World Applied Sciences Journal 25 (5): 699-703, 2013
ISSN 1818-4952

DOI: 10.5829/idosi.wasj.2013.25.05.13330

The Student-Centered and Practice-Oriented Approaches in the System of Preparing Ecologists

[1]Akmaral Shokankyzy Shokanova [2]Bauyrzhan Temirbolatovich Yedilbayev and [3]Karlygash Shokankyzy Ospanalieva

[1]Kazakh National Pedagogical University Abai, Almaty,Kazakhstan
[2]Rudny Industrial Institute, Rudny, Kazakhstan
[3]LLP "KazSRI of Plant Protection and Quarantine", Almaty,Kazakhstan

Submitted: Aug 27, 2013; **Accepted:** Oct 3, 2013; **Published:** Oct 9, 2013

Abstract: The article examines the link between the student-centered and practice-oriented approaches in preparing ecologists, which imply orientation towards students' personality traits, perceiving the student as a subject of learning, facilitate one's acquiring the necessary aptitudes, skills and important professional competencies to be able to successfully adapt to the professional environment on the labor market. Today there is demand for specialists who won't need additional training when on the job. For college curricula to become practice-oriented, employers need to be urged to develop qualification requirements for specialties and graduates.

Key words: Student-centered approach · Practice-oriented approach · Personality-oriented approach · professional competencies

INTRODUCTION

Socio-economic and production-technical changes taking place around the world, as well as the inclusion of Kazakhstan in the Bologna Process, put forward new requirements for preparing specialists. Taking these trends into account, Kazakh colleges will re-orient their curricula, in consonance with the precepts of the Bologna Process and as part of forming a European educational space.

Universities have, for centuries, been major agents of social change, yet themselves remaining traditional [1]. This is evidenced by modern curricula based on the customary reductionist reliance on specialism and testing by repetition [2], with a primary focus on the conquest of nature and the industrialization of the planet, producing unbalanced, over-specialized and mono-disciplinary graduates [3-7].

The transition to post-industrial society and innovative development, the considerable expansion of the scale of international interaction, the emergence and build-up of global ecological problems, which can be resolved only through international cooperation, the dynamic development of the economy, the development of entrepreneurship, the influence of demand and supply on the preparation of human resources, the need for independent decision-making in the rapidly changing, dynamic production-technological and regular conditions of life, the need for analysis of one's capabilities, aptitudes and results of one's professional activity, the emergence of problems of ecological nature across many aspects of life and activity, such as ecologically friendly ways of life, relations between people, ways of socializing, etc.,- all of these can be called the premises of those global changes in the sphere of preparing specialists that really dictate new requirements in the sphere of higher education [8, p.145].

MATERIALS AND METHODS

This work has employed methods of systemic-structural analysis, comparison and summarization of the global experience, statistical methods.

Corresponding Author: Shokanova, Kazakh National Pedagogical University Abay, 050010, 13 Dostyk Ave, Almaty, Kazakhstan

Main Part: When it comes to the priority areas in the development of higher education, the primary precepts of the Bologna Process are aimed at such components as equal access to education, studying throughout life, employability, openness at the international level, mobility, while the educational process itself must become student-centered [9].

Student-centeredness implies orientation towards students' personality traits, perceiving the student as a subject of learning, forming in him/her the important competencies, skills and proficiencies, which will facilitate his/her successful integration in the professional environment on the labor market.

Based on the above priorities, the following general requirements for the preparation of human resources are formed: one's flexibility of thinking, social mobility, sociability, tolerance, global, systemic and projective information-technological worldview, professional competence, drive to constantly improve on one's professional qualifications, competitiveness, aptitude for entrepreneurship, individual style of professional activity, professional independence, responsibility, creativity, self-consciousness, adequate self-concept [8, p.146]. These are the traits especially topical for future ecologists.

The student-centered approach to learning is already a part of the credit system, which hasn't yet fully adapted to our realities. Primarily, the credit system of learning implies that the student itself chooses the trajectory of its learning both in terms of the duration and content of learning. Whereas we still have our students tethered to the student group.

The credit system of learning implies a large volume of independent work by the student, when he/she is given a syllabus with detailed methodical recommendations for each assignment and a list of recommended literature and starts working on his/her own. In practice, we patronize students so much starting from the first year that by the third-fourth year they are no longer capable of doing things independently, they still need consulting and work on certain issues assigned to them for independent study at practical classes, etc. Therefore, it's so important to focus on the requirement of cultivating independent learning skills in student ecologists. It's about independence in terms of decision-making, finding the right information, arranging the trajectory of one's self-development, which it is important to shape at the very beginning of the learning process, to enable the future specialist to properly employ this trait in his/her professional endeavors.

