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Abstract

Title : Development of Instructional Packages of Vector Quantities

Year : 2013

The purposes of this research aimed to 1) develop the instructional packages namely Vector Quantities and 2) compare the achievement scores of the experimental group and the control group.

The samples were 60 Computer Science students of Faculty of Science and Technology at Rajamangala University of Technology Phra Nakhon who took Principle of Physics course in semester 1, academic year 2013. They were purposely selected as an experimental group (30 students) and a control group (30 students). They were given two different treatments ; teaching with the instructional packages and the conventional teaching.

The research instruments for the experimental group were the instructional packages comprised lesson plans, instructional documents and instructional media, whereas the control group was taught with only instructional documents. After of the experimental process, both of them were given exercises and teacher's feedback. Then they were tested to see their achievement. The test was 20 multiple choice items which had the degree of difficulty between 0.33-0.77, the degree of discrimination between 0.30-0.77 and the degree of reliability coefficient at 0.73.

The analysis of data comprised 2 parts as follows:

1. The development of instructional packages was evaluated by using statistics One – Sample t -test on Vector quantities Demonstration and using statics in terms of mean on the lesson plans , instructional documents and instructional media .

2. The achievement scores were evaluated by using t-test at the level of 0.5.

The results of this research revealed that :

1. The quality of the instructional packages was excellent.

2. The achievement scores of the students who studied with the instructional packages were higher than those of the control group at the level of .05.