

Innovation Technologies in the Context of Ethnocultural Education of Future Teachers In Kazakhstan

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Abstract: This article discusses the formation of ethno-cultural education and the topicality of education and innovation technologies for the work of professional educator, considering the ethno-cultural characteristics and social needs of the modern Kazakh society. The paper presents educational heritage of the Kazakh scientist, psychologist Jusipbek Aymaulytov, who has made a substantial contribution in the training of teachers. The educational ideas and positions expressed by Jusipbek Aymaulytov are extremely important for training teachers in the context of ethnic and cultural education. The work considers such terms and phrases as competence, information and communications technology, education, pragmatism, discrete type of memory, philosophical type of memory, professional training of future teachers, the concept of self-efficacy of the teacher, technology and many other concepts. We consider the presence of deep-seated contradictions in the world educational space. Besides, the attention is given to the student who seeks to master all the necessary intellectual and professional potential, for which all necessary conditions have been developed in higher professional education. Moreover, we refer to the formation of ethnic and cultural identity of the future teacher as a competent representative of the modern educational process.

Key words: Ethno-cultural education % Competence % Pragmatism % Basic national ideas % Art of thinking % types of memory % Discrete type of memory % Philosophical type of memory % Willful and conscious feelings % Teacher.

INTRODUCTION

Today the concept of "ethno-cultural education" is considered by many authors in educational theory and practice wider than the existing traditional scientific view of the term. Ethnocultural education is a national model of development, education and training, the program for development of native culture and the culture of other nations. The intensity of the ethnic and cultural changes in the world has led to a marked discrepancy between the level of education quality and the general level of socio-economic and cultural development of society. This discrepancy between the results of education and real social needs has strengthened the deep contradictions at all levels of the educational system, which actualizes the revision of conceptual approaches and search for innovative technologies in education. Education has long ago ceased to be a pedagogical category; it is considered as a broad social phenomenon.

The Main Part: Pragmatism and social education is primarily an objective social and spiritual value, the axiology. Back in the XVI-XIX centuries the known teachers I.G. Pestalozzi, I.F. Herbart and A. Diesterweg actively developed social aspects of education and social character of teachers work. The outstanding German teacher Adolf Diesterweg was first, who proposed the term "social pedagogy" and such principles of education as self-actualization, nature-conformity and initiative that remain relevant today. According to A. Diesterweg, "the value of the educational system is in independent work of the teacher. In this regard, a special responsibility falls on the teachers as the media of education and knowledge and their personal responsibility for the educational impact, exerted though the content of education and conveyed to the younger generation, increases" [1].

Education, according to N.I. Gendina is "the sphere of social and cultural life activities, where the spiritually mature, morally free person, capable of carrying the burden of responsibility for the fate of human civilization

and culture, to protect and promote human values and to create a holistic and humane world, is formed" [2]. From the statement it is clear that many of the problems of higher education are bound with the increase of the quality of training of future professionals, who can adapt to different conditions of objective reality.

Being one of the most powerful social institutions, the modern universities should be oriented to the preparation of competent, highly skilled and highly moral teachers, who can successfully use the innovative educational technology and theoretical knowledge in the teaching activities.

"The creation of knowledge by individuals and institutions - including national education systems - originates from both internal and external processes. As individuals become creators of knowledge they are able to share and spread innovation throughout their personal networks. This spread of new ideas shifts innovation from an internal to an external process" [3]. "In this model, knowledge creation at the school level is a dynamic, collaborative process. It links the experiences of learners, as knowledge creators, with the tools they use, the ways they learn and activities in which they apply what they know. ICT-integration throughout education systems has the potential capacity to translate into labor market gains by enabling students' self-directed and flexible acquisition, application and creation of knowledge. The question remains whether or not it actually does. If ICT-based education really does enable knowledge development, then it would do so through a cycle of knowledge transformation" [4].

The value of vocational education, in our view, is defined by its final result, the finished product that is the university graduates - the certificated graduates ready for a successful career, able not only to respond to current needs of society, but also to predict the future.

Therefore, in the modern ethno-cultural environment, where the requirements to future teachers' personalities grow and when the compliance of their professional preparedness with social needs become vital, one of the important conceptual approaches in the field of professional education of future teachers is a competence-based approach.

The analysis of the pedagogical literature has shown that first time the concepts of "competence" and "core competencies" were used in business in the 70 ies of the XXth century. These resulted from the attempts to determin the qualities of a future employee, relevant for the success of his career. These qualities were named competencies.

Competences were initially opposed to the special knowledge and skills directly related to the implementation of a particular profession. Thus, they were opposed to the concept of "qualification" and were regarded as independent and universal components of any professional activity that affect its successful implementation.

