Development of Training Skills in Students as the Precondition for Educational Competencies

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ABSTRACT

Assimilation of educational content aimed at gaining competence requires changes in the educational process. Education should improve personal qualities of students while teaching new material. In the developed countries, teaching and learning process aims at the development of practical skills. In the developing states, such as Kazakhstan, educational modernization continues and implies student-centered learning. This article deals with the development of educational competencies through active approach to the content of modern Kazakhstani education, research opinions on student training skills and interconnection between personal skills and competence of students. Assimilation of educational content by the students presents a complex process. Because of this process, students expand their knowledge, develop their abilities and skills and thus competence is formed through the development of relevant knowledge and skills.

Introduction

Currently the Kazakh education, improving personal qualities of students is aimed at the development of their abilities to use this knowledge in life. Therefore, the content of education in terms of activity is defined as one of the main educational methods (Dzhadrina, 2004; Beysenbaeva, 1996; Zverev & Maximova, 1981). That is why active education is closely linked to the student-centered education, aiming at the development of social opportunities identified by students (interest, abilities, and other personal characteristics).

Student-centered learning differs from the educational-bringing-up process, based on the knowledge paradigm. Student-centered learning is an ordered set of activities, operations and activities directed at the development of the individual, which provides means required to achieve results in pedagogical situations (Mukhabetzhanova & Mukanbetova, 2006; Zalutskaya et al., 2016). Activity is the precondition, which defines

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personal development; therefore, this property stems from the need aimed at the transformation of cognition interest and the surrounding reality. Knowledge gained through assimilation determined by the improved interest to personal characteristics, matter in the future work, in life or in gaining new knowledge.

Systematic solution of human activity problems can be helpful in the effective examination of current theoretical issues (Dobson & Tomlinson, 2013; Chuang & Ming-bao, 2015). Only through activity, one can distinguish the development of human physical and spiritual possibilities as regards social or teamwork.

The need to understand the fact that knowledge gained by students will become applied, demonstrates the essence of activity orientation; activity is divided into several periods. Namely, these include self-control, practical implementation, application of the acquired knowledge, abilities and skills in the new conditions, the ability to present one's own results independently. Therefore, activity results in the ability to plan personal formed work, to organize the workplace, the ability to use dictionaries, the ability to keep the control diary and other educational activities of students (Arenova, 2001; Dianbo et al., 2013; Bonato et al., 2014).

Student training activities are considered as part of the educational content. However, there is no precise definition of academic ability, which is the category of learning activities. Thus, it is difficult to say which actions, activities, methods or properties form the basis of academic ability (Stepashkina, 2005; Zverev & Maximova, 1981; Pustovoitov, 2014). In order to understand this, one needs to disclose the concept of "skill" and despite the fact that its meaning is not difficult to understand, there are many different views in terms of summarizing its definitions. This is determined by the fact that research literature views this concept as a psychological and pedagogical category.

Firstly, skill is regarded as a category of activity. This makes it possible to disclose meaningful and activity-related aspects of skills development; however, this does not include personality changes in primary school pupils (Maximova, 1988; Svetlovskaya, 1990). In this situation, specific skills considered as the use of knowledge by pupils/students as the quality and method of training activities, are defined in terms of activity. Secondly, student ability to perform purposeful activities is explained with regard of the personal viewpoint of view, in terms of individual qualities. Thirdly, considering skills in terms of personal activities, they are formed within specific activities determined by objective features; however, at the same time they also present the knowledge-focused ability to consciously achieve personal goals, and a specific feature of personality development. In this respect, skills are considered both as a result of certain activities, and as their quality (Stepashkina, 2005).

Aim of the Study

The purpose of this study is to show that assimilation of integrated learning content by the students through the activity approach leads to the development of educational competencies.

The research question

What is the academic competency?

Method

Research methodology was based on the ideas of the dialectic-materialistic philosophy related to the theory of knowledge, leading role of activities in the individual development and to the dialectical unity of theory and practice.

