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Structure-Functional Model of the Students' Adaptation to the Credit Educational System

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Abstract

The necessity of modernization of the national educational system after world educational integration revealed the relevance of the research. The aim of the study is to build a structure-functional model of the students' adaptation to the credit educational system. The main approach to the problem of adaptation is the systems approach, which focuses on the complex exploration of the set of linked features, methods and processes required to provide targeted influence on the adaptation process. The built structural model of the adaptation to the credit system became the result of the study. The model consists of motivational-targeted, content-technological, result-evaluative components. Materials of the article can be useful to the experts working in higher educational institutions, to students and all who are connected with the field of education.
Keywords: Problem; Education; Student; Development; Activity; Training.

1. Introduction

The global integration requires applying new educational models, which help young people to achieve their potential and give huge boost for the intellectual development of the society. Russia joined the Bologna Process in order to upgrade the national educational system, to enhance its competitiveness in the world education. The implementation of The European Credit Transfer System (ECTS) in Russian higher education system as a way to control the volume of learning is a part of the integration process. According to UNESCO supporting documents the credit system is defined as the educational system, which enhances self-educational level and creative assimilation of knowledge, based on the individualization of the educational process within the strict requirements to the education and the learning volume control. The main features of the system are opportunity to make personal studying plans for every student, the choice from the range of elective subjects, increased volume of self-learning, the independent rate of the students' progress for each subject, the possibility to continue education and get credits in other universities. The credit system provides the conditions to give students the main role in education, relying on their activism and responsibility, allows organizing studying process for every student individually, enforces great students' and professors' mobility, and guarantees the continuity of education (Abdygapparova *et al.*, 2004).

The specific nature of the credit system, its differences from current educational traditions cause the range of difficulties, which students and teachers all over the world have to overcome. Therefore, the organization of the studying process using the credit system and adapting all its participants to the new situation become the relevant problem that requires creating an appropriate model of the process. The aim of the study is to create a structure-functional model of the process of adapting students to the credit educational system (Seisenbayeva *et al.,* 2018).

2. Methods

The theoretical and methodological basis for the named model is the systems approach Blauberg and Yudin (1973), which focuses on the systems exploration of the set of linked features, methods and processes of targeted and organized influence on the students' adaptation to the credit system.

The model of the adaptation process in accordance with the systems approach has its own aim, content, forms and methods. It is based on the range of principles which we understand Sabirova *et al.* (2018) as instrumental, activity-related pedagogical concept, methodological reflection of the known laws and patterns; the knowledge of aims, nature, content and structure of learning, that can be used as regulatory practical standards. As a result of the theoretical analysis and the synthesis of empiric materials, the authors came to the following principles of: science, systems, availability, stability and repeatability, consciousness and activity, individualization and differentiation, integrity, cooperation, technology, openness (Afanas'ev, 1981).

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3. Results

The named range of the principles determines the set of requirements the model of the adaptation process should meet:

•   Focusing on how students be ready for studying in the credit system environment;

•   Taking into consideration the subjective experience of each student, his age and individuality;

•   Initiating students' activity and interest in independent studying;

•   Developing collaboration between all participants of the educational process in order to motivate students to raise and solve productive studying problems with themselves;

•   Maintaining the integration of content, forms and methods of training programs so students to be oriented on creative, self-educational activity.

The built model is a structure-functional model because it has a defined structure and a number of linked components with its own function (Baum *et al.*, 2008).

4. Discussion

The motivational-targeted component is regarded as the main in the system of components of the named model of students' adaptation to the credit system. This component provides defining the goals and tasks of the adaptation, exploration and improvement of students' motivation, shaping positive attitude to the new educational system, professional activity, and self-educational spirit. The component is needed for making goals (goal decomposition according with adaptation process steps, creating goal spirit for being ready to study in new credit environment), motivation (creating socially significant reasons of studying activities, the main learning interests, reasons for self-education), values (creating value attitude to the credit system, future professional experience, participants of educational process). The component is implemented with the technology of modular and sign-contextual education (Sabirova and Morozova, 2015).

The content-technological component is intended for students to assimilate required knowledge and skills of successful adaptation to the credit system. The component is needed for learning (students gain knowledge of the credit system and learn about self-educational activity), education (building competencies, spirit and values in students' career), design (determining the content of students' adaptation to the credit system), organization (implementing and controlling students' activity in the credit system environment), information (providing different sources of information for effective activity in the credit system environment). There are two linked types of learning within the named component: theoretical and practical learning. The aim of the theoretical learning is to provide base knowledge to students for their successful adaptation to the credit system. This is about the purposes of the credit system, its content and nature, i.e. the information about the system's structure and content, forms and methods of studying and about knowledge tests. The theoretical learning is implemented with high-quality information management of the educational process that expects every student to be provided with all needed information by working information and analytical center of the university. The theoretical learning also can be achieved if students study psychology-pedagogical subjects and the induction course Introduction to the credit system is taught (Eremeeva, 2017).

The practical learning expects students to have skills of studying in the credit system environment. To reach it, students have to be taught how to work with big data, how to prepare an individual studying plan and how to get skills for self-education and organization of their mental work. There is also the actual way of using active types and methods of studying within the credit system based on dialogical communication between students and professors. Through the process of reflection students learn the reasons of the difference between the aim and the result, they find the main ways to reduce the difference and understand the importance of self-improvement. The practical learning is implemented by studying psychology-pedagogical subjects, working in open communication groups and teaching the course scientific organization of students' work within the credit system (Zagvyazinsky, 2001).

The result-evaluative component of the model provides the actual information about the effectiveness of the students' adaptation to the credit system, difficulties and achievements in gaining new knowledge and getting required skills. The purposes of this component of the model is information (getting data about how students are ready to study in the credit system), prediction (figuring out the direction and dependencies of the development of students' ability to study in the credit system environment), analysis (finding difficulties for the adaptation and methods for overcoming them), control (comparing the aim and the current state of the students' adaptation), motivation (encouraging students to be active and independent), reflection (providing students understanding of their role in the education and their educational experience). The component is implemented with estimating, self-estimating, testing and getting survey. The structure-functional model of the adaptation to the credit system has its own characteristics (Hatami *et al.,* 2018).

The model is systematic, i.e. it consists of the range of linked components so the change to any one of its components affects the whole. The integrity shows the adequacy of the theoretical and practical professional skills, their correspondence with the aim and tasks. Focus is based on each component in the structure of the model being targeted on achieving the main goal and by all means provides the effectiveness of the adaptation process. The model is dynamic. It means that there is a flow of data in the model and the data is always up to date. The knowledge is recharged and updated. The openness implies the relationship between the model and the real world, so the direction of the adaptation can be corrected. The reflection allows understanding and reviewing the results of studying and applying it to further education. The model is technological because it has the sequence of linked activities whose the final aim is the high effectiveness of the model. In this case, violation of the sequence of actions

can lead to unpredictable results. The model has a feedback, i.e. the received knowledge of the adaptation impacts on the process. Its flexibility means that the model can be constructively changed the adaptation to be suitable to any conditions (Antúnez, 2015).

5. Summary

The structure-functional model of the students' adaptation to the credit system includes motivational-targeted, content-technological, result-evaluative components. Every component has its own purpose. The model has the following characteristics: it is systematic, integral, targeted, dynamic, open, flexible, and technological and it provides feedback.

6. Conclusions

The built structure-functional model is an integral, open and dynamic structure that facilitates the successful integration of the credit system, allows participants of education to dispel the stereotype of the linear education and provides successful adaptation to the new educational system.

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