both school teachers and teachers of higher education institutions perceive the effective approach as a philosophy of modern education aimed at developing key competencies, cross-cutting skills of students but they have different understandings of key features of effective teaching methods.

Keywords: Education reform, Effective approach, Effective teaching methods, Teachers of higher education institutions, Teachers of the New Ukrainian School.

1 Introduction

One of the most important problems of modern education which is addressed by the world scientific community is to find active teaching methods that would ensure both a high level of academic achievement of students (formation of their subject knowledge and skills in accordance with existing educational standards) and the development of their key competencies, cross-cutting skills as well as in accordance with the age development of students (physiological, mental, social and personal), took care of their health, were psycho-hygienic, aimed at activating the mechanisms of their self-regulation and self-development etc. [22, 27]. Despite the fact that since the middle of the XVII century scientists from different countries, scientific schools and methodologies have been devoting their research to solving this problem (Ya.A. Kamensky, J. Locke, I.G. Pestalozzi, F.A. Distverg, I.F. Herbart, et al.) it still remains acutely relevant. This uncertainty acquires special significance in the context of education reform, its declared transition from a knowledge-centric to a competency-based approach, from a directive model of teaching and learning to a constructive model. It defines the main principles of educational activities of the XXI century: activity, subjectivity of the student, focus on his needs; competence content of education; partnership between teacher and student; reflective teaching [24]; creation of a developing educational environment etc. These principles are basic in reforming the general secondary education of Ukraine according to the Concept “New Ukrainian School” (Laws of Ukraine “On Education”, 2017, “On complete general secondary education”, 2020, State standard of primary education, 2018, State standard of basic general secondary education, 2020).

2 Literature Review

It is clear that traditional for the classical model of education teaching methods aimed at mastering by a student a certain amount of information transmitted by the teacher cannot ensure the implementation of these principles [27]. After all according to the modern understanding of the essence of the educational process the teacher is no longer a translator of subject knowledge [13] and the main source of information for students, the person who directly manages their activities [15] but is a facilitator of educational activities, designer and organizer of educational environment. The purpose of professional activity of a teacher in Ukraine in accordance with the new Professional Standard for Professions “Primary School Teacher”, “General Secondary

School Teacher” (2020) is the organization of teaching and education of students by forming their key competencies and worldview on the basis of universal and national values as well as the development of intellectual, creative and physical abilities necessary for successful self-realization and continuing education [21].

Thus it requires the search for new teaching methods based on effective methodology. After all it is the effective approach and active methods of teaching and learning as evidenced by the results of many studies put students at the center of the educational process, ensure *their subjectivity against the passive perception of information. They improve the understanding and storage of information; ensure the development of cognitive and metacognitive skills including the ability to solve problem situations, critical thinking etc.* [14]. Therefore the implementation of active teaching methods and training of teachers becomes a priority of research interest of scientists in many countries [4, 5, 6, 9, 13, 19, 24].

First of all let's define our understanding of the essence of such a concept as active teaching methods which require consideration of the main provisions of *the effective approach in education – active methodology.*

Thus the main provisions of the effective approach (according to L. Vygotsky, P. Halperin, A.A. Leontiev, A.N. Leontiev, E. Isaev etc.) in education are as follows:

1. The purpose of training is the formation of students' way of action – certain skills.
2. Ways of action can be formed only as a result of activity – educational activity (if it is specially organized) and their formation should take place in stages: starting with the creation of a motivational basis for action, the student's attitude to the purpose and objectives of the action, to material working out and creating a scheme of indicative basis of action which is tested and refined (i.e. knowledge that the student acquires independently not received in the finished form) to form an action in materialized form based on externally presented components of the scheme descriptive meanings of these actions in external language and to take action internally, and transfer in real practical situations.
3. The mechanism of learning is not the transfer of knowledge but the management/design of educational activities. Therefore the teacher must create conditions for a student to master the activity – making the learning process:
 - Motivated: interest, emotional immersion, the formation of values is the primary task of teaching which provides a motivational basis for activities;
 - Goal-oriented: the student must independently set a goal and find means to achieve it in an independent search;
 - Practice-oriented: to provide a connection with real activities, subject-practical actions;
 - Socialized: to take place in the space of joint educational and cognitive activities of students, communication between them, team interaction;
 - Creative: should be as focused as possible on the creative activity of the student;
 - Reflective and maximally self-organized: aimed at developing the skills of self-control, self-esteem, self-improvement of students.

