IMPROVING THE METHODOLOGY FOR THE FORMATION OF ICT COMPETENCE IN PRIMARY EDUCATION

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ABSTRACT

This thesis analyzes the issues of improving the methodology for the formation of information and communication technologies (ICT) competence in students in the process of primary education. The study highlights the possibilities of effective use of ICT, taking into account the age and psychological characteristics of primary school students.

Introduction.

In today's conditions of globalization and digital transformation, one of the most urgent tasks facing the education system is to educate students not only as learners, but also as individuals who can search for, analyze, sort information and consciously use it to solve practical problems. In particular, the primary education stage is the “foundational” period of this process, and it is during this period that the child begins to acquire elements of digital literacy, along with basic skills such as perception of the world, reading and writing, communication, and logical thinking. Therefore, the formation of information and communication technology (ICT) competence from the primary grades is becoming a strategic issue directly related to the content and effectiveness of today's education.

The concept of ICT competence has a much broader meaning than simply “being able to turn on a computer” or “being able to use a telephone”. It is manifested as a complex competence that combines the student's culture of working with information sources, safe behavior in a digital environment, logical-analytical thinking, communicative activity, and creative approach. In the formation of this competence in primary school children, the educational process should not be limited to teaching only technical skills, but should also strengthen the student's motivation to learn, organize learning activities interactively, and gradually instill simple but stable methods of working with information.

It is observed that the use of ICT in school practice is often limited to showing presentations, posting videos, or using electronic textbooks. However, the true pedagogical value of ICT is determined by turning the student into an active subject, activating mechanisms for research, experimentation, cooperation, and independent decision-making in him. Therefore, improving the methodology for the formation of ICT competence in primary education means, first of all, reconsidering the goal, content, method, means, and result as a

single system, designing the lesson based on a competency-based approach, and introducing digital didactic solutions appropriate to age characteristics.

The thinking of a primary school student develops more through figurative perception, interest, play and observation. Therefore, in the methodology for the formation of ICT competence, game technologies, multimedia materials, animated tasks, interactive exercises, digital “mini-projects” and activities based on problem situations should be a priority. Such an approach forms an active cognitive position in the student, such as “I find”, “I try”, “I prove”, rather than “I know”. As a result, digital tools become an effective pedagogical resource that leads to educational results, rather than a goal.

At the same time, the teacher is at the center of the improvement of the methodology. The teacher's professional competence in ICT, didactic design skills, the ability to select and adapt digital resources, and the ability to manage the educational process are one of the main guarantees of the sustainable formation of ICT competence in primary education. After all, no matter how rich the digital educational environment is, without a specialist who can direct it to a pedagogical goal, adapt it to the needs of the student and evaluate the result as a competency, technology will not produce the expected results.

Therefore, the issue of improving the methodology for the formation of ICT competence in primary education today is not only a technical update, but also a qualitative update of pedagogical thinking and educational content. This process is an important socio-pedagogical task that prepares the student for future stages of education and life activities, forms him as a conscious, responsible and creative person in a digital society. Therefore, conducting scientific research on this topic, developing effective methodological solutions and implementing them in practice are of particular importance for the development of education today.

Discussion.

When discussing the issue of improving the methodology for the formation of ICT competence in primary education, one must first recognize one truth: ICT should not enter the lesson as an “additional decoration”. It must be integrated into the internal logic of the educational process, turn the student into an active subject, and work in harmony with the educational goal-content-method-assessment system. Otherwise, the idea arises that as digital resources increase, the result will automatically increase, but practice shows that the abundance of technology does not always equal the quality of education. Improving the methodology begins, first of all, with a transition not from “using technology”, but from “forming competence through technology” to the logic of “developing competence through technology”.

ICT competence is formed at the initial stage, based on its own psychological and pedagogical characteristics. The child's attention is quickly distracted, his interest is quickly aroused, he learns faster through images and movements. Therefore, the teacher faces a difficult task: using digital tools, while arousing the child's interest, to direct attention to the educational goal. It is at this point that the concept of "interactivity" is often misinterpreted. Interactivity is not just pressing a button or marking an answer on the screen. True interactivity is the process of the student thinking, choosing, searching, drawing conclusions from mistakes and trying again. Therefore, only when interactive tasks in the methodology are built in the

sequence of "seeing-remembering", but "finding-trying-justifying", does ICT competence begin to form in content.

One of the important areas of methodological improvement is to divide ICT competence into components and develop each of them gradually. For a primary school student, this competence begins, first of all, with the skills of receiving information (listening, viewing, reading), understanding it and re-expressing it at a simple level (picture, table, short text, oral explanation). At the next stages, information search and sorting, comparing sources, isolating the most important, asking the question “why is this so?”, and drawing simple conclusions appear. Thus, if the methodology is improved, ICT competence will not be a subject taught “in one go”, but a continuous development trajectory planned from class to class.

