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## **Self-Development as a Factor in the Professional Growth of Future Teachers**

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### **Abstract**

The study aimed to substantiate the concept of "self-development as a factor in the professional growth of future teachers" and to empirically research the effectiveness of technological tools that affect the development of its components. Self-development as a factor in the professional growth of future teachers in the context of the article is considered as a motivated self-progress of applicants for higher education in pedagogical specialties, which is based on personal senses and aimed at developing their professional potential. To achieve this goal at different stages of the study, we applied: author questionnaires using Google service (Google Forms tool), individual protocols for self-assessment, diagnostic technologies of self-awareness and self-development - the flower of my research skills, a cascade of sequences, a basket of ideas, personal projects technologies - pedagogical portfolios, cases, Self-book, projects, business (imitation) games, maps of professional self-development. The generalization of the data of the empirical study took place using the methods of mathematical statistics – the Pearson's correlation coefficient using MS Excel (application of the "CORREL" function). The results of the study confirm the quantitative and qualitative indicators of the positive component dynamics of the formation of self-development for the professional growth of future teachers. It is proved that the use of a set of personal-projective tools contributes to the formation of professional self-development of the teacher, which is expressed by the components disclosed in the article. The application of our research: its results will help applicants for higher education (future teachers and lecturers of higher educational institutions of pedagogical specialties) consciously apply diagnostic, personal-projective technologies for the teacher's self-development at the beginning of their activity. The study for the first time substantiates the essence of the concept and the components of self-development as a factor in the professional growth of future teachers; suggests a set of effective methods that have not been widely explained.

**Keywords:** Self-Development, Professional Growth, Future Teacher, Diagnostic Technologies, Personal-Projective Technologies, Methodology.

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## **Introduction**

The given study is due to the human needs of digital civilization to master the knowledge and skills so to apply them creatively in a rapidly changing world, as well as to multiply new, useful ones for their own professional growth. We consider the problem in the context of providing favorable conditions for the personal and professional development of future teachers. Therefore, the scientific research is devoted to the disclosure of self-development for the professional growth of teachers at the beginning of their activity and testing of the proposed technological tools.

The results of the theoretical analysis show that the above topic has not been fully studied. We consider the concept of "self-development" as a self-creating factor in the development of values and motives, means of the activity expressed by the personal senses of the teacher in their profession. A survey of 454 students of pedagogical specialties revealed that 74% of respondents have difficulty in correlating the internal motives of self-development with professional activity, and 55% of higher education students had difficulty establishing communication with teachers, students, and parents. According to the results of our research, it was found out that certain aspects of self-development of students of pedagogical specialties in the scientific field are partially covered. Despite the scientific and practical demand in the scientific field, there is currently no comprehensive research on this topic.

## **Literature Review**

Various issues related to the problem of self-development as a factor of personal and professional training of teachers are the subject of scientific discourse. The study of theoretical sources made it possible to clarify various scientific generalizations in research covering the issues of self-development of students of pedagogical specialties. Thus, V. Kovalchuk (2011), M. Knyazyan and O. Khromchenko (2019), V. Frytsiuk (2017) consider the above problem in the course of professional training of teachers, I. Zyazyun, O. Lavrinenko, M. Soldatenko (2015) and others - in connection with the development of pedagogical skills of teachers; axiological component of professional and pedagogical self-development of future teachers (Ivaniuk, 2018).

The results of the theoretical analysis clarify the main directions of foreign research, which directly or indirectly reveal the impact of teaching practice on the professional development of future teachers, mainly in the work of V. Vescio, D. Ross, and A. Adams (2008). However, the information from the research results presented in this source does not provide an understanding of how to develop students' (future teachers) motivation for professional growth. We consider the position of the authors to transfer the experience of professional educational communities to students insufficiently proven, although in general such an author's opinion has a right to exist. In the context of our study, the work of D. Kagan "Professional Growth among Preservice and Beginning Teachers" (1992) is of great interest. The author of this paper analyzed the scientific achievements of his predecessors, who studied the professional growth of primary school teachers at the beginning of their professional activities, summarized the experience, and concluded that at the initial stage of the teacher training insufficient attention is paid to "modification" and "reconstruction" of "I-image" in the teaching profession. The study of this work gives grounds to agree with the author's interpretation of the conclusion about the lack of effectiveness of only the cognitive component and the ability to acquire knowledge for the professional development of the teacher. On the other hand, the author of the above research work did not focus on identifying students' motivation in the process of professional training.