These provisions define the relevant requirements for teaching methods which cannot be knowledge-oriented, informational, lecture i.e. – traditional for education. Therefore active methods are such methods of the organization of training which provide development of motivation of students, their abilities: goal-

setting; independent search for information; action design; formulation of hypotheses; risk assessment and decision making; reflections; as well as the implementation of various methods of action, improvement, practice in atypical situations; development of skills of presentation of own opinion, its argumentation, team cooperation, self-regulation etc.

Active teaching methods by their nature are: *well-targeted* – a center is a student oneself and his independent use of information [15]; *active* – consist of cognitive, emotional and behavioral activities at the initiative of students themselves, their agencies [22, 27]; *problem* and *research* – aimed at independent solution problem by students in the problem situations, their search activities [1]; *cooperative* – consist of pair, group, team interaction of students [16]; *project-oriented* – aimed at the implementation of students' design of their own mental activity, solving problem situations.

According to research at the level of school and higher education in various fields of education scientists have found that active methods provide a *higher level of academic success* of students than traditional, lecture. The advantage of active methods in terms of students' learning outcomes is estimated by some researchers ranging from the lowest impact rates to the highest – two to three times compared to traditional [7, 9, 18, 23].

Among active teaching methods according to the results of many meta-analyses [12] the greatest positive effect on both academic success of students and the development of their cross-cutting skills have strategies such as: mutual learning, information visualization, research learning, problem-based learning, cooperative learning [25].

However despite the potential effectiveness of active teaching methods their implementation in everyday pedagogical activities is still extremely insufficient. And among the main difficulties in the implementation of active methods researchers from many countries around the world primarily identify those that are directly related to the professional attitudes and stereotypes of teachers [11, 18].

The *first-priority* importance of professional perceptions, positive professional attitudes of teachers towards active teaching methods is evidenced by the results of many studies conducted in different countries of the world [1, 9, 12, 14, 15, 23].

3 Materials and Methods

Thus *the purpose of the study* is to identify *the perceptions* of teachers of Ukrainian institutions of general secondary and higher education (those who provide training for future teachers) on the active teaching methods. The study is based on the belief that the obtained empirical data will improve both the quality of professional training of future teachers in higher education institutions and the training of teachers in the process of their postgraduate education.

The research hypothesis is based on the assumption:

H1: there are statistically significant differences between the perceptions of primary school teachers and teachers of higher education institutions regarding active teaching methods: their essence (list), efficiency, success factors;

H2: there is no statistically significant difference between the perceptions of primary school teachers and teachers of higher education institutions on the active teaching methods: their essence (list), effectiveness and success factors.

Participants. The study was conducted in March 2020. The sample was non-probabilistic convenience sample which involves the inclusion of subgroups of the population (professional pedagogical community) in proportion to the researcher's decision [3, 8, 20].

The study involved 55 primary school teachers and 40 teachers of higher education institutions that train future primary school teachers from different regions of Ukraine: 39% – from the eastern and southern regions ($n = 37$); 27% – from the central Ukrainian regions ($n = 26$); 18% – from the western Ukrainian regions ($n = 17$) and 16% - from the northern Ukrainian regions ($n = 15$).

On the basis of gender the study involved: among primary school teachers – 100% women ($n = 55$), among teachers – 85% women ($n = 34$) and 15% men ($n = 6$).

By age: up to 30 years – 5% of primary school teachers ($n = 3$); from 31 to 40 years – 16% of primary school teachers ($n = 9$) and 10% of teachers ($n = 4$); from 41 to 50 years – 49% of primary school teachers ($n = 27$) and 30% of teachers ($n = 12$); from 51 to 60 years – 20% of primary school teachers ($n = 11$) and 45% of teachers ($n = 18$); from 61 to 70 years – 9% of primary school teachers ($n = 5$) and 15% of teachers ($n = 6$).

According to the length of professional activity the study involved: up to 3 years – 2% of primary school teachers ($n = 1$) and 2.5% of teachers ($n = 1$); from 4 to 10 years – 13% of primary school teachers ($n = 7$) and 25% of teachers ($n = 10$); from 11 to 20 years – 53% of primary school teachers ($n = 29$) and 30% of teachers ($n = 12$); from 21 to 30 years – 25% of primary school teachers ($n = 14$) and 40% of teachers ($n = 16$); from 31 to 40 years – 7% of primary school teachers ($n = 4$) and 2.5% of teachers ($n = 1$).