The term "competence" is currently the most widely used in educational theory. There is a tendency to differentiate the terms "competence (expertise)" and "competence (field of knowledge)". The dictionary meaning of the term shows that "competence (1)" means characteristic of a person with expertise, knowing knowledgeable, competent, etc. The term "competence (2)" describes what a person has: abilities, skills, the (jurisdiction) terms of reference, the set of problems.

Analyzing a variety of approaches to the related concepts, A.V. Khutorskoy gives the following definition. "The expertise (competence) is understood as somewhat alienated, predetermined requirement for the education of a person and the competence is the already established personal quality (a characteristic). Thus, competence is a manifestation of personal expertise. Competence may include a variety of expertise, which is manifested in different activities" [5]. The essence of the competence approach in education is associated with addressing the outcomes of education, which is reflected in the educational standards and qualification characteristics of the future specialist. The studied concepts here are defined as follows.

Competence (expertise) is the preparedness of the individual to successful activities, the ability to effectively mobilize internal and external resources to achieve the goal;

Competence is the result of education, expressed in students' mastering of the universal *modus operandi*.

The main idea of the competence approach in higher education is to teach students to apply theoretical knowledge in practical professional activities, since the "knowing" person does not always mean a person "who can". Examples to prove this are the difficulties experienced by students during the teaching practice and the difficulties of young beginning teachers in their early career.

What makes us wonder is that the difficulties may be experienced even by the best students, who systematically demonstrate high results in theoretical courses. This shows the insufficient level of competence of future teachers. Memorizing theoretical knowledge and reproducing this knowledge, when asked by a teacher,

does not prove the real knowledge yet. The real knowledge can find application in practice and contribute to successful results.

In teaching science "the professional competence of the teacher" is defined by the unity of theoretical and practical preparedness of specialists for professional and educational activities, as well as by their ability to find a way out of the complex and contradictory situations and readiness for assessing the performance results. That is, in the considered approach the topical is the actual outcome of vocational education.

Competence of future teachers is an ability of a specialist to independently make decisions in accordance with the objectives and requirements of the work, the ability to find a way out of the complex and contradictory situations, willingness to assess the performance and the ability to achieve successful results.

When using a competence-based approach in education, a lot of attention is paid to the results stability and evaluation criteria. While for traditional teaching the important was the percentages, for the training, based on the competency approach, the real achievements of students, the level of their ability, the development of specialist personality, capacity and their professional socialization are vital.

In teaching science the question of competence evaluation is still underdeveloped. D.A. Ivanov emphasizes that "the main criteria for assessing competencies is to obtain a certain result, estimated either in actual situations of its achievement, or in learning situations that simulate the real ones, or on the results of the relevant learning activities" [6]. For a more objective evaluation of competences the author determines the following conditions:

- C Determine the main criteria, by which one can understand that the student has mastered the skill at a certain level;
- C Distinguish several levels of complexity in mastering this competence;
- C Determine the number of assessment degrees;
- C Determine the number of points, used for assessing each degree;
- C Realize a procedure of summarizing the results of learning (essay, project, demonstration of actions in real practical situations);
- C Determine the degree of competence mastery through peer review by at least two experts (one of them may be the teacher himself).

Suggest that keeping to such conditions it will be possible to avoid formalism in the evaluation of specialist's achievements. Under these requirements, it will be possible to wean students from rote memorization of texts and teach them the philosophical understanding and ability to operate scientific concepts and to use them in practical situations.

The real situation in schools in evaluation of knowledge, skills and competencies requires a thorough scientific development. It is necessary to pay special attention to the formation of rating, monitoring, communication, social, information and technological abilities of future teachers based on the development of their independence and the desire of self-improvement and tracking the trajectory of the final results.

On the issues of self-development and the trajectory of students knowledge, the interesting are the ideas of humanistic educators and psychologists (R. Fuhr, M. Gremmler-Fuhr, A. Flinter), who emphasize that "for future teachers training the particularly important are their mentality, their inner world, their feelings and their self-knowledge" [7].

The ideas of scientists, the emphasis on self-actualization and self-realization of students as future teachers allowed identifying the main ways of implementing the educational approach in teaching activities:

- C Creation of a holistic socio-cultural space in high school, where each student will be involved and included in the active process of self-realization, self-determination and self-knowledge;
- C Humanistic approach in all students' activities - training, educational, research and professional practice;
- C Introduction of interactive learning technology and educational innovation aimed at developing students' self-reliance and creativity;
- C Development of innate intellectual potential of future teachers and value orientations, introduction to the domestic and international educational space through cooperation with civil society organizations, through the operation of the club and group work with the same interests;
- C rganization of pedagogical practices for professional integration and professional socialization of future teachers;
- C Creation of special courses in active self-development and self-knowledge of future teachers, in development of internal intellectual potential and tracing their personal professional growth.

