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EDUCATION OF STUDENTS IN HIGHER EDUCATIONAL MEDICAL UNIVERSITIES OF UKRAINE TAKING INTO ACCOUNT COMPETENCE- ORIENTED EDUCATIONAL TECHNOLOGIES

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Abstract

A higher educational institution is called upon to contribute to a constant increase in the degree of development and readiness of students for self-educational activities on a proactive basis. The features of training and formation of competences among medical students in the general theoretical aspect are considered as a fundamental condition for the successful implementation of future professional activities, which provides the ability to quickly and correctly use knowledge, experience, and personal qualities, ensures their control and restructuring of activities when obstacles appear.

The development of the proposed theoretical and practical material in medical universities is of a general nature, including and substantiating the goal, objectives and structure of the formation of the personality of a future professional. The application of the

competence-based approach and the practical orientation of training in higher educational medical institutions of Ukraine are designed to form student's not only preliminary, but also situational readiness.

In the context of considering competence-oriented educational technologies in higher educational universities of Ukraine, including pedagogical and educational technologies, is the readiness of future specialists for productive independent and responsible action in professional activities and everyday life. The teachers of medical universities are obliged to ensure the achievement of this result using a complex integral image of the final result of education at the university in the direction of training (specialty), which is based on the concept of "competence".

Keywords: competence; competence-oriented educational technologies; student; higher educational universities.

Relevance of the research

Education of students in a higher educational institution, including a medical educational institution, is a multicomponent and multifactorial phenomenon that has relationships with the educational, scientific and socio-cultural environment of higher education. It includes both the spatio-temporal environment, which accumulates purposefully created and spontaneously emerging conditions for the interaction of the subjective world of the developing personality of the future professional in the medical environment, and the objective world of the higher educational school, which provide the acquisition and use of professional competences in the field of business and interpersonal contacts. The educational environment of higher education is a necessary component of the integral mechanism of professional socialization, a source of collisions, life situations that ensure the entry of students into the profession and society, providing a subject-spatial environment, the unifying principle of which is to ensure the professional and personal development of students. The basis for the formation of competencies among medical students is not only the knowledge, skills and abilities acquired in the learning process, but also the formation of the future personality of a doctor, its formation and development.

Analysis of previous research

In accordance with the introduction of new standards in higher education related to the reform of higher education in Ukraine, according to the recommendations of the Bologna Declaration [1, 2], there is a need for new approaches to the preparation and formation of

professional competences among students of higher educational medical institutions that will meet the requirements of the students, the employers and the state [3].

The introduction of the recommendations of the Bologna agreements in higher education has led to such innovations as the introduction of a two-level structure of education (bachelor's, master's) and a competency-based approach to interpreting the quality of education received by students, which contributes to the harmonization of domestic and European educational systems. The competence-based approach is the basis for the development of state educational standards of a new generation used in the development of standards for professional higher education adopted in higher educational institutions in accordance with the Law «About Higher Education» [4]. The Law of Ukraine «About Higher Education» interprets the concept of “quality of education” as the compliance of the conditions of educational activities and learning outcomes with the requirements of legislation and standards of professional higher education and/or international standards, as well as the needs of stakeholders and society, which is ensured through the implementation of procedures internal and external quality assurance of education [4]. In other words, this refers to the degree of compliance of educational activity with its result - the norms of the standard of higher education and social order. Therefore, the increased level of competition in the field of education is of particular interest to the heads of higher education institutions in modern (innovative) methods and techniques for assessing the quality of education.

Today in Ukraine the quality assurance system of education is carried out at three levels: educational institution, state (state and state-public control system) and international (European level). Along with the national system for assessing the results of student training, the European credit-modular system (ECTS) was introduced [5]. This system is designed to provide a single pan-European space and is focused on the assessment and comparison of students' educational achievements. In fact, this is such a system of organizing the educational process that allows the student to effectively plan the entire process of his education, and the results should be recognized not only by domestic, but also by European employers. Article 11 of the UNESCO World Declaration on Higher Education, quality in education is a multi-dimensional concept that should cover all functions and activities: teaching and academic programs, research and scholarship, staffing, facilities, equipment buildings, work for the benefit of society and academic environment [6].

