



# Some issues of teacher professional development in the scientific and pedagogical project “Intellect of Ukraine” under russian aggression

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**T**eacher has always played the decisive role in the development of the system of high-quality general secondary education. Today, against the background of Russian aggression and in the post-war period, one of the most urgent tasks for the scientific and pedagogical community of Ukraine is to modernise the system of teacher education in accordance with the most painful challenges of today. Among these challenges we include: (1) the impossibility of providing all Ukrainian children and youth with general secondary education; (2) the sharp decline in the educational level of students, non-compliance with state educational standards; (3) the deterioration of the health status of participants in the educational process (especially mental health); (4) the lack of preparation of schools for the implementation of STEM education as one of the prerequisites for the training of highly qualified specialists who are competitive in the labour market and capable of rebuilding post-war Ukraine and bringing it to an innovative level of development.

Despite the short period of time since the beginning of large-scale Russian aggression, a considerable number of Ukrainian scientists have addressed the issue of maintaining the quality of the national

education system under martial law. Among these scientists are S. Alekseeva, V. Dunets, T. Zheryobkina, I. Kohut, Y. Nazarenko, O. Nikulina, O. Syrбу, S. Terepyshchy, G. Shevchuk and others.

However, the issue of improving the system of professional development of teachers in line with the challenges of contemporary education is not sufficiently addressed in scholarly sources. There is not a single work in this direction in which the experience gained within the framework of the scientific and pedagogical project “Intellect of Ukraine” is highlighted.

The **aim** of the article is to generalize the experience of solving one of the most acute problems of pedagogical training in the conditions of martial law — improving the readiness of teachers to enhance the learning ability of students. Today, for the first time in the history of Ukrainian independence, scientists are talking about the presence of serious gaps in the knowledge, skills and abilities of students, which makes it difficult to master the curriculum. They also talk about the phenomenon of illiteracy among the younger generation of Ukrainians. The causes of these problems are the interruption of studies, security problems, power outages and the presence of significant shortcomings associated with distance learning.



In order to determine the necessary measures to overcome the identified negative trends, we conducted a survey among the teachers of the classes of the “Intellect of Ukraine” project (April 2022 and 2023). A total of 4,752 respondents took part in the study. The analysis of the results showed that the majority of respondents consider individualized distance learning technologies for bridging learning gaps (97 % of respondents) and distance learning technologies for training students’ learning skills as a key competence (98 % of respondents). This led us to the conclusion that there are a number of contradictions:

- between the significant gaps in students’ knowledge, skills and abilities, and teachers’ lack of awareness of effective ways to help students catch up;
- between the significant increase in the proportion of independent work in students’ learning workload under martial law and the lack of effective technologies to develop students’ learning as a key competence.

We will briefly describe the ways proposed by the creative team of the scientific and educational project “Intellect of Ukraine” to overcome the last of these contradictions.

According to the results of the all-Ukrainian parent survey, a significant number of education seekers spend more than 3 hours a day studying the material on their own during the Russian aggression. Specifically:

- 68 % of education seekers attend school at home;
- 58 % of students have distance learning (excluding attending classes);
- 49 % of students engaged in mixed distance learning (excluding attending classes at school) [6].

These data show how important it is to improve teacher training in order to promote students’ cognitive independence. In this regard, the module “Technology of formation of the key competence of learning skills as a priority area for the implementation of the competence-based

approach in education in wartime and post-war times” has been included in the educational program of the annual in-service training courses for teachers of the project classes “Intellect of Ukraine” (30 hours). The content of the module includes the following topics: the relevance of the problem under consideration, normative, theoretical and methodological as well as practical issues of its solution. We will briefly describe the content of the module.

The competence of *lifelong learning* is listed in all nomenclatures of the key competences of UNESCO, the European Parliament and the Council of Europe, taking into account its importance for success in life [3, 10].

This competence makes it possible to prevent students from being overloaded, to activate their cognitive activity and initiative, to promote the rational use of time and educational resources and not to get lost in a new cognitive and life situation.

The development of learning skills as a key competence is a priority direction of Ukraine’s state education policy. The legal framework of our country provides the necessary conditions for the formation of this competence, which contributes to the preparation of students for the challenges of the modern world and their successful self-realisation in the future.

