

“LEARNING THROUGH RESEARCH” AS A STRATEGIC DIRECTION OF MODERNIZATION OF HIGHER EDUCATION

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Abstract. The article presents the results of a study of the problem of implementing the “learning through research” formula in the system of higher education. In particular, it is about clarifying its essence in the context of the transition to new educational standards, which are positioned as a set of competencies necessary for effective work in the future profession. It is proved that the research component is directly related to the processes of development of innovative education, formation of an individual educational trajectory of professional development of a specialist. Attention is focused on the need to purposefully improve the level of competence of the teacher in a given area, to increase his or her ability to organize research-based learning. The article analyzes the results of the confirmatory experiment, which made it possible to identify an insufficient level of understanding of the formula and a low level of research use in the educational process. Based on the generalization of theoretical material on the problem and the results of the confirmatory experiment, the positions that form the basis of the training course for the professional development of teachers in non-formal education are highlighted. They can also serve as a platform for self-education in this area for both teachers and students.

Keywords: learning through research; quality standards; strategic directions; professional development; research; competence

1. Formulation of the problem

In accordance with European quality standards, the main strategic directions and trends in the modernization of the higher education system are related to the formation of a competent specialist who is competitive in the labor market and ready for high-quality professional activity in constantly changing situations. In this context, the formula “education through science,” “learning through research,” and “learning as research” becomes particularly relevant. It lies at the heart of the modern concept of “person-centered teaching”, authored by the famous American

psychologist Carl Rogers, and is based on the values of “liberal education”. The personalized nature of education is ensured by the research component, which transforms a unified, uniform educational program into a personalized one. It takes into account the individual characteristics of the learner to the maximum extent possible and programs a personalized trajectory on the way to achieving the specified standards. The research component is realized through various educational formats: “inquiry based learning”, “research based learning” (Rogers et al.. 2013), which are centered on the idea of replacing information and reproductive (traditional) education that does not meet modern educational standards.

The National Doctrine of Education Development of Ukraine in the 21st Century defines the technology of “learning through research” as a catalyst for educational activities in a modern educational institution, and the development of research skills of students of all levels as a prerequisite for effective learning in accordance with modern educational standards.

The purpose of the research level of the organization is not only to expand the possibilities of using aspect/case studies in the educational process (traditional version), but to develop research competencies in students as a universal way of learning the profession based on personality-oriented technologies of organizing educational activities. This concerns the development of the ability to research thinking of all participants in the educational process (both teachers and students).

2. Analysis of recent research and publications

In the course of the study, a significant number of literary sources were analyzed on the problems of interpreting the essence of the research component in the structure of the educational process and the system of professional training. In particular, it was important to find out to what extent the actual integration of educational and research activities is aimed at implementing the strategic directions of the European and national education systems, in particular, ensuring its personal orientation, and achieving the basic competencies of a specialist in the relevant field.

The strategic directions, conceptual, theoretical and methodological foundations of research-based education development have been the subject of research by such scholars as Karl Jaspers (Jaspers 1959), Mick Healey (Healey 2005), O. Bulvinska (Bulvinska 2019), L. Kozak, S. Sysoieva (Sysoieva 2016), Tanya Zhelyazkova-Teya (Zhelyazkova-Teya 2023) and others.

The realization of the formula has important historical preconditions. For example, the famous German thinker K. Jaspers analyzes approaches to the integration of educational and research activities based on W. Humboldt's formula “education through science”, “learning through research”, according to which university education requires an organic combination of three goals and corresponding activities – professional training, education of the whole person, and research. In his fundamental work “The Idea of the University” researcher

K. Jaspers substantiates the position that “In the idea of the university, however, these three are indissolubly united. One cannot be cut off from the others without destroying the intellectual substance of the university, and without at the same time crippling itself. All three are factors of a living whole. By isolating them, the spirit of the university perishes” (Jaspers 1959).

The literature presents various models of integrating scientific research into the educational process of a higher education institution (for example, the model of the British researcher Mick Healey (Healey 2005).