The above statement illustrates the multidimensionality of the quality of education. It is necessary to analyze the quality of planning and organizational support; content quality; the quality of teaching; the quality of teaching technology and the quality of the resulting aspect

of the educational process in an institution of professional higher education (the quality of educational outcomes; the quality of graduate training).

The European Association for Quality Assurance in Higher Education (ENQA), on the direct instructions of the Conference of Ministers of Education of European countries, developed «Standards and Recommendations for Quality Assurance in Higher Education» which allow to some extent to compare, compare the Ukrainian system of professional higher education with national education systems European countries, find out what needs to be done so that the system of our national education is recognized in Europe as a quality one [7]. The system «Standards and Recommendations for Quality Assurance in Higher Education» contains two fundamental aspects: 1) compliance with standards (norms), often referred to as manufacturer's quality; 2) compliance with the needs of the consumer. In the first case, in relation to the educational sphere, an educational institution (producer) demonstrates the quality of an educational service in the form of a quality assurance system that allows this service to be produced in accordance with certain standards. This provision is confirmed by a number of published regulatory documents in the field of education in Ukraine and are included «The State Target Program for the Development of Vocational Education for 2011-2015» [8]. The aim of «The State Target Program for the Development of Vocational Education for 2011-2015» are creating favorable conditions for the quality training of specialists in accordance with the priorities of the state socio-economic policy, focused on meeting the needs of the individual, society and the state, as well as ensuring equal access to vocational education, i.e. for the development and implementation of quality assurance strategies, policies and procedures in educational institutions. According to the recommendations of the Bologna Agreements, official provisions have been developed for the approval, periodic evaluation and monitoring of implemented programs and qualifications that are awarded. In the draft of the new «Standards and Recommendations for Quality Assurance in Higher Education in the European Area» (ESG) the quality of educational is interpreted as “the result of interaction between teachers, students and the educational environment of a higher education institution”, and, “quality assurance should provide such an educational environment in which the content of programs, educational opportunities and means correspond to the set goals” [7]. But, despite the considerable attention of scientists to the problem of assessing the quality of education, the issue is not completely resolved and requires a search and assessment of the current state of education, as well as the methods and approaches used.

The purpose of this article is to analyze the features of training and the formation of competences among medical students on the basis of standards that are used in assessing the quality of training of higher education specialists in educational medical universities of Ukraine, taking into account competence-oriented educational technologies. The ideas about the basics of pedagogical and managerial technologies, as a result of which the achievement indicators of the structural components of education increase, there is a transition systems of educational to a completely different state in today's market conditions were considered.

Presenting main material

When a student is immersed in the educational environment of the university, the resulting impact of the environment on personal and professional development will be determined by a combination of factors, among which, as the main ones, the following can be noted:

- 1) Features of the perception of the environment by a particular individual;
- 2) The formation of the student's social competences and the desire to meet them, to carry out personal growth, to develop their thinking and culture;
- 3) The structural and organizational features of the educational environment;
- 4) The time spent by the student in the educational environment of higher.

To form a set of competences of students in the field of professional, it is necessary:

1. Learn to recognize yourself as the subject of the educational process. To understand that a student is not a passive individual which taught by teachers, but, first of all, an active person who wants, can and must learn by herself in interaction, both with teachers and with all factors influencing this proces. In this area, the factors of the educational environment include:

- 1) The ability to independently transform the learning situation into a situation of personal development;
- 2) Understanding and full awareness of the learning process aimed at improving the ability to learn and gain knowledge;
- 3) The ability to learn how to use the acquired knowledge for the growth of educational and future professional competence;
- 4) A set of phenomena and processes that are related to the educational process in the subject-recreational, spatio-temporal, informational, communicative-activity, moral-psychological or any other aspects, act as its condition and prerequisite. These factors, through which the quality of education can be controlled, include: direct action factors (for example, a microscope or FEC, reagents and test tubes used in a laboratory workshop, etc.),

which at the same time become identical to teaching tools; and indirect factors, indirectly affecting the assimilation of knowledge and the development of students (room temperature, lighting and ergonomic equipment of the training place, etc.) [9]. Among the factors that operate outside the framework of the educational process, one can note both the spatial and subject organization of the environment, communication in an informal setting with teachers, familiarization with the traditions of the university, and so on.