At the theoretical level, the key competence of learning ability falls within the sphere of scientific interest of both Ukrainian (I. Ivanchenko, O. Kovalenko, O. Savchenko, L. Tkachenko, N. Petrenko, etc.) and foreign scientists (R. Brown, E. Davis, D. Miller, J. Smith, etc.). O. Savchenko, G. Dryden, J. Vos, etc. understand learning ability as a holistic individual psychological formation that integrates the individual experience of successful educational work of a student and is characterised by the presence of developed methods of learning activities. According to the widely accepted approaches to defining the components of any competence, the vast majority of scientists (H. Kostyuk, N. Lobachevska, O. Savchenko, J. Biggs, A. Bandura,

H. Gardner, etc.) consider the motivational, cognitive, operational and reflexive components as the structural parts of the key competence of learning ability. In view of the above, the outstanding Ukrainian didactician O. Savchenko emphasizes that a well-developed learning ability presupposes that a student:

- independently sets his/her own goals or accepts the goals set by the teacher;
- shows interest in learning and strives to achieve positive results in cognitive activities;
- organizes his/her learning activities efficiently;
- finds the necessary information and chooses appropriate methods to solve tasks;
- performs sensory, mental or practical actions, techniques and operations in a specific order;
- understands his/her activities and strives to improve them;
- has self-control and self-assessment skills [7].

Analysing the state of the solution to the problem under study at the practical level, we note that in global educational practice there are four models for the formation of students' key competences: subject and thematic, interdisciplinary, educational and systemic.

The **subject and thematic model** requires students to acquire one of the key skills while studying a particular subject. In some educational establishments in the UK, for example, the development of primary school students' learning skills is encouraged as part of the subject 'How to study.'

The **interdisciplinary model** envisages that the goal — the development of students' key competences — is achieved during the study of all subjects in the curriculum. At the same time, it is assumed that the didactic potential of each educational discipline is sufficient to achieve this goal and that it is not necessary to include additional subjects in the curriculum.

The **educational model** can be implemented through various forms of educational activities. Today, the following

approaches to building the educational model are widely used in global pedagogical practice:

The project-oriented approach, the essence of which is that students develop and carry out various socially oriented projects;

The institutional approach, which is implemented by modelling elements of adult life (e.g. self-government), the work of children's organizations, clubs, etc.

The **system model** is most effective because it utilizes the full educational potential of the institution to develop students' key competences. This is achieved through the seamless integration of the subject and thematic, interdisciplinary, and educational models mentioned above.

**I**n view of the above, we have decided to apply the systemic model. Thus, the development of students' learning ability as a key competence in the project classes 1–11 of "Intellect of Ukraine" takes place when students study subjects from all educational areas (the interdisciplinary model), hold morning meetings and communication lessons (the educational model) and study the subject "Studying together" (the subject and thematic model). Thus, the backbone of our model is the subject "Studying Together", which is an integral part of the curriculum for the 1st to 9th project classes of "Intellect of Ukraine"

In developing the concept of "Studying Together", we have been guided by the principles of continuity and perspective, accessibility, scientificity, subjectivity, consistency of content with the general structure of educational and cognitive activities, functional completeness of the components of the educational process, as well as consideration of individual and age-specific characteristics of students and the relationship between learning, education and development. The fundamental provisions of the "Studying Together" concept were the principles of competence-based education, which are based on the activity-oriented approach. This principle is based on the activity approach, which is based on learning through active engagement. The main idea

of this approach is the assertion that only through active participation and hands-on activity can gain a deep understanding of knowledge, skills and abilities as well as the formation of values and attitudes that form the basis of any competence. The essence of the action-oriented approach can be illustrated by the well-known phrase attributed to Confucius: “I hear and I forget. I see and I remember. I do and I understand.”

The principle of correspondence in the framework of “Studying Together” emphasizes that the educational and cognitive activities of students should be comprehensive and structured. This means that the process of developing students as active participants in learning should be holistic and encompass the full scope and logical sequence of these activities. This is to ensure that students develop the motivational, content, procedural and technological readiness to learn in addition to the capacity for intellectual reflection.

The principle of functional completeness of the components of the educational content provides for an organic synthesis of theory and practice of educational and cognitive activity, as well as for the implementation of the principle of double inclusion of its basic components in the educational content. Therefore, the didactic potential of such subjects as “Studying Together”, “Man and the World”, literacy, Ukrainian language, reading, mathematics, etc. is used in the process of developing students as subjects of learning and cognitive activity.

According to the principle of subjectivity in the study of the subject “Studying Together”, it is necessary to create conditions for the promotion of cognitive independence of students — their desire and ability for autonomous educational and cognitive activities and their further improvement.

In accordance with the above didactic principles of the construction of educational content, the content lines of the subject “Studying Together” include:

- the development of students as subjects of educational and cognitive activity;

- the formation of skills and abilities for the rational use of books and other sources of educational information.

**The development of students as subjects in educational and cognitive activities** is promoted through a structured system of lessons in grades 1–9. These lessons aim to help students master the social role of “I am a student” and develop a psychological attitude towards learning as a crucial means for personal development and success in various life activities. In addition, these lessons teach students the ability to solve learning tasks by collaborating with classmates, fostering collaborative skills and a supportive learning environment. This process is complex and requires systematic work on developing students’ personal qualities, such as determination, diligence, organization, order, perseverance, etc. It also involves fostering motivation for educational and cognitive activities, nurturing the desire to achieve educational goals, and raising awareness of the organization of educational tasks and daily routines. In addition, it aims to develop students’ skills for effective and consistent educational and cognitive work both at school and at home and to improve self-control, self-assessment and teamwork skills.