A. Bandura's scientific position on the impact of perceived self-efficacy on students' academic development is very interesting in terms of our research. In the article "Perceived Self-Efficacy in Cognitive Development and Functioning", Bandura (1993) pays attention to proving the dominant belief in own self-efficacy, determines the conscious motivation of students and their progress towards

academic achievement. We agree with the opinion of the author about the proactive nature of the productive activities of teachers with the formed conscious self-efficacy. This type of professionals is aware of their interests, needs, and means of self-development and influence the improvement of the educational environment, create it. In line with the issues of our study, the following articles are of interest - "Enhancing Pre-Service Elementary Teachers' Self-Efficacy and Critical Thinking using Problem-Based Learning" (Saputro et al., 2020), "Undergraduates' Achievement Goal Orientations, Academic Self-Efficacy and Hope as the Predictors of Their Learning Approaches" (Kali-Soyer & Kirikkanat, 2019). The authors of these works quite convincingly present the results of an empirical study of various aspects of self-efficacy of future teachers, which is consistent with our research problem.

In line with the study of self-development as a factor in the professional growth of future teachers, we analyzed the work of J. Tondeur, J. Van Braak, F. Siddiq, and R. Scherer "Time for a new approach to prepare future teachers for educational technology use: Its meaning and measurement" (2016). The authors of this study aimed to develop methods for the introduction of IT - technologies for teachers before the start of their professional activities. It is worth noting a wide sample of research, developed recommendations that can help teachers at the beginning of their professional activities to establish feedback, which is quite difficult in the activities of teachers. The competences necessary for the introduction of IT in the educational process are also highlighted. However, it should be noted that the authors of the above article did not pay enough attention to the disclosure of learning technologies that contribute to the personal and professional growth of teachers.

The research of factors, which promote independent learning of students in the process of using e-Portfolios – J. Beckers, D. Dolmans, and J. van Merriënboer (2016) highlight the potential of this technology for the development of students' self-study skills, and the components of this process are self-assessment of their own activities, goal setting, and adequate tasks. Thus, the above technology helps to teach students to implement the plan and increase their self-esteem. The conclusions of the researchers are quite productive, but they did not find the conditions for successful implementation of the electronic portfolio in the educational process of professional training of teachers.

It is necessary to further develop the study tools of the e-portfolio impact on students' self-development in the process of their professional development in colleges and universities. S. Lee and D. Schallert (2016) present the dynamics of becoming a teacher, professional identification in the process of teaching and self-study. The authors paid considerable attention to the study of the links between certain aspects of professional development in studying, which is based on the perspective targeted at students and their personal motivation. Our scientific reasoning is based on the understanding that a new school needs a teacher who is ready to deal with many human needs, especially those that are student-centered. Therefore, a teacher with developed personal and professional qualities can create conditions for the development of personality in its triune essence. As a result, it is important to create favorable conditions for students of pedagogical specialties in the studying process to expand their opportunities for self-study, self-diagnosis, and self-development. For these reasons, we agree with the intentions of the study of the readiness of the future teacher for theoretical and practical research, performed by K. Donohue, G. Buck, and V. Akerson (2020). In the global context of digitalization of public life, the modern school needs teachers responsible for themselves and their own self-development and for children, their formation in human communities. It is no coincidence that the researchers I. Helleve, A. Grov Almås, and B. Bjørkelo (2020) concluded that ethical dilemmas are taken into account in the digital competence of the teacher and the need for self-understanding in the profession. In the work "Assessing the professional identity of primary student teachers: Design and validation of the Teacher Identity Measurement Scale", F. Hanna, R.

