

The Use of Interactive Lecture Demonstration to Teach High-School Physics in Magnetic Force on a Moving Charged Particle

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We have adopted the Interactive Lecture Demonstration (ILD) which is one of the active learning strategies to teach high-school students in the topic of magnetic force on a moving charged particle in order to enhance student conceptual understanding. Three sample groups of grade 12 students were studied; G1 and G2 were taught by ILD but students in G1 had a better background of physics knowledge than G2. The other group is G3 which was taught by traditional teaching and their background of physics knowledge was similar to G1. The demonstration set used in the ILD included a cathode-ray tube and a magnet which were common physics apparatus available in most high schools. After instructions, all students were evaluated their conceptual understanding by using a post-test which is related to this physics topic. The post-test scores of all groups were significantly different with G1 showing the highest score and G3 showing the lowest score. Although the background knowledge of students in G2 was lower than that of G3, the higher post-test score of G2 infers that students who studied by ILD had more conceptual understanding than those who studied in the traditional classroom.

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