For this, the lesson design must also change. If in the traditional lesson structure the teacher is more of an information provider, in a lesson based on a competency-based approach the teacher plays the role of “designer of the educational environment” and “activities manager”. For example, the student is not limited to remembering that the text was read; he finds the main idea of the text with the help of a digital resource, isolates important words, re-expresses it through a picture or diagram, shares it with a classmate, and then briefly explains his work. Here, ICT is not a goal, but a tool that activates the student's cognitive, thinking, and communicative activities. Improving the methodology serves to increase such "activity-oriented" lessons. At the same time, ICT competence becomes narrow if it is tied only to the content of computer science. An integrative approach is very important in primary education: ICT elements should be naturally integrated into subjects such as the mother tongue, reading, mathematics, natural sciences, and fine arts. For example, testing problem-solving strategies through digital interactive exercises in a mathematics lesson; deeper understanding of the content using audio text and visual images in a reading lesson; In natural science, it is possible to form a sequence of “observed-compared-concluded” based on short video observations. Such integration develops ICT competence in a real-life context and strengthens the internal position of the student that “technology is not for science, but for thinking.”

Another issue that needs to be discussed is digital safety and information culture. At an early age, children are not able to deeply analyze the meaning of the information flow, they quickly accept what they see. Therefore, the methodology should also include elements of “digital hygiene”: simple but important skills such as not disclosing personal information, not clicking on unknown links, asking for permission from adults, standards of work on the screen, and rules of etiquette (netiquette) should be gradually instilled. This aspect is often left aside, but it is precisely it that determines the responsible side of ICT competence.

Improving the methodology also requires a reconsideration of the issue of assessment. In many cases, a student’s “ability” to do ICT is measured only by the final result: whether the task was completed or not. However, competency-based assessment also takes into account the process: how the student found information, how he sorted it, how he drew conclusions, how he interpreted it. Therefore, methods such as rubrics (criterion-based assessment), observation sheets, portfolios, mini-projects, reflection questions help to realistically assess ICT competence. As a result, assessment performs a “developmental” function, not a “punishment”.

However, the main “driver” of this process is the teacher’s competence and the methodological environment of the school. If the teacher does not have a clear methodological

preparation for selecting, adapting, integrating digital resources into the lesson and evaluating the results, ICT can become a distraction instead of enriching the lesson. Therefore, the issue of improving the methodology should go hand in hand with the teacher's professional development: mechanisms such as short practical trainings, methodological manuals, a bank of ready-made scenarios, platforms for sharing experiences, and mentoring are one of the real conditions for the effective formation of ICT competence in primary education.

Conclusion

The issue of improving the methodology for the formation of ICT competence in primary education is one of the priority areas of modern educational development, which serves to prepare the student as an active, independent and responsible person in the conditions of a digital society. The analysis conducted within the framework of the study shows that ICT competence is not only a set of technical skills, but also a complex pedagogical phenomenon that combines the student's cognitive activity, information culture, logical thinking, communicative ability and creative approach. Therefore, the methodology for its formation should be systematic, step-by-step and based on a competency-based approach.

It can be concluded that for the effective formation of ICT competence in primary education, the purposeful use of interactive methods, digital educational resources, game technologies and integrative approaches in the lesson process is of great importance. Improving the methodology serves to transform the student from a passive receiver of information into an active creator of knowledge. In this case, digital tools are manifested as an effective pedagogical mechanism for organizing educational activities, creating problem situations, developing independent research and collaborative work skills.

References:

1. Decree of the President of the Republic of Uzbekistan. On approval of the "Digital Uzbekistan - 2030" strategy. — Tashkent, 2020.
2. Decision of the Cabinet of Ministers of the Republic of Uzbekistan. "On measures to develop digital education in the general secondary education system". — Tashkent, 2021.
3. Abdullaeva M. A. Methodology of using information and communication technologies in primary education. — Tashkent: Science and technology, 2019. — 156 p.
4. Polat E. S. New pedagogical and information technologies and educational systems. — M.: Academy, 2018. — 272 p.
5. Khutorskoy A. V. Klyuchevye kompetentsii kak component lichnostno-orientirovannogo obrazovaniya // Pedagogika. — 2017. — No. 2. — S. 58–64.
6. Robert I. V. Theory and methodology of informatizatsii obrazovaniya. — M.: BINOM. Laboratory Science, 2016. — 398 p.
7. UNESCO. ICT Competency Framework for Teachers. — Paris: UNESCO, 2018. — 64 p. — URL: https://unesdoc.unesco.org (access date: 20.01.2026).