Oostdam, S. E. Severiens, and B. J. H. Zijlstra, (2019) present a scientific work that reveals the tools of professional development of primary school teachers in accordance with their motivation, self-measurement, self-efficacy, acceptance of tasks. However, it should be noted that this study did not pay attention to such important aspects for the teacher as their self-awareness and self-development in training. Some aspects of this phenomenon are revealed in the work "Development of the self-determined learning model of instruction coaching model: Implications for research and practice" (Hagiwara et al., 2020). The researchers proposed an experimental model of teaching coaching in the professional training of teachers. This idea is of interest given the importance of the teachers' willingness to make personally and socially important decisions and responsibilities for their actions and deeds, the development of plans for professional activities, self-control, and self-assessment of professional self-progress.

In our study, "self-development" is considered as "the process of purposeful influence of the individual on oneself in order to develop or hone physical and moral qualities, essential forces, spiritual sphere, activation of abilities, inclinations necessary for life, as well as self-realization of new knowledge, skills" (Encyclopedia of Education, 2008). According to this interpretation, we consider the self-development of the future teacher in both personal and professional senses. Self-development is characterized by self-progress, which is based on one's own motives for professional growth.

### **Purpose of the Present Study**

In the present study, we aim to substantiate the essence of the concept of "self-development as a factor in the professional growth of future teachers" and to empirically investigate the effectiveness of technological tools that affect the development of its components.

### **Methodology**

To ensure our study is complete, a system-activity and synergetic approaches were chosen. The system-activity approach best reflects the component structure of human activity. In the context of the topic of scientific research, we consider the learning process as an activity, and therefore the formation of students' ability and willingness to carry out activities in order to solve important problems for their self-development. It is important that the needs, motives, knowledge, and ways of activity and the results of self-development of the specialist are considered as a whole, which is the scientific field of our study. In addition, the system-activity approach contributes to the creation of conditions for self-development of future teachers based on psychological analysis (self-analysis). It is important that the activity is carried out in the form of cooperation, promotes self-development, and is in the "zone of immediate personal development". (Atanov, 2001). The synergetic approach allows you to combine interdisciplinary components, different types of pedagogical activities in line with the new philosophy of education (Vygotsky, 2000).

We selected a group of theoretical and empirical methods for the study. Theoretical (analysis, synthesis, generalization) methods made it possible to study the state of the problem in pedagogical theory, to clarify the essence of the basic concepts of research, to identify indicators and levels of personal and professional self-development of future teachers. Empirical - pedagogical experiment, observation, survey, questionnaire, interview; methods of mathematical statistics using the Pearson correlation coefficient with the help of MS Excel (application of the "Corel" function).

The research was conducted at Borys Grinchenko Kyiv University (2017–2020) by the teachers of the Department of Pedagogy and Psychology. At different stages of the study, the total number of the students involved accounted for 354, mostly majoring in "Preschool Education" and "Primary Education".

The purpose of empirical research is to test the effectiveness of a set of experimental techniques for the formation of future teachers' components of self-development, based on acceptable values and personal senses to self-progress. To do this, we consider it appropriate to identify such indicators as motivational, cognitive, self-study (self-observation, self-diagnosis), activity, self-progress, which allowed to explore the dynamics of components of self-development as a factor in the professional growth of future teachers: value, research, reflection, and skills of the 21st century.

At the formative stage of the experiment, a total number of 159 students took part - 73 people in the experimental group; 86 people were assigned to the control group.

## **Results and Discussion**

The formative research was conducted in four stages, which are distinguished according to the formed readiness of students for personal and professional progress, due to their own senses. The results obtained at each stage contributed to the holistic disclosure of the problem of self-development as a factor in the professional growth of students.