The main function of the teacher is to help his pupil in his life, in personal and professional self-determination and in the gradual formation of a pupil inner readiness to consciously and independently determine professional prospects of his development. "The teacher organizes and manages collaboration, provides support to free development and education of his students, creates and implements a programming model of interaction. On how he does it, the success and achievements of students, their desire to learn, to discover new, to bring the case to the end and to be responsible for their choices largely depend. All this requires responsibility, competence and continuing professional development from the teacher" [8].

In this context, the demand for general, vocational and didactic culture of future teachers increases. "In addition to educational, training and developing functions, the teacher must fulfill a number of other interrelated functions: propaedeutic, rehabilitation, orientation, compensatory and socialization function" [9].

Moreover, the teachers must have self-efficacy. The concept of self-efficacy was first introduced by Bandura in his widely cited article *Self-efficacy: Toward a Unifying Theory of Behavioural Change*. *According to him, self-efficacy is a judgement of capability to execute a given type of performance. Self-efficacy is grounded on the social cognitive theory claiming that people are able to exercise some control over their self-development and life circumstances, even though many things depend at least partly on chance. Seen from this perspective, people are self-organizing, proactive, self-regulating and self-reflecting. Self-efficacy is constructed from four main sources: mastery experiences, seeing people similar to oneself manage task demands successfully, social persuasion and somatic and emotional states. From these four sources, mastery experiences are seen as the most powerful+ [10; 11]. Guskey and Passaro have defined teacher efficacy as "teachers' belief or conviction that they can influence how well students learn, even those who may be considered difficult or unmotivated". The importance of teacher efficacy emerges from its cyclical nature: Higher levels of efficacy beliefs lead to greater efforts by teachers, which in turn leads to better performances, which again provides information for forming higher efficacy beliefs+ [12]. *Efficacy beliefs, especially those of experienced teachers, seem to remain quite stable when the teachers are exposed to new training. Yet, even experienced teachers with firm efficacy beliefs may have to re-evaluate their beliefs when facing new challenges,

such as teaching in a new type of setting. In addition, one must remember that teacher efficacy is context-specific. Teachers may feel efficacious for teaching certain subjects to certain students in certain settings while perceiving themselves as less efficacious under different circumstances+ [13].

The process of "Educating the competitive personality" in modern society requires a search for innovative technologies in education. In these circumstances, the substance search only in the writings of modern scholars is insufficient. As you know, the development of innovative technologies requires a profound knowledge of the history of pedagogical exercises and is based on the ideas of well-known representatives of the people and their era. One of the founders in the search for the most optimal technology in education in Kazakhstan is a teacher and a psychologist Jusipbek Aymaulytov. Jusipbek Aymaulytov is the author of the textbook "Psychology" and the writer of the famous novels "Akbiyek" and "Kartkozha."

The concept of "technology", first of all, means "the doctrine about the art of achieving the goal." This art, in our opinion, is connected with the art of thinking. J. Aymaulytov examines the notion of "the art of thinking" as a necessary component of the cognitive activity of students. J. Aymaulytov highlights some solutions to the problem of intellectual potential development, which are, in our opinion, extremely important for teaching. He introduced the concept of "oh sandy?y" that is translated as "a box of thoughts", "a store of thought" or a "treasury of thoughts". Literally it can be translated as "a box of thoughts". Kazakh people from old time considered a "box" as a store of treasures. In this respect the "chest of thoughts" in relation to a person is a measure of the wealth of his thoughts and wisdom. In the context of teaching terminology, this term has a value of "a store of thought or a treasury of thoughts". J. Aymaulytov put in this concept a set of basic ideas needed for analytic activity of the student.

The essence of the "store of thoughts" is considered by the author on the basis of the concepts of "discrete memory" and "philosophical memory." So, if a student, using his "discrete memory", eloquently tells by heart the poem "Winter" of the known Kazakh poet Abai Kunanbaev, he expresses his subjective emotional evaluation. Depending on how emotionally the student discloses the idea of the poem in sketches (nature, people, society), the teacher concludes about the richness of his thought and peculiarity of his previous development and education.

Demonstrating personal abilities while describing the essence of phenomena, the student develops his art of thinking, because it is based on certain terms; this contributes to the development of his ability for independent analysis. Such an act from the position of knowledge technification is equal to reflection on internal intellectual potential of the student in his self-education.

The substance of mental activity, manifested through a particular subject or content in the soul of every student or a pupil in the training process, is divided by J. Aymaulytov into the following pair of concepts: the conscious feeling and the blind feeling. He wrote about this already in the 20-ies of XX century. In Russian it is understood as follows: if a blind sense exceeds the conscious feeling, the human traits of the personality will decline to the animal level.

