
GC 2012-5666: THE DEVELOPMENT AND EFFECT ANALYSIS OF CREATIVE DESIGN EDUCATIONAL PROGRAM BASED ON INTEGRATIVE STEAM EDUCATION THROUGH AUTOMATA

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The Development and Effect Analysis of Creative Design Educational Program Based on Integrative STEAM Education through Automata

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ABSTRACT

The purpose of this study was to develop and verify the effect of creative design educational program based on integrative STEAM for the middle and high school students. To accomplish the purpose, it was conducted that literature review on development of the program and qualitative study. The CEDE model was applied for the qualitative experimental study. The conclusions of the study were as follows:

First, it was developed that the program for middle and high school students based on the integrative STEAM education approach. The program is consists of two training programs with five activities.

Second, it was high that the satisfaction about learning contents and activities on the program. However, it was low that the satisfaction about difficulty level and constitution for the learning contents and the workbook.

Third, as a result of the survey about the program from students, it was verified that Automata was made with two or more machines and mechanisms, creating the various stories despite of the survey result that the learning contents were difficult.

Finally, pictures of activities and products were collected to analyze the effect of the educational program. Students made Automata with their surroundings based on the inspiration by daily life through art expression. As well, they try to make Automata with detailed expressions.