To conduct the research, the Department of Pedagogy and Psychology of Borys Grinchenko Kyiv University selected and substantiated the feasibility of technical support for the self-development of future teachers. We consider the technical support as the presence of specially- equipped centers of competence in higher educational institutions, providing modeling of pedagogical situations close to those that are characteristic of the real educational environment of primary schools, kindergartens. An important place here is given to personal and projective technologies - trainings, workshops, educational and demonstration studios, offline/online consultations, debates, business games, interdisciplinary projects, etc. A blog of self-awareness and self-development has been developed to provide feedback to the applicants of higher education. On the pages of platforms (self-awareness and personal growth) posted in the blog, the students are offered digital tools (tests) for self-diagnosis, to study their own needs and goals for their professional growth, to master the ways of self-regulation. The content of diagnostic tools is developed taking into account the needs, values, and motives of students identified at the ascertaining stage of empirical research, which is classified as low-level. The experimental group of students was offered personal-projective educational technologies - pedagogical portfolios, cases, Self-book, projects, business (imitation) games, and maps of professional self-development. Diagnostic tools are supplemented by questionnaires to identify the components of self-development - value, research, reflection, skills of the 21st century. Thus, the Self-book (a diary of personal and professional growth of the future teacher) contained a description of the tools used by students for self-awareness and self-development, an algorithm for their professional progress, reflective materials for developing their own map for self-development. According to the indicators substantiated above, the levels of formation of the components of personal and professional self-development of students are basic, medium, high.

At the first stage of the formative experiment, teachers of pedagogy and psychology during their studies focused students' attention on stimuli, gave them advice on the use of each stimulus, and explained its importance for achieving their professional development.

In the second stage of the formative experiment, teachers gave students the opportunity to individually implement stimuli and supported them with the following questions: How to achieve a goal of their own development? What will I do for this? This step is passed, what's next? The students used the authors' diagnostic technologies that are now implemented in pedagogical practice - self-assessment of personal and professional achievements, the flower of my research skills, cascade of sequences, a basket of ideas, individual protocols of indicators of value-personal, research, reflectory components and skills of the 21st century (ability to work in a team, cooperation skills, critical thinking,

digital skills). At this stage, the students carried out a self-assessment of the formation of the above components of self-development, which affect their professional and pedagogical development.

At the third stage of the empirical search, the teachers observed individual learning activities of the students and provided them with advisory support with competences of self-awareness and self-development. For this purpose, the content of academic disciplines ("Pedagogy", "Psychology") was updated with information about the human being and their values, human development and self-development, personal-projective technologies. During educational (pedagogical) internships the students were offered modules: propaedeutic, research, organizational and pedagogical during which they diagnosed the development of individual characteristics of children, based on the results of the study they also created a profile of primary school students, reflected on their professional self-development.

In the fourth stage of the study, the students themselves initiated topics of interdisciplinary projects - "Portrait of a freshman", "I know myself", "I am in the eyes of others", blogs, developed personal growth maps, and professional self-development programs.

Experimental training of students of pedagogical specialties ("Preschool education", "Primary education") was being conducted for two years, on the first and second years of study in order to test the impact of experimental learning technologies on the formation of components of self-development as a factor in the professional growth of future teachers.

The study of the levels of development of value-personal, research, reflective components, and skills of the 21st century took place in accordance with the substantiated indicators. The value-motivated indicator is characterized by the orientations and needs of the individual for self-awareness and for the choice of diagnostic tools for self-awareness, finding ways to determine the vector of self-development of personal and career growth. The cognitive indicator reveals the teachers' awareness of the interdependence of self-development on their personal and professional growth and the ability to build a path of self-progress. The characteristic of the self-study indicator is the students' mastering of diagnostic tools of self-awareness and self-development, their acquisition of skills, and ways to develop a path of their self-development. The procedural indicator includes the ability and willingness of future teachers to choose adequate tools for their self-development and professional development. We consider self-progress in the context of personal and professional growth as an increase in the personal qualities and professional competencies of the future teacher.