The process of obtaining knowledge and learning, as well as educational technologies can be considered at three levels: macro level (paradigm, concept and methodology), midi level (curriculum, subject, program, structuring), micro level (lesson).

It is necessary to clearly separate the concepts of method, methodology and technology. The method underlying a particular technology reveals the structural aspect of all the actions performed. The methodology is implemented in educational practice with the help of a certain system of methods and techniques. Technology has a certain system of prescriptions that are guaranteed to lead to the goal, i.e. is the instrument of all actions to achieve it.

In the process of analyzing the content of the concept of “learning technology”, it should be noted that all known definitions do not exclude, but complement each other, reflecting the different positions of the authors in revealing the essence of this concept. In pedagogical technology, the goals of education are set in the following aspects: a diagnostically set goal, a constructively set goal.

A diagnostic goal is a goal that includes: 1) the presence of precise qualities and competences that need to be formed in future doctors; 2) developed methods for diagnosing these qualities; 3) possible changes in these qualities in the process of formation; 4) criteria for assessing qualities (for example, possession of the basic algorithms necessary for carrying out manipulations with patients). A constructively set goal is a goal taking into account the professional capabilities of the teacher and the capabilities of the students.

Important in the process of training and the formation of future professional competences is the concept of pedagogical technology, which includes the process of teach management, namely the relationship between the goal, means and guaranteed result. The technological chain of pedagogical actions, operations and communications is built strictly in accordance with the target settings, which have the form of a specific expected result. In the pedagogy of higher education, an idea has developed of pedagogical technology as a meaningful generalization, represented by three aspects:

- 1) Scientific (pedagogical technology is a part of pedagogical science that studies and develops the goals, content and methods of teaching and designs pedagogical processes);
- 2) Procedural and descriptive (process algorithm, set of goals, content, methods and means to achieve the planned learning outcomes);
- 3) Procedurally effective (implementation of the technological process, the functioning of all personal, instrumental and methodological pedagogical means).

Elements of pedagogical technology should be reproducible by any teacher, guarantee the achievement of the planned results (state standard) by all students. An organic part of pedagogical technology is diagnostic procedures containing criteria, indicators and tools for measuring performance. Pedagogical technologies are divided into: 1) teaching technologies (didactic technologies) and 2) education technologies.

Learning is a purposeful process of bilateral activity of the teacher and students in the transfer and assimilation of knowledge. The activity of the teacher is called teaching, and the activity of students is called learning. Therefore, learning can also be defined as follows: learning is teaching and learning taken as a unit (Fig. 1).

The main categories of didactics are: teaching, learning, education, knowledge, skills, as well as the purpose, content, organization, types, forms, methods, means, results (products) of education.

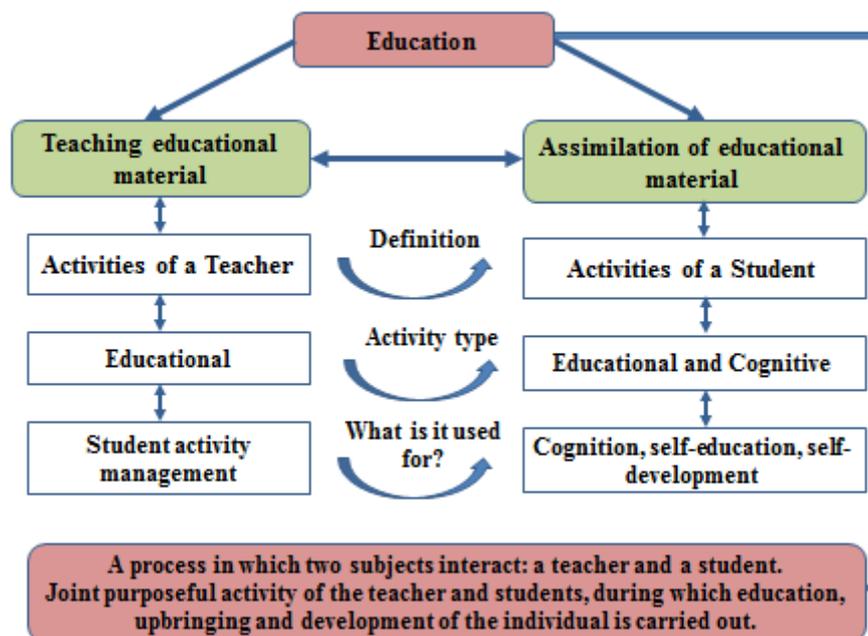


Fig. 1. The Educational Process.