Complementary research methods were used to achieve this goal, in particular:

- Theoretical methods: analysis and study of specific philosophical, psychological, educational, scientific and methodological literature on research issues; analysis of educational materials, abstract and logical general theoretical methods, as well as analysis and synthesis.
- General logical methods, which implied study and generalization of pedagogical experience related to the considered problem, conceptualization of educational practice.

Data, Analysis, and Results

Teaching skills are formed not only through everyday usual work, but also through exercises that enable their use in the changed situation. Skills show student readiness to perform practical-theoretical activities based on life experience and gained knowledge (Yuanxiang, 2014).

According to some researchers, learning activity of students is carried out through the following chain: knowledge → ability → skill.

K.N. Kornilov (2003) explains the ability phenomenon as an incomplete skill. L.M. Fridman (2003) believes that skill is the primary concept and ability is required to form it. According to K.K. Platonov(2003), ability is based on the previously obtained knowledge and skills; skill is considered as the quality that implies automatic unconscious performance of separate actions by an individual, specifically oriented activities; ability is considered as the quality generated by means of generalization of knowledge and skills (Nasharipova, 2003).

Formation of skills requires personal interest; only on this basis, students can develop themselves as personalities. From this perspective, one can conclude that activities are implemented in the form of a following chain: knowledge → skill → ability, as represented in Figure 1. A.A. Liublinskiy, E.A. Milerian, G.I. Shchukina believe that abilities and skills differ by their origin since they are formed in different ways (Lebedeva, 2002).

Figure 1. Forming of knowledge

According to L.A. Lebedeva (2002), one can distinguish simple and higher abilities; their formation occurs as a cycle. Abilities in terms of activity, revealed during learning activities, are implemented through actions. Actions are generated through interconnected operations. Abilities can be developed in two ways, as it is shown on Figure 2. The initial ability consists of simple operations; higher abilities imply a mixture of ordinary abilities with gradually increasing complexity.

Figure 2. Scheme of ability

In short, the authors of this paper believe that ability presents the result of conscious action; therefore, it is based on the ideas of personality-oriented, activity-centered learning based on the theory dealing with gradual formation of the thinking process. Academic ability is based on the knowledge gained; its development is the basis for the formation of student competencies: knowledge → ability→ competence.

Earlier training activities was formed in the primary school students in the form of the chain knowledge → ability → skill, however presently this chain is transformed into knowledge → ability → competence. Thus, the ability automation was required before, however in the future one needs to develop and to improve skills, to be ready to use them in real life (Medeshova, 2015).

Competent (from Latin) means a person able to plan and to carry out his/her job duties, a person who is knowledgeable and experienced. Competence is a set of knowledge, skills and activities of the individual. A student can be regarded competent if he/she is "armed" with knowledge and skills, able to articulate his/her thoughts and can act independently.

Competence can be understood as requirements for training students in a specific field and expertise can be regarded as the developed personal qualities and generalization of experience related to this kind of activity (Sharma, Bisht & Chopra, 2013).

Academic competence presents a significant program related to actual real objects, which requires subsequent implementation; this program has both personal and social significance in terms of productive activities and considers total results of knowledge, abilities, skills and activities. These varieties can be categorized in comparison with the types of human abilities: significantly valuable - the ability to set a goal, to make a decision; general cultural – the ability to learn the ways of effective organization of leisure; educational and cognitive - the ability to master the heuristic method for solving problems; informational - the ability to search, analyze, convert, save and store the required information; communication abilities – self-presentation ability, the ability to ask questions, to write a letter or a statement; social and labor abilities - the ability to analyze changes, to know communication ethics; personal improvement - the ability to master the ways of independent physical and spiritual development and thinking (Kunter et al., 2013).

Competence and expertise related to different aspects of education, depending on the methods of influence on the student personality, knowledge and skills, educational content and structure can be divided into the following types:

1) Competence and expertise related to the student personality:
   - Describes and develops personal opinion of students regarding the object being studied;
   - Characterizes the activity-related skills, the extent of student ability and willingness related to practical activities during the training process;
   - Improves purposeful activity experience;
   - Develops the ability to solve household problems in their daily lives;
   - Covers all the main groups of the developing student qualities;
   - Shows the integrated characteristics of student training quality.