According to the results of the ascertaining stage of the research, we present the essential characteristics of the basic, medium, and high levels of personal and professional self-development of future specialists. The group of applicants who have a basic low level of personal and professional self-development includes those who are carriers of reproductive values, and in interaction with other people they produce the values that were formed in them during schooling; for this group of students, personal senses are dominant over professional ones. They have difficulty in finding sources of information, its analysis and interpretation; it is not easy for them to stand up for their opinions; in communication, they prefer only those people they know well.

The group of students who have an average level of personal and professional self-development includes those who seek innovation in their own self-development, are able to adapt to new conditions and challenges. Students belonging to this group independently or under the supervision of a consultant select tools for problem-solving and for personal, professional self-development; try to produce new knowledge and defend their position by giving convincing arguments; use reflection as a tool to analyze the dynamics of self-progress.

The group of students who have a high level of personal and professional self-development includes those who have developed the ability and willingness to design their career map; in practice, they demonstrate their style of professional communication, are able to adjust content and develop educational products (blogs, websites, manuals, methodological recommendations, didactic games, etc.). This group of future teachers is characterized by the ability to work in a team and responsibility for their actions, as well as the willingness to solve research assignments and reflect on professional growth; implement research results in the educational process of primary school; design a map for professional self-development and analyze dynamics of self-progress.

The study of the content of diagnostic maps of professional development of students, completed in the course of educational (psychological and pedagogical) practice, allowed stating that the students show interest in self-awareness and self-development, but they have difficulty in choosing adequate diagnostic tools, self-realization, needs for self-development. According to the results of the diagnosis, values related to the personal sphere and interpersonal contacts are dominant for the first-year students, while professional values have not yet become a priority for them.

To test the effectiveness of the developed technological support for students' self-development in their professional growth at the control stage of the study, a test was made and the dynamics of their progress (experimental and control groups) by levels was revealed.

To determine the degree of linear dependence between the pairs of variables (research results obtained at the ascertaining and control stages) we use the method of mathematical statistics – the Pearson's correlation coefficient. It is determined by the formula (1):

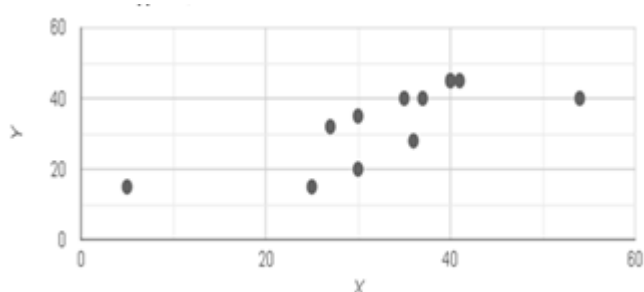
$$R_{x,y} = \frac{M[XY] - M[X]M[Y]}{\sqrt{(M[X^2] - (M[X])^2)}\sqrt{(M[Y^2] - (M[Y])^2)}} \quad (1)$$

To calculate the results of the Pearson correlation coefficient we used experimental data (the results of the formation of low, medium, high levels) of the components of self-development in the professional growth of future teachers in the experimental group before and after the experiment (ascertaining stage (data x), control stage (data y)). (Table 1).

**Table 1. Empirical data for calculating the Pearson correlation coefficient (ascertaining, control stages)**

x	y	ln(y)	x <sup>2</sup>	y <sup>2</sup>	x*y	y(x)	(yi-ycp) <sup>2</sup>	(yi-y(x)) <sup>2</sup>	(xi-xcp) <sup>2</sup>	yi-yx :y
25	15	2,7	625,0	7,3	67,7	24,8	336,1	96,2	69,4	0,7
40	45	3,8	1600,0	14,5	152,3	37,3	136,1	59,4	44,4	0,2
35	40	3,7	1225,0	13,6	129,1	32,6	44,4	55,4	2,8	0,2
30	20	3,0	900,0	9,0	89,9	28,4	177,8	70,9	11,1	0,4
40	45	3,8	1600,0	14,5	152,3	37,3	136,1	59,4	44,4	0,2
30	35	3,6	900,0	12,6	106,7	28,4	2,8	43,3	11,1	0,2
54	40	3,7	2916,0	13,6	199,2	54,6	44,4	212,0	427,1	0,4
41	45	3,8	1681,0	14,5	156,1	38,3	136,1	44,6	58,8	0,1
5	15	2,7	25,0	7,3	13,5	14,4	336,1	0,4	802,8	0,0
36	28	3,3	1296,0	11,1	120,0	33,5	28,4	29,7	7,1	0,2
37	40	3,7	1369,0	13,6	136,5	34,4	44,4	31,7	13,4	0,1
27	32	3,5	729,0	12,0	93,6	26,2	1,8	33,7	40,1	0,2
400	400	41,3	14866,0	143,7	1416,7	390,1	1424,7	736,7	1532,7	2,9
33,3	33,3	3,4	1238,8	12,0	118,1	32,5	118,7	61,4	127,7	0,2