In the credit system of learning, focus shifts from the teaching process to the learning process. The primary goal is to teach students to learn independently and have teachers just properly manage students' independent activity. Psychology studies reveal that the degree of assimilating the study material is not more than 20-30% when attending lectures, up to 50% when doing independent work with literature, up to 70% when discussing and enunciating things and up to 90% when taking personal part in the activity being the subject of study (e.g., business games).

The system itself has seen changes in the content, methods, character of interaction between teachers and students, ratio of in-class and out-of-class activity, ways of assimilating knowledge, methods for the arrangement of independent work [10].

The student-centered approach is closely related to the personality-oriented and practice-oriented approaches in preparing bachelors. We'll examine this aspect in more detail.

The democratization of society and humanization of the social conscience and social relations imply reinforcing Man as the most precious treasure and the major focus of social development.

These trends have been reflected in pedagogy in the precepts of the personality-oriented approach to education, which imply a shift in the paradigm of pedagogical thinking towards "subject-subject relations". In present-day conditions, the personality-oriented approach is predicated on the principles of humanism which recognizes the value of a person as a personality, his/her right to freedom, development and display of those faculties. It forms the basis of contemporary notions of personality-oriented learning, which as a system implies specific goals (activization and development of an individual's personality functions); the content (the educational standard organically combines with the personality experience of the learner); personality strategies (individual cognition methods and techniques); technology ensuring demand for an individual's personality functions and personality level of self-regulation. Engraining the personality-oriented approach into the higher learning process conforms to the priority objectives reflected in normative documents and, specifically, in the Law on Education of the Republic of Kazakhstan [11].

The State Program for the development of education in the RK delineates the primary objectives of professional education: preparation of a qualified employee, who is competitive on the labor market, technically proficient in his/her area at world-class level, ready for continuous professional growth [12]. Attaining these goals is impossible without elevating the role of student independent work over the learning material, augmenting the teacher's responsibility for cultivating these skills and stimulating the student's orientedness towards his/her continuous self-development.

The personality-oriented approach in the bachelor preparation system, which concerns the preparation of student ecologists as well, is in special demand in conditions of the shifting of the higher learning system of the Republic of Kazakhstan to the credit system of learning, which has facilitated the shift to considering students not as objects of learning but as subjects of learning activity, who are building their individual educational trajectory. This educational trajectory is built inclusive of the student's personality aptitudes, needs and interests. In the credit system of education, there are stricter requirements for the arrangement of independent work in colleges, which are related to the portioning, planning, organizing and controlling of independent work. The streamlining of the content, forms and methods of organizing student independent work is also dictated by global trends in the area of education. These are the awareness of the need for continuous education throughout life; the need for the independent assimilation of new information, ever increasing in volume and updated in content; the humanization of education, creation of systems wherein we recognize the self-value and uniqueness of the student's personality which is open to perceiving new experience, aspires for self-actualization and is capable of make a conscious and responsible choice. However, despite the humanization and humanitarization of higher learning school, the cultivation of personality and creativity traits is given insufficient attention. Unfortunately, the preparation of future ecologists in college is prevailed by the traditional type of education which is oriented towards knowledge [11, 7].

It's commonly known that the Soviet fundamental education was being created based on the knowledge paradigm and was considered in its time as among the best in the world. The educational process in the system of general and professional education was built on a deductive basis, in consonance with the "knowledge – aptitudes - skills" didactical triad. And the major focus was on the assimilation of knowledge. It was thought that itself the process of assimilating knowledge had mind-expanding potential and that it's in the process of learning that all necessary aptitudes and skills must be formed. However, many years' practice has revealed that this approach has substantial drawbacks. The knowledge paradigm has always separated knowledge from the ability to use it.

A comparative study of graduates from higher learning institutions of some post-Soviet countries (Russia, Belarus, Ukraine) and developed countries of the West (the US, France, Canada, Israel) conducted by the World Bank in 2004, revealed that the students from the post-Soviet countries had very high results (9-10 points) across the "knowledge" and "understanding" criteria and very low scores across the "application of knowledge in practice", "analysis", "synthesis", "assessment" criteria (1-2 points). The students from the developed Western countries had diametrically opposite results, i.e. they exhibited a high level of development for the skills of analysis, synthesis, a high level of the ability to make decisions while demonstrating a relatively low level for the "knowledge" parameter [13].

