A Case Study to Observe How Students' Perception of the Possibility of Success Impacts Their Performance in Summative Exams

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Abstract : Faculty in Higher Education today are faced with the challenge of convincing their students of the importance of learning and mastery of skills. This is because most students often have a single motivation -to get high grades. If it appears that this goal will not be met, they lose their motivation, and their academic efforts wane. This is true even for students in the competitive fields of STEM, including Computer Science majors. As educators, we have to understand our students and leverage what motivates them to achieve our learning outcomes. This paper presents a case study that utilizes cognitive psychology's Expectancy Value Theory and Motivation Theory to investigate the effect of sustained expectancy for success on students' learning outcomes. In our case study, we explore how students' motivation and persistence in their academic efforts are impacted by providing them with an unexpected possible path to success that continues to the end of the semester. The approach was tested in an undergraduate computer science course with n = 56. The results of the study indicate that when presented with the real possibility of success, despite existing low grades, both low and high-scoring students persisted in their efforts to improve their performance. Their final grades were, on average, one place higher on the +/-letter grade scale, with some students scoring as high as three places above their predicted grade.

Keywords : expectancy for success and persistence, motivation and performance, computer science education, motivation and performance in computer science

Conference Title : ICCEIT 2023 : International Conference on Computer Education and Instructional Technology **Conference Location :** Cape Town, South Africa

Conference Dates : April 13-14, 2023

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