The totality of these characteristics determines student literacy.

2) Competence and expertise related to knowledge, abilities and skills:
   - Knowledge and abilities that are closely related to skills;
   - Covers a single well-known link associated with the knowledge, abilities and skills related to the actual object.

- Related to the ability to use the set of interdisciplinary connections in due course as well as abilities, skills and work methods;
- Provides knowledge of comprehensive training order, having personality-oriented features.

3) Competence and expertise related to the content and structure of education:
- Creates conditions for defining purpose, learning content and educational technologies in the form of a system;
- Meta-subject feature, which reveals itself in each individual subject and areas of academic expertise, in a separate element or in the entire phenomenon;
- Multifunctional feature, which enables students to solve problems in different areas of life;
- Knowledge is created through its content.

4) Competence and expertise related to types of activity:
- Provides the possibility to use theoretical knowledge in solving specific problems;
- Helps to check student progress in the teaching and learning process;
- Implementation of integrated activities is verified in the process itself.

Discussion and Conclusion

In the European countries, for example, in France the concept of "expertise" and "ability" are synonymous (Koyanbayev & Koyanbayev, 2000). In the developed countries, teaching and learning process is focused on giving practical knowledge and disclosing personal potential of the pupil.

Cognitive expertise in the learning process is divided into the following subsystems (Pustovoitov, 2014):
- Development of personal characteristics and mental qualities
- Formation of communicative experience

According to the Kazakh scientist M.Zh. Dzhadrina (2004), expertise is limited by the student self-development, self-control, the ability to use knowledge and skills in private. The difference between knowledge, skills and expertise with regard to the content of general secondary education:

1) is defined by a specific subject;

2) is a source of knowledge referring to any branches of knowledge;

3) didactically adapted scientific knowledge is logically outlined in the training material (concepts, theory, laws, facts);

4) subject knowledge form abilities referring only to a single subject (Dzhadrina, 2004).

Competent institutions provide student social medium; implementation of knowledge and experience in the right situation is considered as ability. Hence, there is a need to focus on the individual abilities. The best way to develop abilities is their application to the content of different subjects. For example, the ability to provide synthesis could be developed by bringing students (in various subjects) to a situation that will require application of different creative activities. Being confined to the fact that students are just repeating what the teacher explained, in an actor-like way, one could be confident in the absence of further development of student abilities to perform creative activities.

According to modern requirements, formation of student expertise requires integrated training (Beysenbaeva, 1996; Zverev & Maximova, 1981; Mulder, 2014). Formation of scientific worldview in students is defined as the "integration of natural-science and humanitarian knowledge of nature" (Mukhabetzhanova & Mukanbetova, 2006).

Implications and Recommendations

Integration helps students to apply the knowledge obtained in different subjects in an appropriate way. For example, it would be reasonable to study the nature module content referring to the natural sciences during the native language lessons, mathematics, drawing, and manual training (Table 1).

Table 1. Integrated content of the nature module

Native language	Mathematics	Natural science	Art	Manual training
Works describing natural objects and phenomena, beautiful paintings, plants and animals, the need to protect them. Riddles, proverbs, tales, legends, songs, etc.	Understanding arithmetic operations, value, weight, area, speed, time. Geometric figures, measurement of geometric variables	Nature observation, change in its colors depending on the season. Monitoring animals and birds. Labor seasons in plant and livestock farms. Excursions.	Natural colors and patterns	Manufacturing compositions using natural materials. Description of natural phenomena and their manufacture using various materials (paper, clay, wool).

The result of the teaching and learning process, aimed at the development of student expertise, implies continuous development of permanent training skills in students in terms of assimilation of knowledge gained through integration. This process is based on two components: the personality component, which refers to the value-motivational and reflective-evaluation levels and the activity component related to cognitive and operational aspects.

Disclosure statement

No potential conflict of interest was reported by the authors.

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