



# Conceptual Rules of Modular Educational Technology and Its Role In The Educational Process

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**Abstract:** In this article, modular educational technology is an innovative pedagogical method designed to effectively organize the learning process of students in the modern education system. The main goal of this method is to facilitate the gradual and gradual assimilation of knowledge by students. Modular education divides the educational process into several modules, each module includes independent study, practice and theoretical knowledge. Modular education is based on its own special conceptual rules, which are aimed at determining the goals and objectives of education, organizing the educational process and taking into account the needs and requirements of each student.

**Keywords:** Module, Modular Education, Technology, Scientific Activity, Educational Module, Conceptual Rules, Methodological Culture, Scientific Potential.

## Introduction

Modular educational technology is an important tool for organizing creative and effective educational processes in modern education. This method allows you to create an individualized and effective learning environment for each student by dividing the educational process into modules. Modular education is based on its own special conceptual rules, which are aimed at determining the goals and objectives of education, organizing the educational process and taking into account the needs and requirements of each student.

A module is an educational block aimed at learning certain knowledge, skills and qualifications, each module has its own content and direction. The modules are interconnected, and the procedure for studying them is coordinated with the general goals of education.

## Methodology

The globalization and internationalization of education also require changes in the system of organizing the educational process. In particular, the training of competitive personnel in higher education requires supporting the maximum independence of students

and developing their ability to effectively apply the acquired knowledge in practice. This creates the need to organize the higher education process on the basis of a pedagogical system that meets international standards. For this purpose, the Concept of the Development of the Higher Education System of the Republic of Uzbekistan until 2030 sets a priority task for the gradual transition of the educational process in higher education institutions to a credit-module system.

In the theory of modular education, the concept of a module means an independent part of a system that performs a specific functional function (carries a load).

In pedagogical research, one can witness that the concept of a module is interpreted from two perspectives: the selection of educational content and the organization, implementation and control of the training session.

From the point of view of the selection of educational content, the concept of a “module” is understood as “a didactic unit of educational material that logically and completely covers the important aspects of the objects, with a clear goal in mind for a specific educational subject”.

From the point of view of the organization and implementation of the training session, this concept can be explained as follows: “The topic used in the lesson is divided into logically complete thought-provoking parts, that is, modules, and learning tasks are created for each part to be mastered independently by students”.

From the point of view of knowledge control, the concept of a module can be interpreted as follows: “A module is a logically complete part of the educational material that mandatory controls the knowledge and skills of students.

Modular education is a logically defined part of educational information, which is consistent with the control of knowledge, has a certain logical integrity and completeness.

Educational module - a meaningful part of the educational course together with the corresponding methodological materials.

Educational module - instructions for studying educational materials (paragraph, topic, section, subject, integrated course) with the timing of each educational task. In a more simple and specific way, the educational module reflects the subject (sections) of the usual educational program, together with more rational forms and methods of studying it.

The essence of modular education is that the student works independently on the basis of an individual educational program provided to him. This educational program should contain a plan of action, an information blog, and methodological recommendations for achieving learning results. The teacher in this situation performs the functions of control, consultation, coordination of actions on the assimilation of information.

The general direction of modular teaching, its purpose, content and organization methodology are based on the following principles:

modularity - separation of individual elements from the content of teaching; dynamics (variability) - achieving mobility (practicality) and speed of knowledge;

flexibility - adapting the content of education and ways to achieve it to the individual needs of the learner;

comprehensiveness of methodological advice - ensuring professionalism in the cognitive activity of the learner and in pedagogical activities;

equality - ensuring working cooperation between the learner and the teacher.

Active organization of the content of the module through invariance allows for the exchange of information. It guarantees the satisfaction of the needs that have arisen in a person at that time, identifies interests that arise in a new direction. The main significance of the module is in the development of human consciousness and thinking.

