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RESEARCH NOTES

Updating The Subject Literacy of the Teacher as A Necessity for Improving His Professional Competence

Actualización de la asignatura alfabetización del docente como necesidad para mejorar su competencia profesional

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Abstract

The article shows the need to update the subject literacy of a teacher to improve his professional competence. The concept of subject literacy, its role and place in improving the professional competence of both a teacher and improving the quality of teaching schoolchildren are revealed.

Keywords: subject literacy, professional competence, quality of education, fundamental knowledge.

Resumen

El artículo muestra la necesidad de actualizar la asignatura de alfabetización de un docente para mejorar su competencia profesional. Se revela el concepto de alfabetización en materias, su papel y lugar en la mejora de la competencia profesional tanto de un maestro como en la mejora de la calidad de la enseñanza a los escolares.

Palabras clave: asignatura alfabetización, competencia profesional, calidad de la educación, conocimientos fundamentales.

Introduction

It is well known that the professionalism of any specialist is determined by the availability of the necessary solid knowledge. It is also well known that the basis of all modern technologies in any human activity, in ongoing scientific research is primarily the basic subject knowledge and additional special knowledge. Modern information and communication technologies (ICT) that are relevant today are inherently based on the core of subject knowledge, including mathematical ones.

Logical reasoning carried out in any human activity, planning, modeling of arising and artificially created situations of the real world require the use of subject knowledge necessary for this in each case, the manifestation of a certain subject culture received by each person during the period of his education.

The totality of subject cultures, in turn, determines to some extent the integral culture of thinking of a modern, well-educated person. All of the above creates conditions that, to a certain extent, today ensure successful competitiveness in many areas of human activity, including in the economy, nature management, ecology, medicine, law, mechanical engineering, instrument making, agriculture and other spheres of human activity. It is impossible today to find such an area where aggregate subject knowledge, including mathematical knowledge, would not be in demand. Consequently, solid subject knowledge remains always in demand and significant in the life of every modern person due to its constant applicability.

The quality of education in the country ultimately depends on how a person, studying at school, at a university, in secondary specialized educational institutions, acquires solid subject knowledge, the quality of training of specialists for the needs of the domestic economy depends, and, therefore, the well-being of our entire society. It is common knowledge that good education comes from well-educated educators.

We agree with M.M. Potashnikov and M.V. Levit that "... only a professional teacher can train and educate free and responsible future professionals in any kind of activity. And what is equally important - free and responsible citizens of the Homeland and people of the Earth" (Potashnik & Levit, 2015).

The importance of education, including subject knowledge, is known in the upbringing of the individual. Education "by the subject itself" is described in the writings of educational scientists, mathematicians, psychologists and practicing teachers. To his scientific and pedagogical work I.I. Aleksandrov, a speaker at many congresses of mathematics teachers in pre-revolutionary Russia, including the congress in Paris, treated very strictly. In 1916, in one letter to I.K.

Andronov, he wrote: “A teacher must not only perfectly know his subject and clearly explain it to his students, but without spiritual influence on the students, he is either a rank or a craftsman of a bad rank.” A.Ya. Khinchin also emphasizes this fact in his scientific works: “... the specificity of the problems facing the mathematics teacher who wants to use the teaching of his science for educational purposes is largely explained by the peculiarity of mathematical science” (Alexandrov & Alexandrov, 1953). In his writings, he notes: “... what features of mathematical science and for what qualities of the intellect or moral personality of a student can and should be used.” And then he adds: “Lessons in mathematics (like any other science) can give any noticeable educational effect only on condition that the teacher, firstly, knows his science well enough, its methodology and its history, and secondly, has sufficient pedagogical tact and experience, and finally, thirdly, he himself has enough of all the qualities that he is going to educate in his students.” Each subject makes a significant contribution to the education of the student during his stay in the educational institution.

If a teacher tries to fully realize the educational and upbringing capabilities of the subject taught by him and has professional qualities in the ability to teach everyone and everyone, then he becomes able to create his own methodological developments on educational and educational work by means of the subject, and he can quite easily and naturally, by virtue of their professionalism, find effective ways to achieve the bed goal.

Upbringing by an object is an extremely important phenomenon, since it is, first of all, the upbringing of a disciplined person, a person who knows how to express his point of view, who knows how to argue the expressed thought at the right time, understand another, conduct the necessary productive dialogue, and also strive to be intellectually honest (take your own position, build a rigorous line of reasoning, avoid ambiguity, etc.). In other words, the influence of the academic subject on the formation of the personal qualities of students, the search and use for this of the optimal means of the academic subject is of particular value in education.

