

## Engaging Students in Multimedia Constructivist Learning: Analysis of Students' Science Achievement

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**Abstract :** This study examined whether there was a statistically significant difference between pretest and posttest achievement scores for students who received multimedia-based instructions in science. The paired samples t-test was used to address the research question and to establish whether there was a significant difference between pretest and posttest scores that may have occurred based on the students' learning experience with multimedia technology. Findings indicated that there was a significant difference in students' achievement scores before and after a multimedia-based instruction. Students' achievement scores were increased by approximately two points, after students received multimedia-based instruction. On a paired samples t-test, a high level of significance was found,  $p = 0.000$ . Opportunities to learn with multimedia are more likely to result in sustained improvements in student achievement and a deeper understanding of science content. Multimedia can make learning more active and student-centered and activate student motivation.

**Keywords :** constructivist learning, hyperstudio, multimedia, multimedia-based instruction

**Conference Title :** ICCERT 2019 : International Conference on Compulsory Education, Reforms and Technology

**Conference Location :** Paris, France

**Conference Dates :** March 28-29, 2019