## Result and Discussion

Goal-oriented: to free the teacher from the task of providing complete information through consultative-coordination; to create conditions for the teacher and students to jointly choose convenient ways of learning; to form independent learning, self-education skills; to form reflective abilities of students; to create a flexible, developing educational environment for students; to develop critical thinking; to generalize knowledge; to form a holistic perception of the world and the coverage of events; to systematically develop the need for knowledge; to enrich the associative mechanisms of cognition and perception.

The main conceptual rules of modular educational technology are explained as follows;

Algorithmization of educational activities: Planning the educational process in clear and systematic steps.

Modularity principle: Dividing the educational content into interconnected and complete parts.

Coherence and completeness of knowledge: Compatibility of all stages in the educational process and their complete organization.

Blocking of theoretical material: Dividing the educational material into logically connected parts.

Differentiation and individualization: Teaching in a way that suits the needs and abilities of each student.

Active approach: Implementing all stages in the educational process (goal setting, planning, organization, process control and evaluation).

Synergetic approach: Orienting students to self-organization and development.

Systemic approach: Viewing the world in teaching as subsystems of the knowledge system.

Teacher-student collaboration: The teacher's support and assistance to students in their development.

Deductive logic of transferring educational material in the module: Transition of educational materials from general concepts to specific features.

Transition from wholeness to particularity: After studying general theoretical material, dividing it into separate parts.

Progressive learning: Moving forward and continuing to study educational materials.

Consolidation of educational information: Making the learning process effective by generalizing, systematizing and enlarging information.

Flexibility (dynamism): Being able to quickly adapt to changes in the educational process.

Choosing an individual pace of acceleration according to the program: Giving each student the opportunity to learn at their own pace.

Perceived prospects (motivation): Setting strong motivation and goals for students to study.

## Conclusion

These principles form the modular education approach aimed at developing students, effective cooperation with teachers and individualization of education.

Modular education technology allows the use of creative, interactive and effective methods in modern education. This method serves to create education that is adapted to the needs of each student and ensures his personal development. Through modules, it is possible to combine theoretical and practical knowledge, develop students' mutual learning and working skills, and create a new level in education.

## References

- Berardi, S. (2021). Creating an online Russian as a foreign language course during the covid-19 epidemic. *Russian Language Studies*, 19(1), 7-20, ISSN 2618-8163, <https://doi.org/10.22363/2618-8163-2021-19-1-7-20>
- Bulgakov, V.V. (2019). Practical training of officers of the state fire service through game-based learning. *Obrazovanie i Nauka*, 21(4), 183-207, ISSN 1994-5639, <https://doi.org/10.17853/1994-5639-2019-4-183-207>
- Chen, C.M. (2021). Developing a Topic Analysis Instant Feedback System to facilitate asynchronous online discussion effectiveness. *Computers and Education*, 163, ISSN 0360-1315, <https://doi.org/10.1016/j.compedu.2020.104095>
- Dilnoza, M. (2019). Modular training system as a factor of improving educational process. *International Journal of Innovative Technology and Exploring Engineering*, 9(1), 3160-3166, ISSN 2278-3075, <https://doi.org/10.35940/ijitee.A9152.119119>
- Dubitsky, V.V. (2022). MASTER OF VOCATIONAL TRAINING 2.0: HUMAN RESOURCES CAPACITY OF THE PROJECT "PROFESSIONALITAT". *Obrazovanie i Nauka*, 24(1), 67-100, ISSN 1994-5639, <https://doi.org/10.17853/1994-5639-2022-1-67-100>
- Egamberdiyeva N.M. Madaniy-insonparvarlik yondashuv asosida talabalarni shaxsiy va kasbiy ijtimoiylashtirish nazariyasi va amaliyoti (Pedagogika oliy ta'lim muassasalari misolida): Ped. fan. dok. diss. – T., 2010. – 332 b.
- Ilyashenko, L.K. (2018). The role of network interaction in the professional training of future engineers. *International Journal of Mechanical Engineering and Technology*, 9(4), 1097-1105, ISSN 0976-6340

