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Professional Training for Primary School Teachers on the Basis of the Task-Based Approach

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***Abstract*---**The aim of the article is the theoretical justification of the task-based approach as a methodological basis for the formation of future elementary school teachers' readiness to design the learning environment. The research methodology includes the analysis of regulatory documents, psychological and pedagogical literature and scientific research to determine the essence of the task-based approach and its implementation features in the formation of future elementary school teachers' readiness to design the learning environment. Distinguishing between the stages of preparing future elementary school teachers for designing learning environments and their purpose influenced the development of a specialized task system and practical problems which can be divided into three groups: adaptive, stabilizing, specialized. When selecting and developing specialized tasks and practical problems have been acted according to the following algorithm: assignment of a task or practical problem (adaptation, stabilization, specialization) determination of expected results in accordance with the components of readiness and the predominant choice; evaluation of the content complexity on the B. Bloom's scale.

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Introduction

The concept of teacher education development (the concept of teacher education development, 2018) emphasizes the need for teacher training, should meet the public demands formulated in the professional standards and educational standards, take into account global trends and recommendations of influential international organizations on teacher training (Zeichner, 2005). Thus, in the professional standard context (Professional Standard for the profession "Elementary School Teacher of General Secondary Education", "Teacher of Primary Education (with an associate's degree)", 2020: 22), Primary School Teacher of General Secondary Education should perform the labor function, which is associated with the organization of a safe and healthy educational environment (Panagiotopoulou et al., 2004; Kadesjö & Gillberg, 2000). This requires, in particular, the development of projectival competence, i.e. the ability to design the learning, education and development of students (Kryvylova et al., 2021). The implementation of design competence in the professional activities of elementary school teachers is associated with the ability to solve specialized tasks and practical problems, the content of which is aimed at the use of skills and abilities to place and use didactic materials and equipment in the classroom, taking into account their relevance, functionality, aesthetic appeal, as well as the individual educational needs of students; use the physical, informational space of classrooms and other rooms of the educational institution as an educational resource; project cells of learning, education and development in the classroom together with students, taking into account their age characteristics, interests and needs (Hoy & Spero, 2005; Korthagen, 2010). These guidelines determine the need to justify the methodological basis for the preparation of elementary school teachers to design the learning environment, taking into account the requirements of the New Ukrainian School (The New Ukrainian School Concept, 2016).

Objectives

The aim of the article is the theoretical justification of the task-based approach as a methodological basis for the formation of future elementary school teachers' readiness to design the learning environment (Oleksenko et al., 2021). To achieve the goal the following tasks are formulated: to reveal the essence of the task-based approach; to characterize the requirements for the use of the task-based approach to ensure the functioning of the preparation of future primary school teachers for designing learning environments; to formulate ways of implementing the task-based approach in the real educational process of higher educational institutions (Li et al., 2007).

Materials and Methods

Research methodology includes analysis of regulatory documents, psychological and pedagogical literature and scientific research to determine the essence of the

task-based approach and its implementation features in the formation of future elementary school teachers' readiness to design learning environments; formulation of conclusions and identifying the prospects for further research in this direction (Tate & Smith, 1995; Tuzun & Burke, 1999). Theoretical and methodological research is based on the leading ideas of student-centeredness as the basis for future primary school teachers' professional training in an innovative context (Nyandra et al., 2018). Determining the methodological approaches for the formation of readiness of future elementary school teachers to design the learning environment, we proceeded from the fact that "approach" is a set of ways and techniques of consideration, influence, attitude towards someone or something (Ukrainian Language Dictionary,1979).

Of particular importance for our study are research findings related to the professional teacher training, in particular, teachers of primary schools of general secondary education in the context of the stated methodological approaches (Markova et al., 2021). In professional and pedagogical education the task-based approach is defined as a training methodology based on the introduction of special practice-oriented pedagogical tasks to the content of academic disciplines, which system holistically reflects the content, structure and technology of certain teacher work areas. A. Dubaseniuk considers the task-based method as a universal technology for studying all pedagogical disciplines, as it acts as a prerequisite and a leading means to master technological foundations of pedagogical work by students (Dubaseniuk, 2010).

The main concept and means of the task-based approach is the pedagogical task, which essence is interpreted by scientists as: the result of the educational subject's awareness of the need to develop professional action systems and take them to execution (Milto, 2013); the identification of contradictions in the educational process, which the teacher takes into account, stimulating the personality development; the educational goal is set under certain conditions (Zyazyun et al., 2004), the presence of contradictions in the education system or process, requires their transfer from the existing situation to a qualitatively new one; the task occurs when more than one solution is possible and we need to find the best way to achieve the desired result (Kuzmina & Rean, 1993), etc.

