

Educational and Cognitive Activity in the System of Multilevel Professional Education in the Context of Continuity

D V Legenchuk^{1,a*}

¹ Department of Pedagogy and Methods of Teaching Humanitarian Disciplines, Institute of Pedagogy, Psychology and Physical Culture, Kurgan State University, 63/4 Sovetskaya str., Kurgan 640020 Russia

^{a*}doc600@rambler.ru

*Corresponding author

Keywords: concept, model, educational activities, object, continuity, system, funds, subject, management tools

Abstract: The article discusses the features of educational and cognitive activity as one of the foundations of the concept of successive secondary and higher vocational education in the context of ongoing modernization and reforms in the system of contemporary Russian education. The author makes an analysis of the ECA and its substantial components in the structure of successive professional education, considering them as potential areas of development.

1. Introduction

The modern scientific and pedagogical community gives the student a real opportunity to become the subject of educational and cognitive activity directly in the learning process through cognition and self-knowledge. Individually oriented educational knowledge is feasible only if the student has the necessary personal characteristics. The most important of them for ensuring the ECA are the ability to learn, namely, the ability and skills of independent creation and search for landmarks of the action system, and the presence of a desire to learn, i.e., the presence of a constant stimulus. Awareness, independence, entrepreneurship are the qualities of the subject of training, in the presence of which the ECA will be effective and productive. For the subject of ECA, the independence of its implementation is characteristic (T. V. Gabay and V. V. Davydov).

It is necessary to note the close attention of modern scientists to ECA. However, in our opinion, it does not reveal the uniqueness of this type of activity in vocational education. Often, the analysis of the ECA is closed by the personal position of the author, or by the type of institution where a specific study was conducted.

During 2003-2013, we conducted research focused on creating a regional multi-level complex of secondary and higher professional education. The research base was Kurgan State University and Kurgan College of Technology. At the initial stage, for us, one of the problem points in determining the prospects of activity interaction was the determination of the student's personal role in the educational process. The development of the process of educational and cognitive activity, the active component of which the student becomes, was chosen by us as a way of involving him/her in a vibrant developing space.

2. Materials and Methods

The global task of training in a vocational school is to obtain a joint overall result by the subjects of the ECA, the correspondence between the objective essence of knowledge and its subjective understanding. According to M. A. Vesna, "The achievement of this educational goal is possible when establishing a "reverse causal-reflective relationship" between the subjects of pedagogical knowledge and the representatives of the scientific community, personifying "real" science" [1].

Optimal cognitive interaction between teacher and student becomes possible when implementing the following principles of educational process management:

- The principle of simulation modeling of the content, tasks, problems, relationships systems, characteristic of the future professional and pedagogical activities of a specialist;
- The principle of the problem (heuristic) learning. Based on this principle of training, it is necessary to build the educational process on the connection of tasks and problems containing contradictions, the solution of which is necessary for the student to develop their level of professional, moral and business qualities;
- The principle of “reflected subjectivity.” The influence exerted by one subject of joint interdependent activity may be deliberate or indirect. The teacher accentuates the learner using professional tools and psychological techniques. The educational process consists of the processes of cognition and self-knowledge, meaning-generating activity, which consists of the actual meanings, thoughts, points of view [13]. The image of the teacher for the student is more than just a person who gives him an education. The image of the teacher is the subject represented by the standard in all matters. This is the result of the principle of “reflected subjectivity”;
- Principle of conventionality. Only in a collective and group ECA can we develop and implement the principles and sense of responsibility of students, increase activity and engage individuals in the discussion and analysis of professional and pedagogical difficulties [1].

The fact revealed by the teacher, characterized by a change in the level of professional training, the quality of student knowledge, requires the adoption of an immediate response, pedagogically appropriate reaction, developing or correcting the degree of student competence.

According to the principle of additivity, changes in each variable accumulate and constitute the causal-reflective mechanism of the co-evolutionary development of the subjects of the pedagogical system [6].

Based on the work of modern Russian researchers [2, 6, 9] and based on our research, we can draw the following conclusion. The training program should take into account the mobility of modern pedagogical conditions. At the same time, the educational institution is obliged to respond promptly to the social order and the actual preparation of the contingent for its involvement in the ECA. It is also necessary that they ensure the effectiveness and quality of the educational process itself, regardless of the changing factors and needs of students. With this in mind, the emphasis on functioning goes to partnership and complicity. At the same time, the mutual relationship between the subjects of training must be formed as a subject – subject – object. The ECA develops in the process of student information processing and learning material in parallel with this.

