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# Modeling of Cooperative/Collaborative Learning Technique: A case study of interior architectural program

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## Abstract

This research presented a model of cooperative/collaborative learning technique which leads to learning efficiency of students continued from a previous research (Porn tip, 2012). Objectives were to study and find out patterns of study groups of a class room case study that would have effects on the student learning efficiency. Formulating the model and data analysis, researcher used Structural Equation Modeling (SEM) for explaining the effects on the efficiency of a group of students. A theoretical subject case study of the Interior Architecture Program in the Faculty of Architecture, Maharakham University was used in this research. Results and recommendations were discussed in this research.

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*Keywords:* Cooperative/collaborative learning technique; interior architecture; student learning efficiency

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## 1. Introduction

Much of architectural education is concerned with developing students in order for them to become well rounded, competent and imaginative designers of buildings and the spaces between them (Andrew, 2005). Teaching-learning methods in theoretical subjects of interior architectures in academic institutions are focused on transferring the theories to students for integration with other subjects, especially design subjects. There are many problems in the learning process in the classrooms of the theoretical subjects such as low effectiveness of student learning, period of study more than one hour/period, physical environment within the classrooms where were one-way teachings by an instructor, etc. These causes lead

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to shortage of student concentration (boring) in the classes. Therefore by using collaborative/collaborative learning technique is a direction to develop the teachings-learning to be higher efficiency of the students. In the previous research (Learning Efficiency in Theoretical Subjects of Interior Architecture by Cooperative/Collaborative Learning Technique by Porntip, 2012), researcher found that responsibility and past academic performance of students cooperated with organized teaching-learning by an instructor, provided teaching facilities and physical environment within the classroom where supported to cooperative/collaborative learning technique would have a positive effect on student learning efficiency (Porntip, 2012). Moreover, by the researcher's teaching experiences the researcher believed that arranging study groups by mixing students based on past academic performance of the students would have more support to higher student learning efficiency especially students who have low past academic performance because they talked and shared their knowledge and experiences to each other during the group activities. This issue leads to a question that how could we arrange the study groups or patterns what would have the most student learning efficiency. This research presented a model of the cooperative/collaborative learning technique which confirmed how the technique affecting student learning efficiency of in a theoretical subject of an interior architecture program by using Structural Equation Modeling.

### *1.1. Research objective*

- To study factors and its measurement of the student characteristics, cooperative/collaborative learning technique, and student learning efficiency in a theoretical subject of an interior architecture program.
- To develop a Structural Equation Model (SEM) for explaining the factors influencing (cause-effect) the student learning efficiency in the subject.
- To recommend how to improve the teaching - learning in the theoretical subjects of the interior architecture program through the cooperative/collaborative learning technique in order to achieve the student learning efficiency.

### *1.2. Scope of study*

The scope of this research covered a study of student learning efficiency by using cooperative/collaborative learning technique in a case study of a theoretical subject of an interior architecture program. The subject case study was "Interior Architecture Design Concept and Criteria 2 (CC2)" for 2nd year students of interior architecture program in Faculty of Architecture Urban Design and Creative Art, Mahasarakham University, Thailand. The research took the form of a longitudinal study carried out over a period of one semester. The subject was in 2nd semester of 2012 (during Nov. 2012-Feb. 2013). Population was 45 students who registered in the subject. During the period of study, teaching technological facilities and physical environment within the classroom were controlled as the cooperative/collaborative learning technique for all the study periods.

## **2. Literature review**

In 1956, "Bloom's Taxonomy" was created under the leadership of educational psychologist Dr. Benjamin Bloom in order to promote higher forms of thinking in education, such as analyzing and evaluating, rather than just remembering facts (rote learning). "The Bloom's Taxonomy" identified three domains of educational activities or learning (Bloom, 1956) included:

- Cognitive, mental skills (Knowledge)
- Affective, growth in feelings or emotional areas (Attitude or self)

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