The Development of Interactive Multimedia Tutorial Model on the Static and Dynamic Electricity Subjects in SMP/MTs

Abstract

This developmental research was intended to make an interactive multimedia tutorial model by using Microsoft PowerPoint for SMP/MTs on the static and dynamic electricity subjects that contain materials, interactive animation, virtual labs, exercises, and competence test. This interactive multimedia tutorial model can be used as a various learning resource by students whether it is used independently by them or in a group when they are in the learning process for achieving competence mastery.

This design of developmental research modified the process of the instructional media development developed by Sadiman, et al. With the stages of work procedure that comprise needs analysis, objectives, materials, synopsis, initial script, prototype production, evaluation consisting of three phases, namely the material expert test, the design expert test, and one on one expert test. This also includes revision, final script, trials, and final program.

The product testing as a medium of learning process was conducted by using an instrumental assessment design, learning materials, conspicuousness, ease, and the expediency of printed multimedia based on consultancy result, and by using pretest and post-test exercises.

The result of the design expert test and learning material expert test stating that this interactive multimedia has a decent quality and it is appropriate with the theory. The result of one on one test stating that this interactive multimedia has an interesting quality, easy to use, and it is very useful. It is also the same with the result of field test that also has an interesting quality, easy to use, and it is very useful also.

From the result of the field test can be concluded that this interactive multimedia is very effective to be used as a learning resource because according to the students' learning result for the static electricity post test that obtained the value of an average score of 88, 44 from 32 students, and at the rate of 87, 5 % of students had achieved the learning objective contained in the interactive multimedia. Whereas for the dynamic electricity post test scores obtained the average score of 80, 94 from 32 students, and at the rate of 78, 12 % of students had achieved the learning objectives contained in the interactive multimedia. If the pretest scores and posttest scores are compared, the overall materials gain a significant increase up to 45, 16 %.