Management of the ECA consists of the direct participation of the student in various forms and teaching methods. The control – assessment method allows one to identify not only strengths and weaknesses but also to put an appropriate assessment [10]. The weakness of a number of teachers is the unwillingness to clearly convey to the student the criteria for assessing his/her knowledge, and, often, not the desire to do it. As a result of our study, it was revealed that only 13% of teachers of colleges and vocational schools are ready to discuss with a student the criteria for assessing his knowledge, among teachers of institutes and universities, there are about 31%. But, in our opinion, this is very small.

Only educational relations based on the readiness of a joint dialogue can be considered the most effective paradigm of learning compared to traditional. In the joint development of the ECA subjects, differentiation, and consideration of the characteristics of students are possible.

- The ECA solves the issues of the intellectual progress of a person. To ensure effectiveness in the educational process, individual psychological characteristics of the development of knowledge must be taken into account;
- Based on the concept of V. V. Davydov [2] – D. B. Elkonin [10], we single out the scientific and theoretical character, the focus on the assimilation of theoretical and conceptual knowledge and related general methods of mental and educational – cognitive actions to solve the tasks as the most important feature of students’ ECA. The student’s ECA should be built following the principle of meaningful generalization when general knowledge precedes knowledge of a private and concrete nature, the unity of education (its nature), and methods of its development.

It was experimentally found that students who came to the university from college and consciously chose the upcoming professional field showed great activity and educational initiative. During the collective solution of educational problems, they actively influenced the teacher, and after their influence, in some cases, the teachers changed the mode of action dramatically. With the manifestation of cognitive activity, the assimilation of educational material among college students significantly increased, we noted an increase in the effectiveness of a number of academic disciplines among university students. For example, in the discipline "Fundamentals of Social Work," the average score in the group increased from 3.9 to 4.7, which is a very good result.

In the multilevel educational complex that we created, in real conditions, the thesis was refuted that only the teacher manages the ECA. A constructive and often decisive role was defined for students who are actively striving to manage the process of obtaining education and objectively perceiving their own educational needs and the capabilities of the teaching staff. At the same time, the problem of the teacher's readiness for the ECA was actualized when dry knowledge was uninteresting to students. We recorded a drop in cognitive activity in disciplines that are part of the professional and special cycle, especially after practicing in the specialty.

Establishment of a direct mutual relationship between the subjects of the educational process will make it possible to make changes in the essence, intermediate goals, and content of the ECA. This will translate the UPD into a controlled and fast-progressing process, with a high degree of responsiveness to changes in external areas of influence and directly to the requirements of the territorial labor market [8]. All this can be realized within the framework of the model of traditional vocational education developed by us.

The complex of joint activities of the student and teacher's mutual work, bearing the appearance of specific and concentrated development of the self-regulatory subject of the educational process, is called the management of the ECA. A certain amount of time is necessary for the student to become a subject of co-management. Student skills increase in direct proportion to the teacher's impact on them. At first, this will be the direct leading role of the teacher. At the same time, already at a later date, development at a higher level in leadership interaction and full co-management is possible. The student's self-regulation regime of their own ECA is the result of this process.

To achieve high joint results, clear teamwork and professional skills from all sides involved in the educational process are required [7]. In particular, the teacher is required to briefly and clearly present discipline, the ability to captivate students, expand their views, deepen thinking, cultivate diligence in them. For students, such qualities as independent and active creative work, in-depth study of the material, and its conscious perception are relevant and necessary.

3. Conclusion

In the course of our study, a discrepancy was found between the current ECA, represented in the generally accepted complex of vocational education, and the alleged applied activity. We address this gap by creating a new set of educational methods, based on continuity, which allowed us to make qualitative changes to existing educational programs. The most important and effective of them are such as the development of implemented and adapted curricula, consisting of complexes of theory and practice, having a cross-cutting structure, and focusing on the development of professional skills. The refusal to split theoretical knowledge into separate objects also played a role in this.

Also, the problem of the disconnectedness of teaching and practice was solved when, in educational activity, the memory and reproduction of educational material, often unconscious and machine, are evaluated. It occurs when the educational activity is individualized, and the student does not have an idea of the subject of their work, practically does not form professional tools. Overcoming such a discrepancy can be done through the deliberate use of production practices, where the student's ECA will be supported by special knowledge and skills.