Our hypothesis: if  $R_{x,y}$  is closer to 1, then the linear interdependence between the variables characterizes the presence of a strong connection; if  $R_{x,y}$  is closer to 0, the connection is weak or absent. The calculation of the Pearson correlation coefficient was performed by using MS Excel (application of the "CORREL" function). As a result of automatic calculation, we find the value  $R_{x,y} = 0,76$  – which determines the statistical dependence of two series of data, which can be illustrated by a mathematical function (Figure 1).



**Figure 1. Correlation field of linear dependence between the pairs of variables (research results obtained at the ascertaining and control stages)**

The results of the study on the problem of self-development as a factor in the professional growth of future teachers indicate a positive correlation between the use of personal - projective technologies and personal -professional development of future teachers.

In the context of the topic of our work, we consider the essence of the self-development category as a holistic process based on personal senses and aimed at self-progress and improving the value, motivation, activity potential of the teacher. Why do we consider motivated self-progress (self-development) of the future teacher as an anthropoidal activity phenomenon? First and foremost, internal motives (why I need this) are leading for conscious human activity, as well as external ones, which are conditioned by the requirements of the society to the professional activity of the teacher. Therefore, it is worth talking about the perception of these motives, their acceptance and the search for ways to implement them in their own model of professional development.

To identify the value component in the content of the study disciplines - Psychology, Pedagogy, we used a set of methods: surveys, interviews, questionnaires, pedagogical essays. Empirical research has shown the results where permanent values are dominant and the students are eager to accept those related to the educational process, rather than to their own professional development.

We consider self-development as a process and result of human progress in the research field of humanistic pedagogy, which allows students of higher pedagogical education to design their own vectors of personal and professional growth.

The covered topic is of interest in the pedagogical dimension, as self-development is a factor in the professional development of teachers at the beginning of their activity. The identified relationships between value and activity senses in the professional development of the teacher require separate research.

The results of the study showed a positive increase in quantitative and qualitative indicators of the formation of such components as value, research, reflection, skills of the 21st century in future teachers. This proved the formative influence of experimental personal-projective tools for self-development as a factor in the professional growth of future teachers. It is worth noting the most important achievements identified by the results of empirical research - a significant increase in high-



level indicators of four components: value, research, reflection, skills of the 21st century; a rise occurred among indicators attributed to the medium level of these components of personal and professional development of future teachers. At the same time, the indicators that referred to the low level decreased.

In contrast to previous studies on various aspects of self-development of future teachers on the basis of anthropoactive approach, in this study we revealed the understanding of the values necessary for self-awareness and self-development of future teachers in their professional growth, which is important in today's dimension. For the first time the article covers the concept of "self-development as a factor in the professional growth of future teachers", describes the components and substantiates the indicators that allow to experimentally prove the impact of applied technologies on professional self-progress of future teachers.

### **Conclusion**

Considering the multidimensionality of the field of our study, despite the achieved results, the impact of inner motivation and their value orientations on the professional development of future teachers needs further research. Given the significant interest in this topic by modern scholars, as well as those who have studied certain issues in line with the educational goals of past historical and pedagogical periods, the research by the following scientists (L. Vygotsky, G. Kostyuk, J. Piaget) is relevant due to their contribution in developing the theory of self-growth, identifying productive ideas to use them in order to train future teachers.