Research-based learning and teaching are interpreted as a fundamental direction of European education development. The Paris Communiqué (2018) of the Ministers of Education of the Bologna Process states that “students should be exposed to studies or activities related to research and innovation at all levels of higher education in order to develop critical and creative thinking that will enable them to find innovative solutions to emerging challenges. In this regard, we commit ourselves to improving synergies between education, research and innovation”¹.

Strategic directions and innovative trends in improving teaching in higher education in Ukraine were developed with the support of the British Council in Ukraine and the Institute of Higher Education of the National Academy of Sciences of Ukraine (the project was implemented in 2019 – 2022). Twenty Ukrainian higher education institutions participated, including Kamianets-Podilskyi Ivan Ohienko National University. The following is highlighted in the section “European Principles for the Enhancement of Learning and Teaching”: “Learning, teaching and research are interconnected and mutually enriching. Connection between research and education is essential to stimulate innovation and creativity in the learning experience and to advance knowledge. Learning and teaching in universities is informed by research and encourages students to engage in research and creation of new knowledge” (Kalashnikova et al. 2023).

Dr. Tanya Zhelyazkova-Teya emphasizes the need to find flexible and varied approaches to organizing lifelong learning, including using the possibilities of non-formal education: “...the new person-centred goals in education focus the individual’s efforts around lifestyle, flexible individual learning paths and the role of informal education in developing knowledge, skills and competences that can be recognised, validated or accredited for the purposes of vocational qualification and inclusion in the labor market” (Zhelyazkova-Teya 2023).

The generalization of different approaches to the study of the phenomenon of research competence, understanding of its content and implementation of the “learning through research” format, documents that lay down the basic characteristics and formalize the conditions for its implementation, gave grounds for the conclusion that they are all characterized by unambiguity in interpreting the significance for the development of modern education, determining the basic characteristics, including:

- a quality university education is teaching, learning and research that are integrated into a single whole;
- research is the basis for innovation not only in education, but also in all types of professional activities;
- research competence is an integrated personal and professional quality of a specialist that determines his or her ability to perform high-quality professional activities;
- research contributes to the development of a student’s critical and creative way of thinking;
- the link between research and education is an important stimulus for innovation and creativity in the learning experience.

3. The aim of the study

To clarify the essence of the formula “learning through research”, to diagnose the current situation and to identify approaches to creating a training course on developing teachers’ readiness to integrate teaching and research activities.

4. Research methods

Theoretical (analysis, synthesis, generalization), which were used to comprehend the importance of the research component in the system of higher professional education; studied the essence of the formula “learning through research”, analyzed the approaches of different researchers to its interpretation and search for optimal algorithms for implementation in the system of professional training;

Diagnostic methods (questionnaires, research interviews, essays, quantitative and qualitative analysis, methods of mathematical statistics) to determine the current level of use of the “learning through research” formula by teachers and priorities for its content for a specific audience.

Diagnostics were carried out according to the following indicators:

- understanding of strategic directions of development of higher education and modern educational practices based on scientific research;
- understanding of the essence of the formula “learning through research”, attitude to it;
- knowledge of the methods of its practical implementation;
- use of research methods in their own teaching practice.

Modeling methods were used to algorithmize the process of preparing teachers for the implementation of the “learning through research” formula, on this basis, the basic positions were determined that actualize the problem and ensure the continuity of self-development in its context.

5. Main material of the research and its discussion

Theoretical analysis of the problem, the interpretation of the essence of the formula “learning through research” and the peculiarities of its practical

implementation made it possible to schematically depict the levels of its use in the context of traditional and competence education. It is natural that the lowest level of integration of educational and research activities is realized between the vectors of “traditional” and the position of the student as an object of professional development. In these conditions, we are talking about the traditional use of research results of scientists in the context of studying relevant academic disciplines. The highest level is diametrically opposed: between the vectors of “personally oriented education” and the position of the student as a subject of professional development. This is the “learning through research” model. Intermediate options are aspectual, situational, and can be interpreted as a means of transition from traditional to innovative education, and in its context, a change in the student’s position from object to subject. Graphically, this is represented through various models of combining student learning and research activities (Figure 1).

