

BOARD GAME DIXIT AS A TOOL FOR DEVELOPMENT OF STUDENTS' PHYSICS CONCEPTS

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INTRODUCTION

Game-Based Learning is an educational approach which uses games as an educational tool. There are many benefits of using educational games, such as increase in students' motivation and engagement in the educational process, change in attitude to the subject, etc. In this contribution, we discuss our experience with using a modification of the board game Dixit to develop students' physics concepts.

THE GAME

Dixit is a board game consisting of big cards with illustrations. During the game one player chooses one of his cards and gives others a clue to this card. Then every other player chooses one of his cards, which can be interpreted by the clue. All chosen cards are mixed up and players need to find the card originally referred by the clue (Roubira, 2021). For our research, Dixit was modified in a way that players need to use clues with physics context. Also, for this modification, a new set of cards was mixed from original cards. The goal of this modification is to bring students to discussion about physics terms, to verbalize students' ideas and physics concepts and to confront their ideas with the ideas of other students.

RESEARCH

In a broader research study focused on the use of game-based learning in physics education, we wanted to find out whether the use of selected games brings benefits to students' knowledge and skills. The partial question in this context is, whether playing a modified Dixit can be used to develop students' understanding of physics terms. To answer this question, three steps were followed.

The first step was to create a suitable set of pictures (cards) and to find out what physics concepts are associated with them by graduates of general upper secondary education. To achieve this, 35 first-year university students were randomly allocated 10 of 118 cards with the task to write as many physics terms as possible for each of the assigned pictures. Subsequently, 84 cards were selected for further use. In the second step, modified Dixit was tested by pre-service physics teachers. In the third step, the game was played by upper secondary students during physics lessons. In second and third step, terms used by students and students' discussions were recorded by report sheet and audio recording. Students' need for discussion about used terms and cards, variability and specificity of used terms and students' attitudes to the game were investigated. Results of the research will be presented at the conference.

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