Along with the task-based approach, the situational approach, which is similar to the activity content, is widely used, which directs the process of future teachers' training to the study of specific phenomena. According to Gurenko (2014), the key concept in the situational approach is the concept of situation, which is defined as a specific system of circumstances and conditions that most affect the organization of the educational process. According to the researcher, the situation has a number of characteristic features: intellectual and psychological tension; the presence of a certain contradiction; inconsistency with the subject's idea of it; the need to find additional knowledge, information and evidence; new approaches, views and solutions are needed to understand events (Konovalenko et al., 2021). Didactic basis of the situational approach is situational modeling - modeling of concrete situations, in interaction with which the participant learns material, makes choices, makes personal decisions (Kremen, 2008). Different types of situations require different types of knowledge, therefore, for effective behavior in

all a variety of life situations a synthesis of heterogeneous knowledge and the ability to use them depending on the specifics of particular conditions is needed.

Pedagogical situation in the modern pedagogical literature is understood as a set of conditions under which a pedagogical task is solved (Bordovskikh, 2001), a fragment of pedagogical activity containing contradictions between the achieved and desired levels of students and team upbringing (Fedorchuk, 2008), description of a certain temporal state of the phenomenon or problem under study, which can develop and be solved in different directions (Education Encyclopedia, 2008), etc. So, a pedagogical situation is, firstly, a set of conditions, communication means, motives and goals of the pedagogical activity subjects in accordance with the subject content; secondly, designing the image and creating the future professional activity context.

There are a number of pedagogical situation classifications, of which the most common is the grouping situations by didactic purpose. However, in professional education, pedagogical situations are classified mainly according to the nature of professional tasks that a future specialist must solve, based on the specificity and structure of the necessary qualities. Thus, the use of specialized tasks and practical problems in the professional training of future primary school teachers can effectively influence the formation of readiness to design the learning environment.

Results and Discussion

The task-based approach was used to bring future primary school teachers closer to real professional activity, including the development of the ability to productively use the accumulated theoretical knowledge to solve specialized problems and practical problems.Taking into account the peculiarities of professional activity of elementary school teachers of general secondary education institutions, the implementation of the task-based approach in the professional training of future elementary school teachers provided a focus on professional functions; familiarization with the real situations and problems of implementation the New Ukrainian School conditions; gradual assimilation of professional actions to design the learning environment (Mantra, 2017; Sabilah, 2016).

The expected result of the implementation of the task-based approach are positive changes in the readiness state of future primary school teachers to design learning environments (Oleksenko & Khavina, 2021): the motivational component - formed the cognitive need to master the projective activity; interest in the process of creating a learning environment; sustainable desire to update and enrich knowledge on the development of primary education based on the ideas of the New Ukrainian School Concept; cognitive component - developed integrative thinking properties that meet the requirements of the projective activity; understanding of the learning environment features of primary education applicants and its design process; operational-activational component - characterized by the ability to create a learning environment, taking into account the variability of primary education and resource provision of the educational process; emotional-volitional component - characterized by awareness of own emotional-volitional capabilities; force mobilization during project activities;

responsibility for making professional decisions to create a learning environment for primary education applicants.

To formulate specialized tasks, practical problems, and learning outcomes, we chose B. Bloom's taxonomy. Bloom, who specified the process of knowledge assimilation through such elements as: knowledge, understanding, application, analysis, synthesis, evaluation, representing successive levels of complexity in the cognitive sphere. That is, when modeling the learning process, we relied on the features of this structure, despite the fact that there is a dialectical relationship between the elements of the learning process. In addition, we took into account the second group of goals with the taxonomy of B. Bloom on the formation of emotional and personal attitude of future elementary school teachers to the world around them, which are expressed through perception, interest, inclinations, abilities, experiences of feelings, formation of attitude, its comprehension and manifestation in activity. Thus, the use of a clear and ordered system of learning objectives for future elementary school teachers according to Bloom (1956), allowed to determine the order and perspective of the educational process; reference points in the joint activities of applicants for higher education; results of activity, are subjected to reliable and objective assessment.

We consider that a specialized problem is a realized problem situation in a certain area of professional activity with the allocated conditions (data) and requirements (goal), predominantly requires solution by means of certain calculations (the algorithm of reaching the final state from the beginning is known). A practical problem is a practical question requiring solution, study or investigation by means of expedient and purposeful activity (the algorithm for reaching the final state of the system is not known). Specialized tasks and practical problems are distributed by goal setting and expected results according to components and levels of complexity. Future elementary school teachers on the way to mastering the specialty change in the dynamic structure of readiness to design the learning environment at the initial (adaptation), main (stabilization) and final (specialization) stages.