The structure of pedagogical technology includes: 1) the content of education, which includes the objectives of education and the content of educational material; 2) conceptual framework; and 3) the procedural part, known as the technological process, which includes the organization of the educational process, the methods and forms of student learning activities, the methods and forms of the teacher's work, the teacher's activity in managing the process of assimilation of the material, and the diagnostics of the educational process. Pedagogical technology must meet some basic methodological requirements - the criteria of manufacturability, which include conceptuality, consistency, controllability, efficiency, reproducibility. Let's take a closer look at each of these concepts.

a) Conceptuality. Each pedagogical technology should be based on a scientific concept, including a philosophical, psychological, didactic and socio-pedagogical justification for achieving educational goals.

b) Consistency. Each pedagogical technology must have all the features of the system: the logic of the process, the interconnection of all its parts, integrity.

c) Manageability. It implies the possibility of diagnostic goal-setting, planning, designing the learning process, step-by-step diagnostics, varying means and methods in order to adjust the results.

e) Efficiency. The meaning of this concept lies in the fact that modern pedagogical technologies exist in competitive conditions and must be effective in terms of results and optimal in terms of costs; guarantee the achievement of a certain standard of education.

e) Reproducibility. It implies the possibility of using pedagogical technology in other educational institutions of the same type, by other subjects.

Educational technologies include the following:

a) learning technologies: modular learning technology, problem learning technology, contextual learning technology, collaborative learning technology, seminar technology in the form of a dialogue; etc;

b) technologies for updating the potential of the subjects of the educational process; technologies for updating the motivational potential of the educational environment; technologies for the formation of a professional-subjective position; self-presentation technologies; technology of formation of confidence and readiness for independent successful professional activity; technologies for the development of critical thinking, etc.;

c) expert evaluation technologies; technologies for rating educational achievements, etc.

According to the stages of solving the pedagogical problem, there are: general technologies (design technologies, the process of learning its implementation); private (technologies for solving such problems of education and upbringing as pedagogical stimulation of students' activities, control, evaluation of its results); specific (analysis of the educational situation, organization of the beginning of the lesson). Pedagogical technology is interconnected with the pedagogical skill of the teacher, in this case, pedagogical skill can be considered as a perfect possession of pedagogical technology.

The ultimate goal of training and the formation of competences is the process of forming a certain type of activity in the subject of learning. This formulation of the goal immediately determines the meaning of each learning outcome. The main result is the formation of competences, since it is skills that are activities, having mastered which the individual develops himself, gaining new practical and theoretical skills and enriching his psyche with new mental capabilities, since the mastered activity allows him to be convinced of the validity of what he has learned.

Knowledge is of paramount importance for the formation of competences, forming the orienting basis of professional activity, contributes to the expansion of the individual's needs, what becomes necessary for him to live a full life. Without the formation of an indicative basis, it is impossible to purposefully master any activity. At the same time, for conscious activity, a person needs value orientations and an indicative basis for specific activity. Skills are necessary to perform with the required quality the operations that are part of any professional activity. Beliefs provide the value orientations of the individual and, in fact, represent the orienting basis of the personality.

In this aspect, educational departments of higher educational institutions play an important role. The project of organizing the educational environment of the department as an environment for professional and personal development and self-development should be developed taking into account two plans, namely, the development and self-development of both students and teachers. Each component of the departmental environment, included in the psychodidactic, social, spatial and subject organization, should be considered both from the point of view of the student (analysis of students' perception of the educational environment of this department), and from the position of impact on the teacher (analysis of the impact of environmental influences and their significance for professional development) and from the position of influence on the teacher (analysis of the impact of environmental influences and their significance for the professional and personal development of the teacher according to the criterion "educational environment – teacher").

The pedagogical design of the educational environment of the department, which is considered as the result of the activity of the pedagogical subject of the department (team), is built according to the following algorithm:

1. The qualitative characteristics of the intended educational environment are determined.

2. On the basis of a hierarchical set of needs of all subjects and normative documents, concrete-substantive goals and objectives of the future educational process in such an environment are identified.

