

Self-Assessment Accuracy of Undergraduate Mathematics Students on Academic Performance

Kedar Nepal, *Mercer University*

Ramjee Sharma, *University of North Georgia–Gainesville*

Kailash Ghimire, *Georgia Southwestern State University*

Manoj Thapa, *Georgia Southwestern State University*

Abstract:

Research shows that low-achieving students are generally not aware of their weaknesses. Consequently, many students might not realize the need to explore the subject matter more deeply in order to improve their conceptual understanding and computational skills. This article analyzes self-assessment behaviors of undergraduate students in mathematics courses of different levels. Students at three universities were asked to predict their expected grades on academic exams, and these predictions were compared with the grades assessed by their instructors. Our results show: (a) Students generally overestimate their perceived level of preparation and their performance; (b) Gender has no significant effect on self-assessment behaviors, but overconfidence and overestimation are more likely among male students than female; (c) Students in introductory-level courses appear to be more accurate predictors than students in advanced-level courses; and (d) Students in the B-range (80 -89%) are the most accurate predictors.

Keywords: academic success, self-assessment behaviors, undergraduate mathematics teaching



Kedar Nepal is an assistant professor of mathematics at Mercer University, Macon, Georgia. He received his MS and PhD in mathematics from Oklahoma State University. His research area is primarily undergraduate mathematics education. More specifically, he is interested in students' mathematical thought processes, metacognition in learning mathematics, and professional development of college mathematics instructors. He has been teaching undergraduate mathematics and statistics courses for more than 10 years.



Kailash Ghimire is the chair and an associate professor of mathematics at the Georgia Southwestern State University Mathematics Department. He joined Georgia Southwestern (GSW) as an assistant professor in 2007. He earned his M.Phil. in mathematics from Kathmandu University, Nepal and his PhD in mathematics at Oregon State University. His research is in higher dimensional topology, and he is also working in math education. He has mentored more than 15 students in undergraduate research and senior thesis.



Ramjee Prasad Sharma received his MS and PhD in mathematics from Oklahoma State University. His research areas include nonlinear partial differential equations, scientific computations, numerical analysis, integration of technology in math classes and undergraduate math education. His papers on partial differential equations, scientific computations, and undergraduate math education have been published in international and national journals. He is currently an assistant professor of mathematics at the University of North Georgia–Gainesville campus.



Manoj Thapa is an assistant professor of mathematics at Georgia Southwestern State University. He earned his PhD in mathematics from University of Texas at Arlington. His research interests include scientific computing, mathematical modeling, and mathematics education. He also enjoys working with STEM students in undergraduate research projects.