We understand adaptation as an action aimed at the object in order to adapt it to certain requirements in specific conditions. In particular, social adaptation is closely connected with the process of socialization, interiorization of norms and values of new social environment, ways of subject activity, forms of social interaction. Psychological adaptation is an aggregate properties of an individual, characterizing his/her stability to environmental conditions and the level of adaptation to them; the result of such adaptation; a bilateral phenomenon, the object of research is not an individual or environment, but their interaction; an integral indicator of a person's state, his/her ability to perform certain functions: adequately perceive others, communicate with other people, perform self- and mutual maintenance in the team, adaptively change behavior in accordance with role expectations; a necessary condition for the process of transformation of an individual into a full-fledged active member of a certain society, the formation of his status (Encyclopedia of Modern Ukraine).

So, the adaptation stage (I course) is aimed at the adaptation of future elementary school teachers to the conditions and content of the professional and educational

process, to the new social role, establishing relationships with each other and with teachers. To pass this stage the following tasks were envisaged: on the basis of the discipline "Introduction to Specialty" to reveal the prospects and ways of mastering the chosen specialty; to motivate future elementary school teachers to design the learning environment; to ensure active inclusion in learning, practice-oriented and independent activities; to identify potential capabilities (motivational, operational-activity, cognitive, emotional and volitional) to help formulate the goal and objectives of their own professional development in relation to the expected results on the formation of components of readiness to design the learning environment. Adaptability of future elementary school teachers is manifested in emotional states and socially significant feelings (feeling of comfort, balance, psycho-emotional stability, states of satisfaction, positive relationships with group members, absence of stress and feeling threatened) and adaptability indicators (self-confidence, self-esteem adequacy, clarity of self-awareness, responsibility, ability to overcome obstacles, etc.).

The main formative stage of the preparation of future elementary school teachers for designing learning environments is associated with stabilization, which is a special case of the dynamic properties correction and is characterized by the following actions: strengthening, bringing something to a steady state; providing a stable balance; ensuring stability, constancy of any values, characteristics, degree of manifestation of something; keeping the properties constant (Ukrainian Dictionary: 623).

Stabilization of readiness formation of future primary school teachers to design the learning environment it is a dynamic properties change of readiness components to design the learning environment, aimed at increasing its stability, intensification of transition process attenuation, reducing the impact of external factors. The stage of readiness stabilization of future elementary school teachers to design the learning environment falls on II-III course and is focused on strengthening, bringing its components to a steady state of formation.

The objectives of this stage were: to motivate future primary school teachers to design learning environments based on gaining positive experience; with the help of academic disciplines to form readiness to design learning environments based on solving multilevel tasks and practical problems; to deepen the professional training of future primary school teachers in the formation of readiness components to design learning environments and focus their efforts on professional (personal) development in the process of solving specialized tasks and practical problems; systematic monitoring and diagnostics of the level of academic (personal) achievements of future elementary school teachers on the expected results of learning, practice-oriented, independent activities. Stabilization of future elementary school teachers' readiness to design the learning environment is manifested in the ability to maintain the properties characterizing the quality of readiness components formation in accordance with the requirements of the professional activity projective function and realized potential capabilities (motivational, operational-activity, cognitive, emotional-volitional).

The final stage is connected with the specialization of future elementary school teachers' readiness formation for designing learning environment, which is to specify, detail and acquire abilities to perform individual tasks and responsibilities which have peculiarities within the developed readiness structure. The specialization stage of future elementary school teachers' preparedness for designing learning environments falls in the 4th course of study and is focused on the systematization of the obtained abilities to solve specialized tasks and practical problems.

The goal of this stage is: to provide a sustainable professional orientation based on the achievement of expected results; help systematize knowledge, skills and abilities to design the learning environment and involve future elementary school teachers to actively use the experience gained in the research activities and performing pre-graduation practice tasks; with the resources of psychological and pedagogical influence and support to promote further professional self-determination of future primary school teachers; to monitor and diagnose the level of academic (personal) achievements of future primary school teachers on the expected results of learning, practice-oriented, independent activities. Specialization is manifested in the level of readiness formation of future elementary school teachers to design the learning environment.