3. In accordance with the goals and objectives set, the content of the educational process is determined.

4. A project is being developed for the didactic organization of the educational environment of the department, taking into account the integration of motivational and value, information and knowledge, developing professional and personal competence and promoting personal self-development, valueological and humanitarian components – the educational and methodological substructure of the environment.

5. A project for the social organization of the educational environment (scientific and methodological) is being developed.

6. A project is being developed for the spatial and subject organization of the educational environment of the department (material and technical).

7. A project is being developed to combine and establish correspondence between the created projects for organizing the work of the department and the examination of the integral project of the department based on its formal description.

Support for the professional and personal development of students is effective if it is possible to ensure the student's subjective position in relation to the educational environment of the department, and to their professional development, which will include technologies for supporting and accompanying (tutoring) the professional and personal development of students of various typological groups as subjects of self-realization in the educational environment of the department and the university (student circles, student conferences, the possibility of internships, and so on). The work of the department to create an educational environment must include:

1) targeted support for students' sense of belonging to the spiritual and professional community and the traditions of the university;

2) development by the department of methods for presenting its professional and ethical position, its traditional system of values and models of professional activity; 3)

creation of various structures and areas of project activity, allowing students to realize their professional and spiritual needs in the environment of the department;

4) updating the possibilities of immersing students in the “laboratory of teachers” and informal meetings of teachers and students, trusting relationships, including students in the research work of the department;

5) creation of an open and accessible information base for students of the department;

6) development and implementation at the department of various models of independent educational and project activities with the traditions of open defenses of results;

7) cultivating an atmosphere of competitiveness, tutoring, accompanying and supporting students with a high and consistent level of exactingness and competence of teachers.

The technology for the formation of a student's professional-subjective position is the awareness of oneself as a subject learning a profession that is, combining the development of professional knowledge, skills, and competencies with self-development of professional and personal qualities.

The professional-subjective position of a medical student is an integrative property of the individual, manifested in high motivation and systematic mastering of professional experience, self-development of professional and personal qualities through proactive inclusion in creative professionally oriented areas of activity, the desire to delve into the essence of the subject, use interdisciplinary connections to solve complex problems professionally oriented tasks.

The technology of forming the professional-subjective position of a medical student is a sequence of certain tasks-situations through which students must go through, includes motivational, cognitive-activity and medical-professional stages, and the process of forming the professional-subjective position of medical students consists in the consistent implementation these stages. The meaning and content of the teacher's professional activity lies in the organization of a training module for obtaining different types of experience of subjectivity, and the development of the personality of students by means of the subject (Table 1).

Table 1. Technologies for organizing the professional-subject position of the relationship between the teacher and the student on university.

Teacher	Student
1) The activities of the teacher in order to actualize the personal potential and individuality of the student as a condition for his self-development and self-realization.	1) Student activity for the purpose of professional and personal self-determination, self-development, self-affirmation, self-realization.
2) Content. Organization of a training module for obtaining different types of experience of subjectivity, and development of students by means of the subject (a system of increasingly complex practice-oriented tasks, creative tasks, projects, etc.) with a focus on dual goal setting.	2) Content. Independent work: activity, responsibility, initiative with a focus on dual goal-setting, mastery of evaluative-reflexive activity and self-assessment of one's achievements and difficulties. Identification of professionally significant elements in the content of subjects, in educational activities, and activities in the educational environment.
3) Pedagogical support for professional and personal development of a student in the educational environment, prevention of burnout syndrome.	Using the opportunities of the educational environment for professional and personal self-development and entry into the way of professional life.
4) Methods of assessment as known as a combination of quantitative and qualitative parameters and self-assessment of students.	

The professional-subjective position of a medical student should be structured by such components as:

- a) motivational is a set of motives for learning, getting a profession and motivation to form a professional-subject position in oneself, self-assessment of one's position;
- b) cognitive, including the system of knowledge and experience of cognitive activity;
- c) professional and activity is ways of self-development in the process of educational activities;
- d) medical and professional is a system of knowledge about the culture of health, experience in project health-building activities.

