

Theory of the Formation of Universal Learning Activities in Primary School Pupils

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Abstract. *This article is dedicated to the issue of the formation of universal learning activities (ULA). The article presents a theory for the formation and assessment of universal learning activities, in which learning activity is viewed as a complex, multi-level, hierarchically structured system. This system consists of interconnected and mutually dependent components of learning activity, which are enriched with all components in a junior school student under conditions of humanistic communication. The article also sheds light on how the generalization of methods for implementing separate systems of learning activities, inherent in the integral learning system, occurs, and how this process ensures the capacity for learning.*

Key words: *primary education, universal learning activities, motive, concept of mental development, cognitive model, zone of proximal development.*

Introduction

Today, there is no need to prove that primary school is the very foundation that determines the success of students at all subsequent stages of general education. Therefore, the importance of teaching students "how to learn" and developing their educational activities is emphasized almost everywhere, as its solution is considered a necessary condition for increasing educational efficiency[1]. The contribution of psychologists to the development of the educational process in primary schools is invaluable. This is a natural phenomenon, as the object of research (i.e., the child/educational process) is multifaceted and complex. The first set of fundamental ideas within the activity-based analysis of knowledge acquisition was outlined in the works of P.Ya. Galperin and his students[2]. The central idea of Galperin's theory is that the acquisition of knowledge occurs only as a result of students performing a specific (continuous) system of actions. Accordingly, D.B. Elkonin linked learning characteristics to the resolution of a special type of "educational problems," the content of which V.V. Davydov defined as problems aimed at developing scientific-theoretical thinking[3]. N.A. Menchinskaya associates the concept of mental development with the notion of "learnability". This term refers to the "ability to acquire a high level of knowledge within a short period". The mental development of primary school students during the educational process has been deeply studied by L.V. Zankov and his colleagues. In Zankov's system, the principle of learning at a high level of difficulty plays a decisive role. Z.I. Kalmykova considers the productivity and independence of thinking as the leading indicator of mental development. As L.B. Itelson noted, every approach aimed at organizing the educational process and managing learning activities is valid based on its specific research tasks and theoretical foundations[4]. Problem Analysis However, it should be noted that each of the aforementioned approaches to activity analysis possesses a somewhat one-sided character. Some approaches primarily focus on the operational side of activity, others on the motivational, and a third group on the orientational aspect. In other words, although the need for a

systems approach to the study of humans and their activities is widely recognized, it is far from being fully implemented in practice[5]. Therefore, without excluding any existing approaches a priori, we maintain the right to rely on the one most suitable for solving educational problems. Even a superficial analysis of the state of affairs in primary schools indicates the existence of several unresolved problems essentially belonging to the field of psychology. Every teacher knows well that certain topics in the curriculum consistently pose specific difficulties for students. If these difficulties are not addressed in time, they lead to a lag in mastering the material and the formation of a negative attitude toward the subject, learning in general, and the school[6]. At the same time, a series of psychological studies have shown that the cause of students' underachievement and academic lag is the insufficient development of certain mental structures. For example, V.P. Abdurasulova demonstrated that one of the reasons for children's underdevelopment in mastering mathematics is the insufficient development of the ability to generalize. Other studies have highlighted the underdevelopment of internal activity plans (Ya.A. Ponomarev), reflective abilities (A.Z. Zak), and memory (E.F. Ivanova) in children, and approaches to addressing these deficiencies have been developed[7]. Finally, a series of extensive studies by the school of J. Piaget analyzed the operational aspects of children's intellectual activity in great detail. Although Piaget himself never set purely didactic goals, the cognitive model he developed allows for accelerating the process of identifying the psychological causes of students' difficulties in mastering specific subjects.

Methodology and Functional Blocks

From the above, it is evident that a psychological approach to analyzing students' learning difficulties is more meaningful and promising; however, in practice, its ineffectiveness is often observed. This is due to several reasons. First, the psychological approach considered here serves more to explain and prevent students' identified learning difficulties beforehand rather than to eliminate their causes. In the actual teaching process, from the teacher's perspective, situations where difficulties arise suddenly have always existed and will always exist[8]. Post-factum explanations, which cite an incorrectly defined "zone of proximal development" as the basis, may be theoretically correct but prove ineffective in overcoming the difficulties. Therefore, teachers require something else: a methodological tool that helps identify the source of students' difficulties and, ideally, eliminate them. We believe this is possible if we approach the analysis of difficulties from the perspective of activity psychology. In this case, the researcher's position must be entirely specific. This position resembles a "repair master" (technician) rather than a researcher, who, based on a specific functional structure of a device and using a clear algorithm, first identifies the malfunction and then fixes it[9]. Among the activity structure schemes known in psychology, the schemes of V.D. Shadrikov and M.S. Kogan are most suitable for this approach, as they contain the main functional blocks of activity. It can be said with high confidence that if a person cannot perform a given activity (or task) or performs it insufficiently, it means that one of the specific blocks of this activity has not yet been formed. Thus, the task (problem) is as follows: to identify these block(s) and develop their missing components. Applying this approach in practice requires at least two things: A complete description of the structure of functional blocks of activity[10]. Although this is, in fact, an area psychology has always dealt with, regardless of the formally declared subject of study.