In the course of the study, we found that after graduation (college or university, it doesn't matter), about 69% of young professionals are extremely difficult to adapt to their professional activities. This, in the next turn, may indicate that the process of the formation of professional qualities itself is inefficient. The form of ECA is losing its relevance, more and more moving away from applied practice. This deficiency can be most

clearly expressed in educational complexes consisting of several levels, where the trajectory of the graduate's professional development can be objectively adjusted to the needs of the market and the student him/herself.

We have built and successfully implemented the continuity model of secondary and higher professional education on the basis of a multilevel educational complex on the basis of a college and university. In this model, the nature of the academic study has been significantly changed in favor of the development of the cognitive activity of the student, his involvement in the construction and implementation of his own professional training based on his professional needs and expectations. For our study, it is important to strengthen in a practical way the positions that determine that the students' ECA is a process that shows their abilities and skills that directly affect his professional self-determination. In addition, in our opinion, it is UPD that is the very resource that can be actively used in building integrated training programs for specialists of all levels, and especially on the basis of continuity.

4. Acknowledgments

The study was carried out as part of the research work “Theory and Practice of Continuity of Higher and Secondary Professional Education.” We especially thank colleagues from the Ural Federal District who actively participated in the discussion of the research problem, and anonymous reviewers who expressed their objective position.

References

- [1] Vesna, M. A. (2000). New taxonomy of the goals of educational and cognitive activity at the university. In A. L. Mikhashchenko (Ed.). *The Collection of Scientific Works “Pedagogical Research: Hypotheses, Projects, Implementations”* (pp. 23-29). Kurgan, Russia: Publishing House of KSU.
- [2] Davydov, V. V. (1996). Theory of activity and social practice. *Philosophy Issues*, 5, 53-62.
- [3] Dorozhkin, E. M., & Zeyer, E. F. (2014). Methodology of vocational teacher education: Theory and practice (theoretical and methodological foundations of vocational teacher education). *Education and Science*, 9, 4-20.
- [4] Legenchuk, D. V., & Savinykh, V. L. (2016). Pedagogical conditions of continuity multilevel vocational training in the region. *Problems of Modern Pedagogical Education*, 52-7, 232-238.
- [5] Legenchuk, E. A., & Legenchuk, D. V. (2016). Some components of the multilevel vocational education management process. In *Materials of the IV International Correspondence Scientific-Practical Conference “Continuing Education in the Modern World: History, Problems, Prospects”* (pp. 162-165.). Borisoglebsk, Russia: Voronezh State University, Borisoglebsky Branch.
- [6] Moreva, N. A. (2008). *Pedagogy of secondary vocational education: Didactics* (Vol. 1). Moscow, Russia: Publishing Center Akademiya.
- [7] Nemirovsky, V. G., & Nemirovskaya, A. V. (2018). Social competitiveness: Youth and adult opportunities for success. *Sociological Journal*, 24(2), 135-149.
- [8] Shafranov-Kutsev, G. F., & Efimova, G. Z. (2017). The formation of competitive personality traits is the main task of the education system. *Alma Mater (High School Bulletin)*, 10, 69-76.
- [9] Shipilina, L. A. (2013). *The methodology of psychological and pedagogical research*. Moscow, Russia: FLINTA: Nauka.
- [10] Elkonin, D. B. (1966). *Age-related learning opportunities*. Moscow, USSR: Prosveshcheniye.
- [11] Koh, H., Kim, J., & Lee, H. (2015). Analysis of structural relation among adult learners' self-determination, academic engagement, satisfaction, and behavioral intention. *International Journal of Technical Research and Applications, Special Issue 22*, 68-71.
- [12] Vollmer, T. (Hrsg.), Kuhlmeier, W., & Mohorič, A. (2014). *Berufsbildung für nachhaltige entwicklung. modellversuche 2010-2013: Erkenntnisse, schlussfolgerungen und ausblicke*. Bonn, Deutschland: BIBB.
- [13] Hemkes, B. Vom (2014). Projekt zur Struktur – Das Strategiepapier der AG, Berufliche Aus – und Weiterbildung“. In W. Kuhlmeier, A. Mohorič, & T. Vollmer (Hrsg.), *Berufsbildung für nachhaltige Entwicklung. Modellversuche 2010-2013: Erkenntnisse, Schlussfolgerungen und Ausblicke* (pp. 135-156). BIBB: Bonn, Deutschland.