For many years, we practiced a set-up wherein, as we believed, it would suffice it to give young people some knowledge and, thanks to the knowledge acquired at university they would succeed in running a business or working for the state. As a result of employing this approach, we found ourselves in a situation where there were huge numbers of specialists with higher fundamental education but the real economy was in need of qualified practice-oriented human resources. Nowadays, employers are in need of competent, meaning those capable of running a real business, lawyers, economists, ecologists, managers-without them the commercialization of high technology is virtually impossible.

In these conditions, topical becomes the practice-oriented approach to preparing specialists. There are several approaches to practice-oriented education in the higher education system. Some authors relate practice-oriented education to the organization of the student's academic, production and pre-diploma practice, with a view to having him/her immerse in the professional environment, juxtapose his/her notion of the occupation with requirements put forward by a real business and

come to conceive his/her own role in social work. Other authors believe that it's most effective to implement profession-oriented technology of learning which facilitates the formation in students of personality traits crucial to future professional activity, as well as knowledge, aptitudes and skills which ensure that one fulfills one's professional duties in the chosen area beyond cavil. The third group of authors relates the formation of practice-oriented education to the use of the contextual (professionally oriented) learning of specialized and non-specialized disciplines.

We concur with professor F.G. Yalalov in that practice-oriented education should be grounded in a sensible combination of fundamental education and professional-applied training. Compared with traditional education, which is oriented towards the assimilation of knowledge, the student-centered approach should rely on practice-oriented education aimed at acquiring not just knowledge but aptitudes, skills and practical experience. Today it's important to have the bachelor acquire the significant competences to be able to adapt to the professional environment. The mastering of such competences is impossible without the acquiring of some experience, i.e. competences and activity are inseparably related to each other. Competences are formed in the process of activity and for the sake of future professional activity. In these conditions, the educational process gains a new meaning - it turns into a process of learning and mastering, i.e. a process of acquiring knowledge, aptitudes, skills and experience, which helps the student succeed in gaining professionally and socially significant competences [14]. Consequently, when it comes to preparing ecologists, it's important not to reduce the time of duration of academic and production practice and, on the contrary, try to increase those hours and aspire for setting up a steady and regularly updated base for the practice of student ecologists, where students could not just formally but really learn the areas of activity of future ecologists, examine the republic's live ecological issues and come up with solutions to them.

One of higher learning school's primary objectives today is setting down special requirements for the quality of preparing specialists based on educational results assessed by employers, the state and society. The quality preparation of graduates calls for the creation of a system of assessing competences, which, on the one hand, takes into account the target reference points of education and, on the other, the requirements put forward by consumers. The new approach to education implies that the organizing activity, structure and schemes of professional growth are inherent to the person itself. The focus of such learning covers the fundamental links between engineering education at the level of academic curricula and blocks of disciplines reflecting the schemes of forming professional and personality competencies; the organization of a learning process that envisions an increase in the share of the problem type of learning based on heuristic methods; measuring learning, which helps keep track of the degree of developedness of any given trait, the degree and level of professionalism which is a result of learning both across specific blocks of disciplines and with respect to the curriculum on the whole.

The most crucial consideration here is having employers develop qualification requirements for specialties, which will be taken into account in creating third generation standards for college curricula to practice-oriented. Thus, measures aimed at overcoming the crisis of the knowledge paradigm have led to the need for changes to the nature of managing and updating the content of higher education.

Among the reasons behind the crisis of the traditional paradigm of education is also that in present-day conditions information gets old much faster than the natural cycle of education comes to an end in secondary and higher learning school, for which reason the traditional ways of the delivery of necessary amounts of knowledge from teachers to students become absolutely utopian. Besides, the labor market has demand not just for the knowledge itself but the ability of the specialist to apply it in practice and fulfill certain professional and social duties [3,15].

Inferences: Thus, the student-centered is not new to the system of national higher education, which likewise applies to the process of preparing ecologists; it relies on the personality-oriented and practice-oriented approaches to preparing bachelors. The premises of this is the ever growing dynamics of present-day life, the unabated emergence of new knowledge in all spheres of life and human activity, which are leading to that the basis of preparing in-demand competitive specialists, who won't need additional training when on the job, will be formed by student-centeredness and practice-orientedness, for the formedness of aptitudes and skills crucial to a particular field becomes a priority as important as the knowledge acquired.

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