

Thesis Title	Development of Teaching Multimedia about Logic on Wireless Network via m-learning by using Flipped Classroom Process to Improve the self Directed Learning
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Abstract

This research was aimed to develop and evaluate quality of instructional multimedia wireless network m-learning on logic, to find student's achievements, to study the student-led characteristics and the student's satisfaction. The population of this research was students from 5 classrooms of 1st year high school, the 2nd semester of academic year 2014, Donmueng Chaturachinda School, the secondary educational service area office 2. And a group of students from 1 classroom 25 students was randomly selected. The survey on the use of wireless devices of population found that 97% of the population using wireless communication via smartphone. The results showed that instructional multimedia wireless network m-learning on logic had quality of data content, $\bar{x} = 4.63$, S.D. = 0.28, at very good level, and quality of multimedia, $\bar{x} = 4.33$, S.D. = 0.23, at good level. After the students had learned from the media, the results of the study were as follows that the scores were higher than ones before learning from the media with a significance statistically at level .05. The assessment of student-led characteristic found that $\bar{x} = 4.47$, S.D. = 0.05 which is excellent. And the evaluation of student's satisfaction was found, $\bar{x} = 4.56$, S.D. = 0.08, excellent. These result went accordingly to the hypothesis. Therefore, the created instructional multimedia can be applied in practice.

Keywords: Fliped Classroom Technique/ Instructional Multimedia/ Mobile-learning/ Self-directed Learning