

Thesis Title Teaching Upper Secondary School Mathematics on Real Numbers System
Through Remedial Computer-Assisted Instruction

Author Miss Yupaporn Changzai

M.Ed. Mathematics Education

Examining committee

Asst. Prof. Pongchawee Vaiyavutjamai Chairman

Assoc. Prof. Sunthon Chanakok Member

Asst. Prof. Dr. Wirat Waiyakul Member

Abstract

The objectives of this research were to study the learning outcomes and the learning behaviors of high school students while they were studying mathematics about real number through the remedial computer-assisted instruction. The samples for this research study were 34 Mathayom Suksa 4 students who took Math 011 during the first semester of the academic year 2541. This group of students was from Hangchat Wittaya School, Amphur Hangchat, Lumpang Province. The research instruments were the traditional lesson plans, the computer learning package which included the unit pre-tests, remedial lessons, enrichment lessons and the unit post-test, the achievement test with 0.7752 reliability level, and the observation form for recording the learning behaviors.

The researcher taught the students using the traditional lesson plans. After each unit the students were received the remedial computer assisted instruction. Data concerning students' behaviors were recorded by the researcher. The learning behaviors observed were learning attentiveness, class discipline and learning accountability. After teaching all three units, the students were asked to take the achievement test via the computer. The pre-

test and the post-test scores were analysed using the arithmetic mean and standard deviation in order to indicate the learning progress. The achievement test scores were analysed by means of the percentage of students who passed the criteria of 50% for each learning objective. The learning behaviors were summarized interpretatively.

The results of this research study showed that the majority of the students who had been taught through the remedial computer - assisted instruction about real number had:

1. the learning progress was higher after the students took the remedial computer - assisted instruction;
2. the learning achievement was higher than that of the 50% criteria; and
3. the learning attentiveness was very good, the class discipline was good, and the learning accountability was the high level.