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# **GC 2012-5664: THE DEVELOPMENT AND APPLICATION OF CREATIVE ENGINEERING AND TECHNOLOGY EDUCATION PROGRAMS**

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The Development and Application of Creative Engineering and Technology Education Programs -focusing on Education Center for Creative Future Engineers in Chungnam National University-

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#### ABSTRACT

The purpose of this study was to develop and apply creative engineering and technology education programs for middle and high school students. The programs were developed on the emphasis of integration with real world. To accomplish the purpose, it was conducted that literature review on development of the program and qualitative study by collaboration between engineering professors and technology teachers. The conclusions of this study were as follows:

First, it has been developed that the programs based on engineering and technology for middle and high school students. Therefore the programs were instructed through team teaching by engineering professors and technology teachers.

Second, the programs were consisted with lecture, field trip, problem solving, project and so on.

Third, the programs were utilized in various institutes such as engineering and technology related colleges, universities, governments, research institutes, and industries.

Fourth, we applied the programs three times in December 2011, February 2012 and May 2012. Approximately, 100 students participate in all the programs, respectively. It was high that the satisfaction of the participants, their parents, engineering professors and technology teachers.

Finally, Education Center for Creative Future Engineers in Chungnam National University, sponsored by Korea Institute for Advancement of Technology and Ministry of Knowledge Economy, has developed career-guidance books in

engineering and technology fields. Further, they have tried to improve the existing programs and develop various new programs.