**T**he methodological recommendations for those teaching the subject “Learning Together” and the corresponding teaching and learning kits (such as student guides, audio and video materials, knowledge maps and intelligence maps, handouts and visual aids) enable teachers to fulfil the given requirements and tasks. These resources help to create a stimulating learning environment where each student can fulfil their potential, actively interact with their classmates and achieve success not only in learning but also in all aspects of personal growth.

**The formation of skills and abilities for the rational use of books and other sources of educational information** becomes possible when students master techniques of rational reading and auditory perception of educational content. This process also

involves the conscious development of students' cognitive processes, including perception, thinking, memory, imagination, attention and language.

Rational (fast) reading, as understood by scientists such as E. Adler, T. Buzan, P. Scheele, F. Robinson and E. Thorndike, involves the continuous, rapid reading of texts using non-traditional methods. These methods ensure a complete and high-quality absorption of the material read. This approach emerged as a reaction to the increasing amount of printed information in recent years and the human need to perceive and cope with it effectively [1, 2, 7, 12].

**I**n everyday life, the prevailing opinion is that the slower you read, the better you understand the material. However, this is not true. As early as 1931, L. Vygotsky proved theoretically that there is no inversely proportional relationship between the quality and speed of reading. In particular, the scientist noted: "It is generally assumed that the comprehension of a text is higher when one reads slowly. In fact, however, comprehension is better with fast reading, as the concentration of attention is significantly higher compared to conventional reading methods" [11].

The main benefits of rational reading include a significant increase in reading speed, improving the quality of perception and comprehension of educational information, as well as creating conditions for the development of cognitive processes. It is also important to remember that among the more than 100 factors identified by researchers (J. Hattie and others) as influencing learning success, the development of rational reading skills is the most important [5].

Within the framework of the scientific and pedagogical project "Intellect of Ukraine", students master the technique of rational reading along the following content lines: 1) algorithms for working with scientific, popular science and educational information at the reproductive, variable and creative levels; 2) methods for devel-

oping the processes of perception, attention, memory, logical and critical thinking; 3) technical component of fast reading, both aloud and silently. These content areas are cross-cutting (grades 1–9).

Mastering the technique of rational reading in the scientific and pedagogical project "Intellect of Ukraine" is practise-oriented and is implemented through the following main directions:

1. The development of algorithms for working with scientific, popular science and educational information at reproductive, variable and creative levels.
2. Methods for activating processes of perception, attention, memory, logical and critical thinking.
3. The development of techniques for reading aloud and speed reading.

These directions run like a red thread through the educational process from the 1st to the 9th grade. The specifics of their implementation are determined by the use of Bloom's taxonomy, the technique of spatial repetition by G. Ebbinghaus, the theory of stage-by-stage formation of mental actions by P. Galperin and N. Talyzina, and the author's technique for achieving a complete understanding of knowledge, skills and abilities. The lessons, based on the principles of polyfunctionalism, integrate several functions into their structure. This approach is based on the methodological foundations of classical didactics, person-oriented and competence-oriented approaches.

Systematic self-diagnosis of knowledge, skills, and abilities is designed to foster the gradual development of self-analysis and self-assessment capabilities among students. This process enables students to accurately assess their own learning progress. Ultimately, this ability facilitates the transition to active self-regulation and self-correction.

The implementation of I. Bekh's idea of value saturation in each lesson of "Studying Together" is crucial for shaping students' value orientation. "Healing" the diseases of Ukrainians' mental code can contribute to

the development of students into patriotic citizens who see themselves as an integral part of the global community.

In modern Ukrainian institutions of general secondary education, little attention is often paid to the development of students' rational reading skills, except in classes working on the scientific and pedagogical project "Intellect of Ukraine" This could not but affect the results of the international study on the quality of school education PISA-2018, in which 25.9 % of Ukrainian adolescents did not reach even the basic level of reading literacy [6]. It is obvious that this indicator tends to increase in the context of Russian aggression.

Summing up the *results*, we note that the teachers of the "Intellect of Ukraine" project classes have mastered their author's technology. This technology is designed to develop learning skills using a systematic model that increases students' motivation for educational and cognitive activities. It

also aims to cultivate their desire and ability for lifelong learning and promote the formation of rational literacy. In addition, this technology involves the implementation of behavioral models in education that are guided by moral values and positive thinking. It is expected that these efforts will contribute to improving the quality of general secondary education in the conditions of war and post-war times.

The *future directions* of our research include a number of topical issues: improvement the readiness of teachers in the classes of the "Intellect of Ukraine" project to maintain the health of participants in the educational process, especially mental health; the development and implementation of innovative teaching technologies to bridge the gaps in students' learning, skills and abilities caused by martial law; and research the effectiveness of various distance learning technologies in the formation of students' key competences.

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