Associations Between Conceptions of Learning Science, Computer Self-Efficacy, And Science Achievement Among Eight Grade Students in Dubai: Hierarchical Multiple Regression Analysis

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Abstract

As a means of educating students for the demands of a technologically evolved world, science education has gained more prominence. Understanding the variables influencing students' science achievement is vital for educational policymakers and practitioners. This study aims to conduct hierarchical multiple regression analysis to examine the links between socio-economic status, computer self-efficacy, conceptions of learning science (like learning science, instructional clarity, confidence in science and valuing science) and science achievement. The study used the data from the 2019 iteration of TIMSS in which 5728 eighth-grade students from Dubai participated. It was found that the relationships between student age, socio-economic status, computer self-efficacy, conceptions of learning science (like learning science, instructional clarity, confidence in science and valuing science) and science achievement are significant. Effective strategies should be adopted by policymakers and educators to reduce socio-economic disparity amongst students, to enhance conceptions of learning science and to improve their science efficacy.

Keywords: Science achievement, socio-economic status, computer self-efficacy, conceptions of learning science, TIMSS.