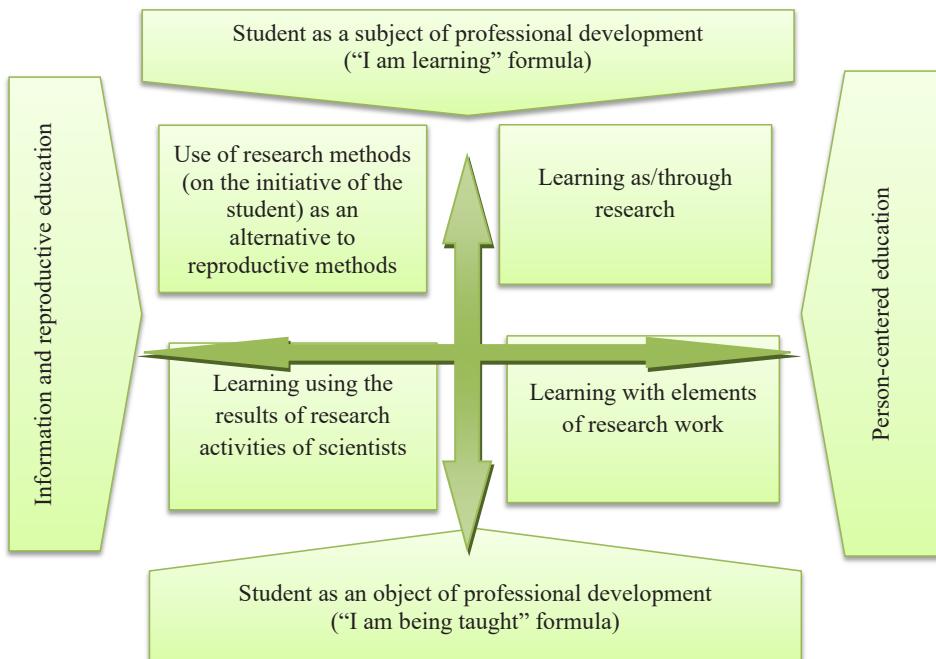


Figure 1. Examples of combining learning and research in the context of traditional and innovative education

All of this together defines the essence of research work in the structure of the educational process and the forms of its practical implementation. This serves as the basis for defining a criterion and diagnostic apparatus capable of measuring

the quality and level of efficiency of the integration of teaching and research activities.

The results of the experimental study made it possible to identify not only the real level of teachers' readiness for learning as/through research, but also to identify problems that are relevant in this context.

The study sample consisted of 87 teachers and 119 higher education students majoring in Education/Pedagogy (4th year – bachelors and 1 year-masters students) of Kamianets-Podilskyi Ivan Ohienko National University. The ascertaining stage of the experiment provided an opportunity to determine not only the level of implementation of the “learning through research” formula in the practice of organizing the educational process but also to identify the main problems that complicate the process of its active use at the stage of implementation of new educational standards.

The diagnostic process first attempted to determine, through self-assessment methods, to what extent teachers are already working in the mode of innovative education and how much they are willing to develop it. 73.7% of the respondents admitted that they work according to the traditional system of organizing education, and innovative methods with a research component are used rather sporadically and situationally (Figure 2).

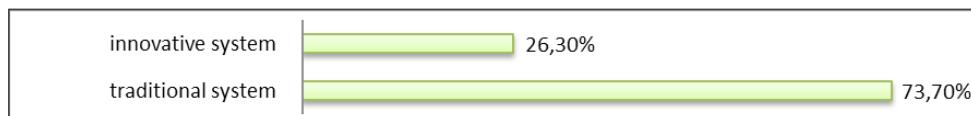


Figure 2. Results of self-assessment of the dominant type of organization of educational activities

The results also indicate that, in general, teachers are aware of the importance of modern personality – and competence-based learning formats, including “learning through research”, and need to master them in practice. That is why the group of teachers who expressed their willingness to take the training course as part of non-formal education was ready to work on the given issue, realizing the objective need to switch to a competency-based education system.

