

Creativity enhancement method for STEM education

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Abstract:

Personal types of students were determined in accordance with the Myers-Briggs typology. It is established that the dominant types of students - prospective teachers of Maths - basically correspond to the dominant types of students studying a science, mathematics, engineering and technology. The effectiveness of the heuristic method largely depends on the selection of students for the project team and the distribution of roles within the team in accordance with the personality type of students. Creativity enhancement method united the Myers-Briggs typology and heuristic methods are developed.

Keywords

- **INSPEC: Controlled Indexing**

- [STEM](#)

- **INSPEC: Non-Controlled Indexing**

- [creativity enhancement method](#),
- [STEM education](#),
- [Myers-Briggs typology](#),
- [heuristic method](#),

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- [science mathematics engineering and technology](#),
- [student personality type](#)
- **Author Keywords**
 - [heuristic methods](#),
 - [personality types](#),
 - [project team](#)

I. Introduction

The effectiveness of the project method depends on the use of heuristic methods. By mastering heuristic methods, a student not only gets new knowledge, but also improves as a person. The most famous is the method of brainstorming and its varieties: direct, double, electronic, mass and individual. An analysis of their structure shows that, as a rule, following stages of the application of this method are singled out: work on a clear formulation of the goal and limitations; generation of ideas; selection of the best solution on the basis of expert evaluations [1]. Much attention is paid to the principles related to the formation of the project team. This is the separation of the moderator and distribution of roles, effective use of interests and strengths of each participant, a complete ban on criticism at the stage of idea generation, hierarchical conduct of the discussion, etc. Each type of brainstorming has certain features related to application stages and organization principles. An example, with a direct brainstorming, the formulation of the problem and the limitations takes place directly in the process of the discussion. In the case of an individual brainstorming, the principle of a distribution of roles among participants of the discussion is not fulfilled, and when applying the method of a double brainstorming, the criticism of ideas is allowed until the end of the process of their nomination.

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Abstract

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Abstract:

Personal types of students were determined in accordance with the Myers-Briggs typology. It is established that the dominant types of students - prospective teachers of Maths - basically correspond to the dominant types of students studying a science, mathematics, engineering and technology. The effectiveness of the heuristic method largely depends on the selection of students for the project team and the distribution of roles within the team in accordance with the personality type of students. Creativity enhancement method united the Myers-Briggs typology and heuristic methods are developed.

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