By education: 100% of primary school teachers have higher education; among them 89% have higher pedagogical education ($n = 49$). Moreover 58% of teachers said that they have additional training in the implementation of active teaching methods – received thematic trainings, refresher courses, participated in master classes.

As for teachers of higher education institutions 30% of them work in pedagogical colleges ($n = 12$) and 70% – in pedagogical universities at the faculties that train future primary school teachers ($n = 28$); 22.5% of them have a scientific degree of Candidate of Sciences ($n = 9$), 7.5% have a Doctor of Science ($n = 3$). Regarding their additional training in the implementation of active teaching methods 27.5% ($n = 11$) mentioned it namely 20% underwent special trainings ($n = 8$) and 7.5% – internships ($n = 3$).

3.1 Design of the Study and Instruments

The Goncharenko's survey method was chosen for the study [8]. The developed author's questionnaire consisted of two parts. The first contained 9 questions (closed and open) which highlight the views of teachers on active teaching methods and features of their implementation in the educational process namely:

1. Methodology of effective approach to education (do you agree with the statement that effective approach is not just a set of certain technologies and methods but a kind of philosophy of education? Do you consider the effective approach in education that meets the requirements for teaching in the XXI century?)
2. Methods of effective approach (Active teaching methods are...? What active teaching methods in your pedagogical activity do you use to a greater extent? What opportunities do active teaching methods provide to the teacher?)
3. The main factors that determine the success of the implementation of active teaching methods and the difficulties of their implementation (What is primarily necessary for the implementation of active teaching methods/approach in your institution? What barriers to successful implementation of active methods exist in general secondary/higher education?)
4. Requirements for professional competence of teachers in the context of successful implementation of active teaching methods (What qualities should a teacher have for successful implementation of active methods in the educational process? Is it necessary additional training for

teachers to implement active teaching methods, what exactly?)

The second part of the questionnaire contained 4 self-assessment scales (5-point score: from 1 – minimum value to 5 – maximum value):

1. The effectiveness of active teaching methods to achieve academic results by students.
2. The completeness of the implementation of the principles of the effective approach in the educational process.
3. Frequency of use of active methods.
4. The level of their own professional competence in the implementation of active teaching methods.

The method of filling out the questionnaire is electronic (using *google.forms*). The statistical package "IBM SPSS Statistics 23" was used for statistical analysis.

4 Results and Discussion

The data obtained from the survey showed that there are common to primary school teachers and teachers of higher education ideas about the active teaching methods and those that differ. Table 1 presents data on four indicators that allow performing their statistical analysis and determining the presence of statistically significant differences between them.

4.1 Similarities between the Perceptions of Primary School Teachers and Teachers of Higher Education Institutions Regarding Active Teaching Methods

Thus the common ideas of teachers are as follows:

- The effective approach is perceived as a kind of philosophy of education and not just a set of technologies and methods as noted by 95% of primary school teachers and 97% of teachers;
- The effective approach in education meets the requirements for teaching in the XXI century, it is aimed at the development of key competencies, cross-cutting skills of students which is insisted on by 91% of primary school teachers and 90% of teachers;
- Active teaching methods are special ways of organizing educational activities and interaction of students with the teacher which include: activity and interest of students, their independent choice of the way of solving the educational task, search for information; maximum independent learning; communication between students, dominance of pair, team work; play and research activities; conducting classes outside the classroom (see Table 1);
- The effectiveness of active teaching methods for achievement by students' academic results is quite high in the opinion of 64% of primary school teachers and 65% of teachers but distrust of them was expressed by 22% of primary school teachers and 17.5% of teachers;
- Regarding the completeness of the implementation of the principles of the effective approach in the educational process 13% of primary school teachers and 10% of teachers stated that they are fully implemented, 44% of primary school teachers and 50.5% of teachers – to a greater extent; 38% of primary school teachers and 22% of teachers – partially; 5% of primary school teachers and 17.5% teachers - are not implemented at all;
- The most frequently used active teaching methods are: educational projects, research projects; problem-solving task; strategies for the development of critical thinking; excursions (see Table 1);
- The main factors that determine the success of the implementation of active teaching methods are: the motivation of teachers to change their traditional teaching strategy, the use of new methods as well as the motivation for their own professional development; special training of teachers, their mastery of strategies of active teaching; teachers have their own experience of participation,

application of active teaching methods including in the process of educational trainings (see Table 1);

