

Examining How Teachers' Backgrounds and Perceptions for Technology Use Influence on Students' Achievements

Authors : Zhidong Zhang, Amanda Resendez

Abstract : This study is to examine how teachers' perspective on education technology use in their class influence their students' achievement. The authors hypothesized that teachers' perspective can directly or indirectly influence students' learning, performance, and achievements. In this study, a questionnaire entitled, Teacher's Perspective on Educational Technology, was delivered to 63 teachers and 1268 students' mathematics and reading achievement records were collected. The questionnaire consists of four parts: a) demographic variables, b) attitudes on technology integration, c) outside factor affecting technology integration, and d) technology use in the classroom. Kruskal-Wallis and hierarchical regression analysis techniques were used to examine: 1) the relationship between the demographic variables and teachers' perspectives on educational technology, and 2) how the demographic variables were causally related to students' mathematics and reading achievements. The study found that teacher demographics were significantly related to the teachers' perspective on educational technology with $p < 0.05$ and $p < 0.01$ separately. These teacher demographical variables included the school district, age, gender, the grade currently teach, teaching experience, and proficiency using new technology. Further, these variables significantly predicted students' mathematics and reading achievements with $p < 0.05$ and $p < 0.01$ separately. The variations of R^2 are between 0.176 and 0.467. That means 46.7% of the variance of a given analysis can be explained by the model.

Keywords : teacher's perception of technology use, mathematics achievement, reading achievement, Kruskal-Wallis test, hierarchical regression analysis

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