We also note that in the process of getting an education, each student lays the basic foundation of subject knowledge, which is so necessary in any human activity, in any profession, no matter what it is represented - from a worker to an academician.

However, only a professionally well-trained teacher for this, who has fundamental knowledge of the subject, the methodology of teaching it, who has a sufficiently good command of technological literacy to teach each and every student, and also has the necessary psychological and pedagogical knowledge, is capable of laying a solid knowledge foundation for students.

It is all this that determines the professional competence of a modern teacher, which, unfortunately, is not able to provide a bachelor's degree at a university. Today, such training of a future teacher is needed, which will provide him with the professionalism in demand for teaching. “Scientists and practitioners have noticed that the process of mastering new knowledge and advanced teaching technologies by a teacher is purely individual in nature, requiring changes in the organization and content of advanced training and self-education” (Abykanova et al., 2020a).

The educator was and remains a key figure in education. Possessing deep professional knowledge, including subject knowledge, he is able to provide both knowledge-based training of schoolchildren in the subject, and the creation of certain conditions each time for individual growth in learning, as well as the development by each student of the necessary methods of “learning” activities that provide him high-quality training in the studied subjects.

The subject competence of a teacher includes:

• Fundamental knowledge and skills related to teaching the subject;

• The presence of the teacher himself of such necessary metasubject competencies that would allow him to organize the learning process in such a way that students also in this regard form the necessary metasubject competencies.

It is well known that the knowledge acquired by students acquire the status of meaningful only if they are applicable to reality, to specific situations that arise in practice, in life. At the same time, the studied concepts, properties, patterns, laws, signs, formulas, etc. become an effective tool for solving more complex, interesting and meaningful complex tasks, tasks directly in real life. Note that the program skills in the subject are taught to schoolchildren purposefully and in the system. The formation of skills for the implementation of interdisciplinary connections, focused on the use of the apparatus of subject knowledge in solving, for example, physical, chemical, economic, environmental, production and other problems, including solving non-standard problems, requires methodological consideration, joint professional understanding of teachers - subject students. The question of the ability of schoolchildren to solve problems on interdisciplinary connections has been raised more than once by scientists-teachers and practitioners, it remains relevant today.

The issue of teaching capable and gifted children is becoming increasingly important, and in this regard, special requirements are imposed on the teacher's subject literacy that exists today. And this is again a problem of today's university. It is in the training of a specialist at the University that the features of the content of work with successful students should be disclosed, the future specialist should be given methods, technologies for revealing his abilities to students, ways to study originality, the inclinations of schoolchildren, and in this regard, the creation of the necessary conditions already in the learning process of each student. This determines the height of the subject literacy of the teacher himself, as well as his psychological and pedagogical competence.

It should be noted that subject literacy means that a teacher has certain fundamental knowledge that can manifest itself as it is needed in teaching schoolchildren. It is known that the subject literacy of the teacher itself must be in constant development, “not fade away”, the teacher must not allow himself to have professional “burnout”, which, unfortunately, happens due to the teacher's unplanned execution of unnecessary work that has fallen on him every time, not directly related to the teaching of children. And this is also a problem today. Let's return to the fact that we remind everyone and the teacher, too, that the teacher's function at school is, first of all, to teach children a subject. “A teacher who has a certain degree of professional literacy, according to researchers, often experiences a syndrome of professional aging “from overload, a symptom of which is immunity to new things, to the replenishment of knowledge, the presence of canonization and universalization of his own pedagogical experience, violation of professional communication” (Vasilyeva, 2018a).

Today, in the advanced training system, there are attempts to create the necessary conditions for correcting, systematizing the teacher's subject knowledge, to some extent it is even possible to eliminate the deficiencies he himself discovered in the subject, and, in general, in professional competence. In the advanced training system, this is done through some entry into the renewal and deepening of subject literacy during the period of the teacher's training.

The mastering of educational methodological complexes (EMC) by a teacher can also be attributed to some extent to the renewal of subject competence, since it is associated with the improvement of his professional literacy, namely: with the development of a work program in the subject, the study of new and updated textbooks, workbooks, teaching aids, didactic materials, as well as - with the development of a new teaching tool - an electronic supplement to the textbook.

All of the above ensures the creation of a certain educational environment in which productive improvement (self-improvement) of the teacher's professionalism, including his subject literacy, takes place. All this can take place in specially created conditions for coursework in the teacher's advanced training system, and also can be organized by the teacher himself in his self-education, according to the principle of “teaching others, I study myself.” Nothing can be argued against this, but such an experience should be taken simply for practical application.

In general, the development of the teacher's subject competence is associated with the fact that in certain conditions created for this, subject competence itself acts as the most important

means ensuring the quality of general subject education of students, and in general, the quality of all general and professional education.

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