Result and Discussion

The development of a clear strategy and tactics for overcoming these difficulties. Currently, teachers often try to "fight fire with fire". For example, if a student struggles with solving a specific type of problem, the teacher provides an excessive amount of similar problems for the purpose of "training". While many consider this logical, such practices often trigger student defense mechanisms and lead to a lifelong hatred of a particular subject[11]. If we proceed from the idea that the same psychological quality can be developed in different types of activities, another approach can be proposed. Its essence lies in identifying the missing components in specific areas of activity and then developing them through the type of activity that is most attractive to the student. Psychological Causes of Learning Difficulties Thus, the psychological causes of learning difficulties in primary school students may be the underdevelopment of the following functional blocks of learning activity: Motivational Block: The ability to identify, understand, and accept the goal of an action (regulatory ULA), as well as the absence of educational and cognitive interests in the student's

personality (personal ULA)[12]. Orientation Block: Situations where the motivation of the activity process is not transformed into a specific direction, expressed in the development of an action plan, program, and technology to achieve the goal (regulatory ULA). Operational Block: Students lacking sufficient operational capabilities acquired during the ontogenesis of the psyche, manifesting in abilities, skills, and habits (cognitive ULA). Energy Block: Lack of attitude toward learning, lack of voluntary activity, low attention in class (personal ULA), as well as a lack of information retrieval from memory (cognitive ULA). Evaluation Block: Inability to control the action and a failure to make necessary corrections during its implementation (regulatory ULA). Concept of Psychological System of Activity (PSA) What does "formation of educational activities" mean? We understand this as the formation (correction) of missing components in the functional blocks of learning activity and their interrelationships, and ultimately, the formation of the psychological system of activity as a holistic unit[13]. The PSA concept describes the psychological structure as a "holistic unity of interconnected mental components that stimulate, program, regulate, and implement activity". In determining what exactly stimulates, programs, and regulates activity, we relied on the systemic-genetic approach implemented in psychology. This approach was developed by Russian psychologists and philosophers such as B.F. Lomov, V.D. Shadrikov, M.S. Kogan, E.G. Yudin, and others. Activity is viewed as a complex, multi-level, and hierarchical system composed of interconnected and mutually dependent components. The whole (activity) is not merely the sum of its parts; rather, each component indirectly embodies the properties of the whole. A specific disturbance in one component of the activity blocks leads to a specific disturbance in the activity as a whole. Theoretical analysis showed significant similarities between Shadrikov's and Kogan's activity structures. Sometimes, although the content of the identified functional blocks is the same, they are named differently (e.g., Kogan's "orientation block" vs. Shadrikov's "formation of the goal of professional activity"). In the diagnosis and correction of primary school learning activity, M.S. Kogan's structural composition was used as a basis, though we also referred to V.D. Shadrikov's work, which yielded significant practical results. Research and Practical Application The general goal of our research program is to help teachers transition students' negative or indifferent attitudes toward learning into positive and mature forms of education[14]. This unconventional form of creating psychological and pedagogical conditions in Mother Tongue, Reading, and Mathematics lessons stimulates students and allows for significant success in forming their learning activities and overall development. In March 2024, diagnostic assessments were conducted within intra-school monitoring sessions to evaluate the development of ULA among students. These assessments serve as indicators of their readiness for further education. The research materials are based on observations from teachers who work regularly with the class and understand students' behaviors and attitudes toward materials and the work process in various instructional and extracurricular situations. The development of learning activity over time is a multifaceted, complex process that can proceed in various ways[15].

Conclusion

The development of learning skills depends on the progress of its core components: motives, goal-setting features, learning actions, and monitoring/evaluation. Motive is the source of activity, prompting it and giving it meaning; it is linked to personal ULA. Its development determines the primary competence of primary school—the ability for independent learning. Without motive, activity is either not performed or is unstable. Goal is the expression of the specific result to be achieved, serving as a guide. The emergence and realization of goals is called goal-setting and is associated with regulatory ULA. Learning Actions involve what and how a student acts to achieve a goal, characterized by the level of cognitive ULA development. Control and Evaluation are essential for monitoring the progress of actions, identifying errors, and determining if the problem has been solved. Each component can be characterized by different quality features, allowing us to assess its level of development (from Level 1—immature, to Level 6—fully developed). Conclusion Secondary school students' situational cognitive interest is characterized by an enthusiastic involvement in solving new problems and attempts to find unknown solutions. However, this interest is often unstable and may not prompt sustained independent problem-solving. While students may accept external cognitive tasks, they rarely set them independently and require constant stimulation. When faced with a new problem, students can identify discrepancies between the conditions and familiar methods, and with teacher assistance, they gradually adapt their approach. In standard problems, they

act independently and confidently. The control function allows them to manage generalized action schemes, ensuring mostly error-free implementation or independent correction. However, they may struggle to monitor the compliance of an action scheme with entirely new conditions. In the context of developmental education, the structure of a child's learning activity is enriched with all components. Subsequently, the methods of integrating individual systems of learning actions into a holistic form are generalized, providing the result commonly referred to as the capacity for learning.

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