Creative Abilities As A Way To Adapt The Student To An Uncertain Future

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DOI: https://doi.org/10.71957/cfww4954

Introduction

The Department of System Analysis and Management of the Faculty of Information Technologies of NTU "Dnipro Polytechnic" today is engaged in the training of specialists in system analysis and management. The main disciplines are related to the management of complex systems and the practical application of mathematical modeling in forecasting, design and management. Today, there is already a common understanding in the scientific community that education should prepare a future specialist for a job that does not yet exist and it is not yet possible to clearly define it, so it is not clear which skills should become the most important in curricula.

Since the end of the last century, an intensive search for a new strategy for the development of education has begun. The problem of the future movement of civilization in a changing reality has come to the fore of scientific research and social consciousness. Since not only simple physical labor, but even complex algorithms of calculations are performed by machines faster and more efficiently than humans, automata are increasingly displacing sufficiently competent workers from the labor market. In the digital economy, the nature of work is associated with the continuous professional development of employees, their continuous training and creative communication (Bushuyev, 2010; Rach, 2015).

The decisive role in the process of preparing students for the future concerns the intellectual and creative abilities of a person, which are the driving force behind the launch of innovative processes. According to the author, the development of students' personal qualities should be aimed primarily at the formation of a systematic understanding of the universe and the need for constant development of the creative function. It is these graduates who easily find their first job and continue to learn throughout their lives.

The situation with the training of specialists at NTU "Dnipro Polytechnic" demonstrates the presence of the following contradiction in it: on the one hand, the training of a specialist is based on the acquisition of knowledge and skills in subjects within the framework of the "Curriculum", and on the other hand, the social situation requires each person to develop integrative system thinking to solve complex problems. The solution of this contradiction is possible if, while maintaining the necessary content of the educational process, the forms and methods of training specialists contribute to the development of a creative and self-actualized personality (Rybak, 2005).

At the same time, in the training of technical specialists, the teaching of creative activity in Ukraine is perceived with some skepticism. Such distorted ideas about the essence, tasks and possibilities of innovative search methods have an extremely negative impact on both the system of cognitive activity and the processes of development of individual intellectual potential.

The aim of the work is to formalize creative methods of training technical specialists as a foundation for the further development of education in the post-industrial era. Background

The Main Part Of The Study

Today, when Ukraine has already received the status of a candidate for EU membership and the country faces complex economic, political and social tasks, the issue of increasing the integral competence of future specialists is very acute. Education must respond to a whole range of strategic challenges related to innovation processes and rapid response to current changes around the world.

Project-based learning (PBL) is a productive activity aimed at solving complex problems through the implementation of innovative projects. Project management is the ideal means of transforming the world by creating a project product (Doppelt, 2003). To intensify this process, various methods of activating creative activity are used, allowing to accelerate the process of creative transformation of the surrounding world. Some well-known methods of creative search are provided in Table 1. Each of these methods has its own history, scope, advantages and disadvantages (Molokanova, 2024).

Methods and technologies of creative search

№	Method name	Authors	Features
1	The simplest methods		
1.1	Analogy method	Democritus	These are the first known methods
1.2	Dialogues to identify contradictions	Socrates	
1.3	Combining	Archimedes	
1.4	Splitting a problem into separate tasks	R.Descartes	
1.5	Formalization of operations on concepts	G.Leibniz	
1.6	Means of resolving contradictions (40 special and 3 universal)	G.Altshuller	
2	Associative methods		
2.1	Methods of control questions	A.Osborne, T.Eloart,	Differ in the list of questions There are many modifications of these methods
2.2	Methods of morphological analysis	D.Poya	
2.3	Method of matrices of inventions	F.Zwicky	
2.4	Brainstorming method	A.Mole	
2.5	Synectics method	A.Osborne	
2.6	Focal object method	W.Gordon,	
2.7	Associative chain method	C. Wyting	
2.8	Lateral thinking method	Mr. Bush E.De Bono	
3	System methods		
3.1	Method of orderly search for solutions	J.K.Jones	Methods of self-organization of thinking in solving complex problems
3.2	Fundamental design method	E.Metchet	
3.3	Cumulative strategy method	D.Page	
3.4	Algorithm for solving inventive problems	G.Altshuler	
3.5	Theory of solving inventive problems	G.Altshuler	
3.6	Functional-cost analysis	L.Miles	

In today's educational environment, we have to treat every student as a future inventor. It is necessary to change the philosophy of learning – from memorizing information to searching for creative approaches and other meanings in new technologies. However, it is impossible to do this without constant review of educational standards and programs.

In the context of student learning, our university, NTU "Dnipro Polytechnic", integrates a project-based approach to learning into students' curricula. At the end of the semester, students must prepare their own project using IT technologies in management.

Conclusion

The discovery and development of managerial talents is a major factor in the growth of the economy. Project-based learning is a tool for attracting innate talents and providing students with opportunities to develop them through planning skills and experience in applying basic project tools.

Modern creative technologies, which include PBL, should become a starting point for further in-depth research in the field of technical education. As directions for further research, it is necessary to highlight the development of individual blocks of creative competencies with the help of modern information technologies of project management; and creation of effective tools for assessing creative competencies for each subject area separately.

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