Most of the problems were recorded in the context of understanding the formula, its essence, mechanisms of practical implementation, and criteria for quality diagnostics. This can be demonstrated by the example of their vision of the possibilities of using “learning through research” in educational systems of different levels (Figure 3).

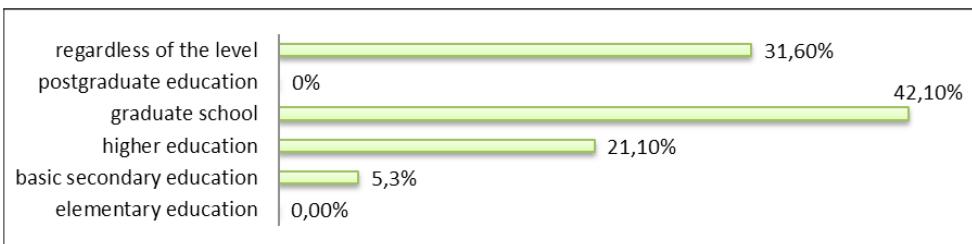


Figure 3. Understanding the priority of using the “learning through research” format for different educational systems

The results of the questionnaire, testing, and research conversations showed that teachers mostly perceive research as elements, methods, and technologies that can be used in teaching, and most widely – for students of educational and scientific level, for whom research is the dominant form of activity. Only 31.6% of respondents said that the formula can be used in educational systems regardless of the level and focus.

The generalization of the study results by this parameter also showed that teachers do not associate learning through research with the achievement of modern educational standards, presented in the form of a set of competencies. That is why they argue that the use of research is an arbitrary or reasoned choice of the teacher. The biggest problem is the low level of understanding that this formula is not so much the use of research elements in teaching as a way of organizing sub-activities based on finding answers to questions by activating the processes of analysis, comparison, algorithmization, modeling, and other processes (as an alternative to learning ready-made knowledge). This ensures that the process is personally oriented, an individual educational trajectory is formed, and the principle of student-centeredness is generally implemented.

All the other problems can be considered derivative, i.e., those that result from a not sufficiently correct interpretation of the essence of the formula and the basis for its use in the educational process. In particular, there is a significant number of contradictions in determining the conditions for the effective use of the formula. In particular, 68.4% of teachers believe that in the system of innovative/competence-based education, the use of the “learning through research” formula is a voluntary choice of the teacher, and only 26.3% consider its implementation to be non-alternative. When asked who is more responsible for the effectiveness of research-based learning activities, 57.7% of teachers believe that it is them (42.1% of students), while 78.9% of teachers believe that the insufficient use of the research component in the educational process is associated with the low level of students’ readiness for research-based learning activities.

It is noteworthy that all these ideas about the essence and possibilities of using the “learning through research” formula in the process of training specialists in the higher

education system directly affected their own practice of organizing the educational process. A generalization of the data obtained as a result of comprehensive diagnostics, including self-assessment, showed that most teachers tend to explain the insufficient use of the formula by objective reasons, including the lack of students’ readiness for this level of learning organization (Figure 4).

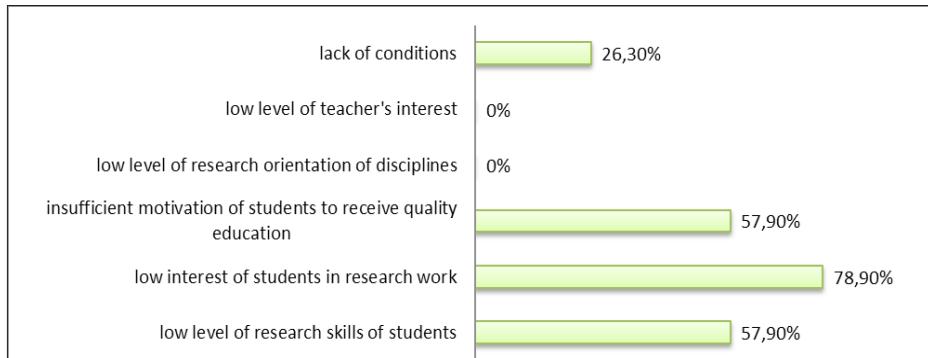


Figure 4. Reasons for the insufficient use of the research component in the educational process (results of teacher assessment)