When the inclinations of a "blind feeling" are manifested in the student's behavior, it is important to define its characteristics, causes and work to overcome them. The teacher takes into account the characteristics of the student in the training process, selecting the most appropriate approach. J. Aymaulytov pointed out: "Whatever the path we have chosen for training, its usefulness depends on natural ability and resourcefulness of the teacher. During the training using the new methods it will be wrong to choose the competition as a way of education. This idea was expressed 150 years ago by Rousseau. The emergence of competition between two students generates passion and excitement. Rousseau continued his thought: "It is better to teach nothing rather than to teach students envy and boasting. I would rather give the student the opportunity to compete with himself and let him write down, what he did for a year" [14].

The above should be considered in a new interpretation of important problems of modern innovative technologies of education. Today they demand the upbringing of "competitive personalities", creative in the art of critical thinking. If so, then preference is given to the students, who have the ability and inclination to development and creation.

J. Aymaulytov refers to another opinion on the use of the method of competition in education, citing the statement of James: "If I know the psychology, I have to say that the competition has deep content and great value. So, I doubt the rejection of this method" [14]. This is how J. Aymaulytov emphasizes the importance of

finding a way out of opposing views, which now serves as an indicator in the modernization of education. "Indicator (from Lat. Indicator - pointer) is understood as an object that displays a change in a parameter of the controlled process or condition in the form that is the most convenient for direct perception, namely visually, acoustically, by tactile sensing or other easily interpretable way" [15]. This demonstrates the importance of finding the necessary indicators to estimate the prospects of the method in educational technology at orientation to the specific purpose of training.

J. Aymaulytov also distinguishes the conscious feelings, determining a person's behavior. In particular, he emphasizes, that the behavior means the division of complex functions and finding the most beautiful component; it is what we call a sense of conscious. The first types of conscious feelings were explained by him as follows. Energy is a track of effects on humans. If you reproduce something in your memory, the idea will appear. The reproduced energy is what we call memory. All of this is controlled by brain function. Ability of the brain is different in different people. Some have rapidly excitable vision, others - hearing, the third ones - speaking and the fourth - motor reactions.

CONCLUSION

J. Aymaulytov divides memory into two types: the haphazard memory (discrete) and the memory, consisting of logical statements (philosophical). J. Aymaulytov said: "If in one person there is both a strong memory and the capacity for imagination, then we are to assume that the person's writing ability has reached a high degree and he has learned a lot. Among such people are Walter Scott, Leibniz, Goethe. To recreate the real great power, we have to have such memory" [14]. In this regard, J. Aymaulytov highlighted certain postulates for the development of philosophical and discrete memory.

For the Development of Discrete Memory:

- C One of the productive ways of remembering is a productive system, in other words, collecting into the system of "knowledge";
- C Locating in the right place in the system of collected "knowledge";
- C Finding the causes explaining storage in memory and others.

For the Development of Philosophical Memory:

- C All actions are resolved by reason;
- C They are explained and related to each other in the form of cause-and-effect; the struggle for quality conditions of learning;
- C If someone lacks original thinking, he can replenish it by strengthening the philosophical thinking;
- C Insurance against the same type of learning;
- C Figurative transmission of exact information;
- C The ability to draw conclusions;
- C Obligatory achievement of the goal;
- C If you aspire to wealth, then become rich and if you want to become a scientist, become the one, but strive only for this goal not the other one.

Findings: Thus, for Kazakhstan pedagogy J. Aymaulytov left invaluable spiritual heritage, which can be adapted according to the national model of education. His educational ideas and expressed positions are extremely important in training teachers in the context of ethnic and cultural education. They include:

- C Technological processes of students training considering their national and individual characteristics;
- C Forecasting and planning learning outcomes, based on the latest achievements of science;
- C Monitoring of personal growth on certain achievements and applied means;
- C The choice of teaching methods and indicators;
- C The effectiveness of the feedback mechanism and its account in the process of improving training individualization.

Designing a particular result in training a teacher predicts an unknown (stochastic value) of the inner world of each student. Here the more preferable is intelligence and freedom - the heart of education. The success of teaching is the ability to analyze the experience and to discover and put into practice the best and effective educational attainments.

Self-development also requires the continuous improvement of internal intellectual potential of future teachers themselves, because the exchange of experience among researchers, collective discussion of actual problems of improving the quality of teaching and introduction of innovative technologies to teachers

directly affect the quality of future teachers' competence. If a student seeks to master all the necessary intellectual and professional potential and for that the necessary conditions are established in higher professional education, we can talk about the formation of ethnic and cultural identity of the future teacher as a competent representative of the modern educational process.

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