### **References**

- Atanov, G. (2001). *Activity campaign in training*. Donetsk: EAI-Press.
- Bandura, A. (1993). Perceived Self-Efficacy in Cognitive Development and Functioning. *Educational Psychologist*, 28(2), 117–148. DOI: 10.1207/s15326985ep2802\_3.
- Beckers, J., Dolmans, D., & Van Merriënboer, J. (2016). E-Portfolios enhancing students' self-directed learning: A systematic review of influencing factors. *Australasian Journal of Educational Technology*, 32(2), 32–46. DOI: 10.14742/ajet.2528.
- Donohue, K., Buck, G. A., & Akerson, V. (2020). Where's the science? Exploring a new science teacher educator's theoretical and practical understandings of scientific inquiry. *International Journal of Research in Education and Science*, 6 (1), 1–13.
- Frytsiuk, V. (2017). Professional self-development of a teacher as a psychological and pedagogical category. *Scientific Bulletin of the National University of Life and Environmental Sciences of Ukraine*, 277, 284–289.
- Hagiwara, M., Shogren, K. A., Lane, K. L., Raley, S. K., & Smith, S. A. (2020). Development of the self-determined learning model of instruction coaching model: Implications for research and practice. *Education and Training in Autism and Developmental Disabilities*, 55(1), 17–27.
- Hanna, F., Oostdam, R., Severiens, S. E., & Zijlstra, B. J. H. (2020). Assessing the professional identity of primary student teachers: Design and validation of the Teacher Identity Measurement Scale. *Studies in Educational Evaluation*, 64, 1-10. DOI: 10.1016/j.stueduc.2019.100822.
- Helleve, I., Grov Almås, A., & Bjørkelo, B. (2020). Becoming a professional digital competent teacher. *Professional Development in Education*, 46(2), 324-336. DOI: 10.1080/19415257.2019.1585381.

- Ivaniuk, H. (2018). Axiological concept of new educational strategy towards teachers' training. *Educational Discourse, 4*, 22-23.
- Kagan, D. (1992). Professional Growth of Preservice and Elementary School Teachers. *Review of Educational Research, 62*(2), 129–169. DOI: 10.3102/00346543062002129.
- Knyazyan M., & Khromchenko O. (2019). The esp lecturers' self-development competence in higher educational context. *The journal of teaching English for specific and academic purposes, 7*, 385–393.
- Kovalchuk, V. (2011). *Professional self-development of the future specialist*. Zhytomyr: ZhDU im. I. Franka.
- Kremen, V. (2008). *Encyclopedia of Education*.
- Lee, S., & Schallert, D. L. (2016). Becoming a teacher: Coordinating past, present, and future selves with perspectival understandings about teaching. *Teaching and Teacher Education, 56*, 72–83. DOI: 10.1016/j.tate.2016.02.004.
- Kali-Soyer, M., & Kirikkanat, B. (2019). Undergraduates' Achievement Goal Orientations, Academic Self-Efficacy and Hope as the Predictors of Their Learning Approaches. *European Journal of Educational Research, 8*(1), 99–106.
- Saputro, A., Atun, S., Wilujeng I., Ariyanto, A., & Arifin, S. (2020). Enhancing Pre-Service Elementary Teachers' Self-Efficacy and Critical Thinking using Problem-Based Learning. *European Journal of Educational Research, 9*(2), 765–773.
- Tondeur, J., Van Braak, J., Siddiq, F., & Scherer, R. (2016). Time for a new approach to prepare future teachers for educational technology use: Its meaning and measurement. *Computers and Education, 94*, 134–150. DOI: 10.1016/j.compedu.2015.11.009.
- Vescio, V., Ross, D., & Adams, A. (2008). Review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*(1), 80–91. DOI: 10.1016/j.tate.2007.01.004.
- Vygotsky, L. S. (2000). *Psychology*. Moscow: EXMO-Press.