The formation of the professional-subject position of a medical student is determined by the criteria, which are based on the main manifestations in the value-oriented, educational, activity-behavioral spheres, in the field of self-regulation. In fact, this position is manifested in how a student studies, what values he or she is guided by, what types of activities he/she engages in, how he builds his communication in an educational and professional environment, and how he manages himself in the process of professional development. The productivity of students' learning can be increased by mastering methods and techniques that activate mental processes in cognitive activity. These are methods and techniques that promote self-organization and self-control of perception, attention, memorization, analysis and synthesis of information and other operations. Increasing the functional capabilities of cognitive processes will indirectly contribute to the development of a positive "I am" among students as the basis for the growth of their motivation for educational achievements and intellectual self-realization in the learning process, with the interaction of the teaching technology of the teacher and students throughout the entire learning process in a higher educational institution.

The practical experience of using this technology in teaching students shows that increasing the effectiveness of the learning process through the development of their competence in organizing their educational activities helps prevent overwork and irritation from learning difficulties, increases self-esteem (low self-esteem can lead to a statement of one's inability to learn and refusal to study in high school). For successful students, the proposed techniques can be the first step towards the development of a creative organization of their learning and personal growth, i.e. even more successful actualization of their potential intellectual and personal capabilities. The ability to be objective can be considered an indicator of universal personal competence in assessing and forming an attitude to information, which is one of the significant indicators of personal maturity. Here the role of the teacher as a teacher is important. The teacher introduces students to the basic laws of the work of memory or the laws of dependence of memory on activity. The material that is the purpose of our activity is remembered most effectively. Less effective is the one that enters into its ways, and not at all effective is the one that forms its background.

The effectiveness of memorizing material as the goal of an action depends on the composition and quality of the methods used in working with it. The more complex, meaningful and diverse ways of working with the material we use, the more accurate and durable is memorization. Superficial and monotonous methods provide a low level of memorization.

As a means of memorization, the most characteristic is repeated reading of the lecture notes or the text of the textbook, i.e. using the passive memory method. More active students use the method of algorithmic information analysis, when information is divided into parts and links between information blocks are explored. This way of working with information allows you to schematize information, and then present visual images that can be used as figurative labels to the information block. The conditions or background for the work of the student's consciousness and memory are the noise in the classroom and outside the window, the physical and emotional state. Therefore, a psychological attitude is needed that allows consciousness to manage these background factors, i.e. sometimes it is necessary to kind of “agree” with your analyzers and attention so that the background information remains as such.

Competence-oriented educational technologies in higher educational institutions of Ukraine are focused on the formation of competences in future specialists. The integration of Ukraine into the international educational space, the practice of international student exchange, the globalization of the economy, the entry of the Ukrainian education system into the Bologna process, actualize the problem of assessing the quality level of acquiring professional competences in the education process. Therefore, a teacher of higher education should be proficient in modern educational technologies that contribute to the development of students' competence in organizing educational activities, which is one of the components of teaching methods in higher education in modern conditions. Following the recommendations of the ESG Standards, it should be accepted that competence-based educational technologies in higher education institutions of Ukraine should be reliable, useful, predetermined, should be applied consistently, and decisions made should be based on clear generally accepted conditions applied consistently and consistently. The ESG provisions are not a standard or prescription for how to implement competency-based learning technology delivery processes in higher education universities. The ESG provisions provide guidance covering aspects that are critical for successful quality assurance and learning environments in higher education, including learning environments and related relationships with research and innovation [7].

Conclusions

The Law of Ukraine «About Higher Education» to a large extent recreated the norms regarding internal systems for ensuring and assessing the quality of competence-oriented educational technologies in higher educational institutions of Ukraine, taking into account the relevant European requirements. Thus, the process of learning and formation of competencies among medical students in higher educational medical institutions occurs gradually: from level to level, a desire for continuous self-education is formed, systemic knowledge about

professional activities is enriched, and a high level of organization of self-educational activity appears. Professional orientation, readiness to use the content of academic disciplines to solve professional problems are considered as criteria for the formation of a professional-subjective position of future healthcare professionals; possession of professional activity (in the medical specialty); the level of knowledge about a healthy lifestyle, about bioethics and deontology, and so on. The highest level of readiness of future doctors for professional activities, after graduation, is the setting of students for continuous self-education, which becomes an element of their consciousness, the effectiveness of which is also ensured by the setting for readiness for self-educational activities and the development of new competencies, as well as the creation of favorable conditions for its implementation which are determined by criteria of self-education.

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