The distinction between the formation stages of future elementary school teachers' readiness to design the learning environment and their purpose influenced the development of a specialized system of tasks and practical problems. That is why, by purpose, specialized tasks and practical problems in the formation process of future elementary school teachers' readiness for designing the learning environment were divided into adaptive, stabilizing and specialized. Adaptation tasks and practical problems are mainly focused on identifying the future elementary school teachers' potential capabilities and their focus on the formation of readiness to design the learning environment.

Stabilizing tasks and practical problems are aimed at active formation of general and special abilities, intellect, emotional-volitional regulation, responsibility for professional formation and independence of future elementary school teachers. Specialized tasks and practical problems contribute to the acquisition of practical experience and final formation of readiness to design the learning environment by future elementary school teachers. So, when selecting and developing specialized tasks and practical problems we acted according to the following algorithm: task or practical problem assignment (adaptation, stabilization, specialization) determination of expected results according to readiness components (motivational, cognitive, operational-activational, emotional-volitional) and selection dominant; content complexity evaluation according to B. Bloom's scale.

The choice of forms, methods and means of their implementation in the educational process depended on the type of specialized task or practical problem developed and planned for use. For example, when studying the discipline "Introduction to the specialty" special attention was paid to the formation of first-year students stable interest in the chosen profession of primary school teacher in general secondary education institutions and further desire to work in the specialty, as a positive motivation is a reliable basis for the formation of readiness

for professional activity in general and for the design of the learning environment in particular (Hermans et al., 2008; Dignath et al., 2008). In order to highlight the role of the elementary school teacher in the educational process reformed on the basis of the New Ukrainian School Concept, applicants for higher education were asked to present themselves in the role of a teacher and justify their position with regard to the reform of the educational process and identify the reasons that slow down or make it difficult. The reflection results were presented in an organized discussion.

When teaching the discipline " Methodology for teaching mathematics in primary schools" the future teachers of elementary school performed the tasks, the content of which is related to the modeling fragments of lessons and designing the educational environment as a whole. Fundamental in this process are didactic, methodological and technological knowledge. Didactic knowledge is a scientific-theoretical basis for the preparation of future primary school teachers to design the learning environment by their awareness of pedagogical design as a professionally significant function. The methodological knowledge and skills that are the operational basis for students' mastery of the design activity features include understanding the nature of a teacher's professional activity in planning a modern lesson and the ability to design lesson fragments, to choose resources and the like. Technological knowledge and skills of future elementary school teachers are the content of their readiness to design the learning environment and indicate the developed ability to design centers of learning, education and students' development. Thus, future elementary school teachers were offered tasks to design different options for organizing oral calculations based on a multisensory approach, taking into account the leading learning information perception channel of students (auditory, visual, kinesthetic). In addition, in order to prepare students for the implementation of the key ideas of the New Ukrainian School Concept, they practiced designing the learning environment based on the use of innovative methods and technologies, in particular Lego-technology, etc. during practical classes.

Conclusion

Based on the scientific and theoretical provisions analysis, the need for rethinking methodological approaches in the professional training of future primary school teachers in general secondary education institutions, taking into account the requirements of the New Ukrainian school was identified. The study carried out allowed to determine the essence of the task-based approach and features of its implementation in the formation of future elementary school teachers' readiness to design the learning environment at the initial (adaptation), main (stabilization) and final (specialization) stages.

References

Bloom, B. S. (1956). Taxonomy of educational objectives: The classification of educational goals. *Cognitive domain*.

Bordovskikh, N. V. (2001). Pedagogika [Pedagogy]. Sankt-Peterburg: Piter. (In Russian).

Dignath, C., Buettner, G., & Langfeldt, H. P. (2008). How can primary school students learn self-regulated learning strategies most effectively?: A meta-analysis on self-regulation training programmes. *Educational Research Review*, *3*(2), 101-129. https://doi.org/10.1016/j.edurev.2008.02.003

Dubaseniuk, O. (2010). Realizatsiia zadachnoho pidkhodu u profesiinii pidhotovtsi maibutnoho vchytelia [Realization of the task approach in the professional training of future teachers]. New technologies of training. Kiev-Vinnitsa. *66*(1), 159-164.

Fedorchuk, V. V. (2008). Osnovy pedahohichnoi maisternosti [Fundamentals of pedagogical mastery]. Kam`ianets-Podilskyi: Vydavets Zvoleiko D.