- The main barriers to the implementation of active teaching methods are: unwillingness of teachers to change their activities, lack of motivation for changes; distrust of active teaching methods in terms of their effectiveness, stereotyped thinking about their mostly entertaining nature; fear of using new methods; limited space, lack of didactic active ways (see Table 1).
- The leading professional qualities that determine the success of the teacher's implementation of active teaching methods are: openness to new experiences, the desire for self-development; sociability, openness in communication; flexibility of behavior; emotionality; initiative and activity (see Table 1);
- For the successful implementation of active methods in the educational process teachers need additional training (100% of primary school teachers and 92.5% of teachers) through participation in: special trainings, refresher courses (80% of primary school teachers and 77.5% of teachers); participation in internship programs, study of effective experience (20% of primary school teachers and 47.5% of teachers);
- Regarding the level of own professional competence in the implementation of active teaching methods the majority of primary school teachers and teachers rated it at the average level (54.5% of primary school teachers and 70% of teachers), the low level was evidenced by 29% of primary school teachers and 22.5% of teachers; 16.5% of primary school teachers and 7.5% of teachers assessed their own professional competence in the implementation of active teaching methods at a high level.

Table 1: Comparison of perceptions of primary school teachers and teachers of higher education institutions regarding active teaching methods

	Primary school teachers (n = 55)	Teachers (n = 40)
Key features active teaching methods:		
students' activity and interest	0,60	0,45
teaching through subject-practical action	0,56	0,20
maximum independent learning	0,51	0,28
cooperation and communication between students, dominance of pair, team work	0,49	0,18
play activities	0,47	0,22
research activities	0,44	0,50
classes outside the classroom	0,38	0,18
focus on the development of creative abilities of students	0,20	0,00
<i>t</i>	2,886 (<i>t</i> _{kp} = 2,145)	
<i>p</i>	0,05	
The most frequently used active teaching methods:		
educational projects	0,745	0,250
research projects	0,530	0,275
problem-solving task	0,330	0,250
play methods including LEGO bricks	0,890	0,100
discussions	0,380	0,900
strategies for the development of critical thinking	0,220	0,100
excursions	0,290	0,075
telling stories	0,160	0,100
schematization methods	0,310	0,000
<i>t</i>	1,650 (<i>t</i> _{kp} = 2,12)	
Factors of the implementation's success of The of active teaching methods:		
the motivation of teachers to change their traditional teaching strategy, the use of new methods	0,580	0,450
the motivation for their own professional development	0,530	0,325
special training of teachers, their mastery of strategies of active teaching	0,400	0,375
material-and-technical supply of the educational institution	0,380	0,050
developed didactic materials, methodical recommendations for teachers	0,250	0,000
own experience of participation in active teaching methods	0,160	0,450
interaction, cooperation of teachers, administration of the educational institution and students' parents	0,330	0,000
<i>t</i>	1,443 (<i>t</i> _{kp} = 2,179)	

Barriers to the implementation of active teaching methods:		
unwillingness of teachers to change their activities, lack of motivation for changes	0,690	0,725
distrust of active teaching methods in terms of their effectiveness, stereotyped thinking about their mostly entertaining nature	0,650	0,625
fear of using new methods	0,330	0,050
limited space, lack of didactic active ways	0,310	0,200
limited in time including preparation for classes	0,290	0,000
a large number of students in class	0,200	0,000
complex behavior of children, the complexity of its organization	0,490	0,000
lack of experience	0,130	0,000
resistance from students	0,000	0,275
<i>t</i>	1,109	(<i>tkp</i> = 2,12)
The leading professional qualities of teachers:		
openness to new experiences, the desire for self-development	0,710	0,650
creativity	0,490	0,150
sociability, openness in communication	0,250	0,325
ability to facilitate, accompany, moderate	0,000	0,225
flexibility of behavior	0,220	0,175
emotionality	0,250	0,050
initiative and activity	0,250	0,650
tolerance	0,145	0,050
digital awareness	0,070	0,000
<i>t</i>	0,112	(<i>tkp</i> = 2,12)

4.2 Differences between the Perceptions of Primary School Teachers and Teachers of Higher Education Institutions Regarding Active Teaching Methods

According to the results of the survey the following differences in the views of primary school teachers and teachers of higher education institutions on active teaching methods were revealed as follows:

- Teachers connect active teaching methods with activity and independence of students first of all in the process of their subject-practical activity in pair and team work. While teachers consider the main features of active teaching methods to be active research activities of students. In addition unlike teachers the focus on the development of students' creative abilities from the point of view of primary school teachers is an important feature of active teaching methods;
- The most frequently used active teaching methods are defined by teachers as play methods including LEGO bricks as well as project activities. However teachers most often use discussions that far outweigh other learning strategies;
- If primary school teachers among the main factors of successful implementation of active teaching methods identified interaction, cooperation of teachers, administration of the educational institution and students' parents as well as material-and-technical supply of the educational institution and the availability of developed didactic materials, methodical recommendations then for teachers these positions are not defined as significant;
- Among the barriers to the successful implementation of active teaching methods by teachers' opinion are complex behavior of children and fear of using new methods; they are afraid of losing control over the class, do not show confidence in new strategies, their organizational and motivational resources, the ability to effectively use group forms of work.