- Karaxonova O. Y. Sanogen fikrlashni shakllantirishning muhim jihatlari. Development of science Ilmiy jurnal 2024/6 ISSN 3030 -3907 193-204 b
- Karaxonova O.Yu. Boshlang'ich sinf o'quvchilarining sanogen fikrlashni shakllantirishda kompyuter o'yinlarining ta'siri. Electronic education scientific journal 2023. ISSN2181-1199 97-b
- Korshunova, O.V. (2022). Modular education with a double degree of differentiation as a condition for students to achieve meta-subject results of educational activities. *Perspektivy Nauki i Obrazovaniya*, 59(5), 340-359, ISSN 2307-2334, <https://doi.org/10.32744/pse.2022.5.20>
- Luchaninov, D.V. (2021). IT-based E-learning Environment Design in Web Engineering for Students: On the Experience of Regional Universities. *Proceedings of the 2021 IEEE International Conference "Quality Management, Transport and Information Security, Information Technologies", T and QM and IS 2021*, 686-690, <https://doi.org/10.1109/ITQMIS53292.2021.9642914>
- Muminova G., Tashpulatov B. POLITICAL REPRESSIONS DURING THE PERIOD OF COLLECTIVIZATION IN UZBEKISTAN (ON THE EXAMPLE OF KASHKADARYA REGION) //Oriental renaissance: Innovative, educational, natural and social sciences. – 2022. – T. 2. – №. 1. – C. 725-729.
- Muradova Z.K. Constructions of developing scientific and professional creativity in future teachers. *Asian Journal of Research in Social Sciences and Humanities*, 2022.-101-104c.
- Murodova Z. K. Innovative Activity as a Factor of Developing Methodological Culture of Future Teacher //Eastern European Scientific Journal. – 2018. – №. 2.
- Mustaqillik: Izohli ilmiy-ommabop lug'at. – T.: Sharq, 2000. – 318 b.
- O.Y. Karaxonova Talabalarda sanogen fikrlashning o'ziga xos faoliyat mexanizmlari. BESTSCIENCE journal of innovation in science, research and development 2024. 23-27 b
- Orekhova, Y.Y. (2020). Pedagogical conditions of formation of professional competence of students of a technical university. *Periodico Tche Quimica*, 17(34), 291-302, ISSN 1806-0374
- Rabbimova F.R. Bo'lajak o'qituvchilarda badiiy-estetik kompetentlikni rivojlantirish: pedagogika fanlari bo'yicha falsafa doktori (PhD). ...diss. – T., 2018. – 155 b. – B.64.
- Shukhratovich T. B. HISTORY OF TRAINING OF SECONDARY MEDICAL SERVICES IN UZBEKISTAN //EPRA International Journal of Multidisciplinary Research (IJMR). – 2021. – T. 7. – C. 1-1.

- Tolipova J.O., G'ofurov A.T. *Biologiya ta'limi texnologiyalari*. – T.: O'qituvchi, 2002. – 128 b.
- Yang, J. (2019). The Design and Implementation of Network Assistant System for Physical Education. *Journal of Physics: Conference Series*, 1345(5), ISSN 1742-6588, <https://doi.org/10.1088/1742-6596/1345/5/052027>
- Yessimgaliyeva, T.M. (2019). Formation of professional competence of future teachers and psychologists. *Opcion*, 35(90), 47-66, ISSN 1012-1587
- Zeer, E.F. (2018). Modelling of socio-humanitarian education platform for trans-professionalism development of professionals involved in multi-disciplinary projects. *Obrazovanie i Nauka*, 20(7), 90-106, ISSN 1994-5639, <https://doi.org/10.17853/1994-5639-2018-7-90-108>
- Zeer, E.F. (2020). Innovative model of socio-professional development of a student's personality. *Obrazovanie i Nauka*, 22(3), 83-115, ISSN 1994-5639, <https://doi.org/10.17853/1994-5639-2020-3-83-115>
- Муродова, З. К. (2021). Развитие научного и профессионального творчества у будущих учителей. *Бюллетень науки и практики*, 7(4), 416-421.
- Педагогика / Под ред. П.И.Пидкасистого. – М.: Пед.общество России, 1998. – 640 с.