Gurenko, O. (2014). Polikulturna osvita maibutnikh sotsialnykh pedahohiv: teoretyko-metodychnyi aspekt: monohrafiia [Polycultural education of future social pedagogues]. Berdiansk: Vydavets Tkachuk O.V.. (In Ukraine)

Hermans, R., Tondeur, J., Van Braak, J., & Valcke, M. (2008). The impact of primary school teachers' educational beliefs on the classroom use of computers. *Computers & education*, *51*(4), 1499-1509. https://doi.org/10.1016/j.compedu.2008.02.001

Hoy, A. W., & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and teacher education*, *21*(4), 343-356. https://doi.org/10.1016/j.tate.2005.01.007

Kadesjö, B., & Gillberg, C. (2000). Tourette's disorder: epidemiology and comorbidity in primary school children. *Journal of the American Academy of Child & Adolescent Psychiatry*, *39*(5), 548-555. https://doi.org/10.1097/00004583-200005000-00007

Konovalenko, T. V., Yivzhenko, Y. V., Demianenko, N. B., Romanyshyn, I. M., & Yemelyanova, Y. S. (2021). The possibilities of using distance learning in the professional training of a future foreign language teacher. *Linguistics and Culture Review*, *5*(S2), 817-830.

Korthagen, F. A. (2010). Situated learning theory and the pedagogy of teacher education: Towards an integrative view of teacher behavior and teacher learning. *Teaching and teacher education*, *26*(1), 98-106. https://doi.org/10.1016/j.tate.2009.05.001

Kremen, V. H. (2008). Entsyklopediia osvity [Encyclopedia of education]. *Kyiv: Yurinkom Inter*, *1040*.

Kryvylova, O., Sosnickaya, N., Oleksenko, K., Oleksenko, R., & Khavina, I. (2021). The aqmeological framework for modern higher education as a step towards sustainable development of society. *Linguistics and Culture Review*, *5*(S3), 55-64.

Kuz'mina, N. V., & Rean, A. A. (1993). Professionalizm pedagogicheskoj deyatel'nosti.[Professionalism of pedagogical activity]. *SPb.: Foliant*.

Li, G. D., Yamaguchi, D., & Nagai, M. (2007). A grey-based decision-making approach to the supplier selection problem. *Mathematical and computer modelling*, *46*(3-4), 573-581. https://doi.org/10.1016/j.mcm.2006.11.021

Mantra, I. B. N. (2017). Promoting primary school teachers' competence through dynamic interactive workshop and partnership. *International Journal of Linguistics, Literature and Culture*, *3*(1), 1-6.

Markova, E. M., Kuznetsova, G. V., Kozlova, O. V., Korbozerova, N. M., & Domnich, O. V. (2021). Features of the development of linguistic and communication competences of future foreign language teachers. *Linguistics and Culture Review*, *5*(S2), 36-57.

Milto, L.O. (2013). Teoriia i tekhnolohiia rozviazannia pedahohichnykh zadach [Theory and technology of pedagogical problem solving]. Kirovohrad: Imeks-LTD.

Nyandra, M., Kartiko, B.H., Susanto, P.C., Supriyati, A., Suryasa, W. (2018). Education and training improve quality of life and decrease depression score in elderly population. *Eurasian Journal of Analytical Chemistry*, *13*(2), 371-377.

Oleksenko, K., & Khavina, I. (2021). Essence and structure of the readiness of future primary school teachers to design the learning environment.

Oleksenko, R., Dolska, O. O., Trynyak, M. V., Nesterenko, O., & Korostylov, H. L. (2021). Development of the new pedagogical skills in the context of European integration.

Panagiotopoulou, G., Christoulas, K., Papanckolaou, A., & Mandroukas, K. (2004). Classroom furniture dimensions and anthropometric measures in primary school. *Applied ergonomics*, *35*(2), 121-128. https://doi.org/10.1016/j.apergo.2003.11.002

Sabilah, F. (2016). Teaching techniques and instructional media in presenting intercultural awareness in English class of primary school students. *International Journal of Linguistics, Literature and Culture*, *2*(4), 112-121.

Tate, D. M., & Smith, A. E. (1995). A genetic approach to the quadratic assignment problem. *Computers & Operations Research*, *22*(1), 73-83. https://doi.org/10.1016/0305-0548(93)E0020-T

Tuzun, D., & Burke, L. I. (1999). A two-phase tabu search approach to the location routing problem. *European journal of operational research*, *116*(1), 87-99. https://doi.org/10.1016/S0377-2217(98)00107-6

Zeichner, K. (2005). Becoming a teacher educator: A personal perspective. *Teaching and teacher education*, *21*(2), 117-124. https://doi.org/10.1016/j.tate.2004.12.001

Zyazyun, I. A., Kramushchenko, L. V., & Krivonos, I. F. (2004). Pedahohichna maysternist [Pedagogical skills]. Vyshcha shkola.