It is confirmed by the results of research [11, 14, 18] because there is a natural tendency especially among teachers of secondary and higher education "to teach the same way, how they were taught" and limit their learning environment to traditional methods based on information transfer [14].

As for teachers in their opinion one of the significant barriers to the successful implementation of active teaching methods is resistance from students, unwillingness of students - future teachers - to participate in research and project activities, to search for information independently, come out of passive listener condition for which they are accustomed [14].

- Among the leading professional qualities of a teacher that ensure the success of the implementation of active teaching methods primary school teachers have identified creativity but for teachers this quality is not considered important. However the ability to facilitate, accompany, moderate the learning activities of students is extremely important for teachers of higher education.

The statistical analysis showed a statistically significant difference between the perceptions of primary school teachers and teachers on the first indicator: the obtained *t*-criterion is equal to 2.886 with a critical value of *tkp* = 2.145 (at $p > 0.05$). According to the second, third and fourth indicators no statistically significant difference was found. However the obtained *t*-criterion by the criterion of key features of active teaching methods in our opinion indicates the accuracy of H1 that there are statistically significant differences between the perceptions of primary school teachers and teachers of higher education institutions about active teaching methods. After all it is the first indicator that determines the basis for teachers' understanding of the essence of active teaching methods it determines teachers' further understanding of the factors of their successful implementation. If the perceptions of experts about the key features of active methods are different respectively on other indicators the perceptions are different. However this issue requires further research.

5 Conclusion

The study makes it possible to compare ideas about the active teaching methods of primary school teachers and teachers of higher education institutions who work with future teachers. In the context of reforming general secondary education in Ukraine it is especially important because according to the Concept "New Ukrainian School" teaching in schools should primarily take place on the basis of an effective approach. Thus the teacher must be ready to implement active teaching methods which are inherently active, well-targeted, and problem-solving, research, and cooperative, project-based, involves a change in his traditional, habitual position as a supplier, translator of information and ready knowledge [9, 11].

The results of the study allow on the one hand to identify features of teachers' awareness of active methods, the specifics of their implementation in the school educational process and consequently to design the trajectory of further professional development. On the other hand they allow identifying problems of professional training of future teachers in higher education institutions and ways to overcome them.

According to the data obtained in general both school teachers and teachers of higher education institutions perceive the effective approach as a philosophy of modern education aimed at developing key competencies, cross-cutting skills of students. However they have different understandings of what methods are active: for primary school teachers - are active play, research, problem-solving strategies that involve primarily manipulative, substantive, practical activities of students aimed at developing their creativity and implemented in the interaction of students, their joint, team search for information, problem-solving. Such methods are most often used by primary school teachers in the educational process. For teachers of higher education active methods are first of all students' research activity and discussion of problematic issues during discussions. It is the discussion as a learning strategy that teachers choose to lead and apply most often.

Awareness of teachers (both school teachers and teachers) of the need to change the traditional model of teaching is manifested in the factors of successful implementation of active teaching methods which they noted: in both groups of respondents are dominated by internal personal factors - motivation to change their usual activities, their own professional development, own professional experience. And also in the barriers that hinder among which in addition to the unwillingness to change - distrust of the active methods in achieving academic results, fear

of the new, insecurity in their own resources. And the leading professional qualities of a teacher in the first place among which are openness to new experiences and the desire for self-development.

Teachers' understanding of the need to develop their own professional competence in the implementation of active teaching methods [26], their awareness of the importance of receiving professional assistance during special courses [7], trainings [2], internship programs provides a resource for adjusting their postgraduate education programs which includes: acquainting primary school teachers and teachers with active teaching methods, methodology of effective approach in education as well as successful practices of application of active strategies; development of flexibility of thinking and behavior of teachers, their professional reflection, self-organization.

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Primary Paper Section: A

Secondary Paper Section: AM