There is a lack of awareness that research activities are natural for students and that their interest may be related to the ineffectiveness of their practical application in the educational process. This is confirmed by a comparative analysis of the data obtained as a result of the diagnostics of teachers and students in terms of their attitude and readiness to use research methods of teaching (Figure 5).

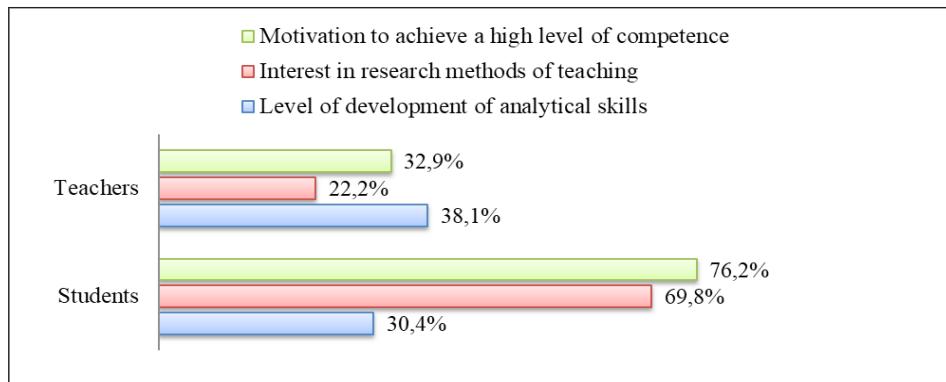


Figure 5. Results of comparative diagnostics of students and teachers regarding students' attitude and readiness to learn through research

The generalization of the results of the ascertaining experiment made it possible to identify the most significant problems that formed the basis for the development of the training course “Learning through Research” for university teachers in the framework of non-formal education, as well as the organization of their self-educational activities in this area.

The priorities were to ensure:

- understanding the new realities of the modern market, in which specialists capable of working on a research basis, i.e. in conditions that are constantly changing, are in demand;
- realization that the research component in the education system is directly related to the formation of competencies in accordance with the standards in the relevant specialty;
- deep and systematic understanding of the essence of the formula, knowledge of the criteria that determine the effectiveness of its practical use;
- a system of targeted and comprehensive training for both teachers and students to organize the educational process based on the formula;
- peculiarities of modernization of educational programs, methodological complexes of academic disciplines with strengthening of the research component of educational activities.

We have presented a general vision and provisions that can form the basis for the development of models, technologies, and methods for ensuring the integration of teaching and research activities. The main emphasis was placed on the fact that the effectiveness of their use directly depends on the competence of the teacher, student, and high-quality special preparatory work for the use of the “learning through research” formula.

6. Conclusions

Therefore, the integration of educational and research activities is rightly interpreted as one of the most important strategic directions of specialist training in the higher education system, which is directly focused on achieving the standards of innovative education.

The essence of the “learning through research” formula, its characteristics, and the diagnostic and criterion apparatus formed on their basis make it possible to ensure a comprehensive approach to its implementation in the system of higher education.

The diagnosis of the current situation on this issue shows significant problems of teachers both in understanding the content of research-based education and in mastering the methods of its practical implementation. These problems should focus the basic positions of the teacher’s training system, as well as the student’s, to the organization of training at this level, which can be carried out in various forms, ranging from a special training course to self-educational activities.

Prospects for continuing research on this issue are related to the generalization of modern foreign practices of ensuring the integration of teaching and research activities in the system of vocational education, as well as the study of options for content and technological support for the implementation of the “learning through research” formula in the context of various educational programs.

NOTES

1. Paris Communiqué, 2018.

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