

Meeting: 1003, Atlanta, Georgia, MAA CP Q1, MAA Session on Using Handheld Technology to Facilitate Student-Centered Teaching/Learning Activities at the Developmental Algebra Level

1003-Q1-1034 **Mercedes A McGowen*** (mmcgowen@harpercollege.edu), 601 Pleasant Place, Streamwood, IL 60107. *Utilizing the Graphing Calculator to Identify and Build on Students' Prior Experiences.*

It has been shown that new experiences which build on prior experiences are much better remembered and what does not fit into prior experience is either not learned or learned temporarily and easily forgotten. If we expect to improve the quality of learning of our students, we need to identify and address the misconceptions about concepts and remembered rules and procedures students bring with them to our classes by placing a central emphasis on building meaningful new knowledge upon relevant prior experiences familiar to the student. How students build upon their prior experiences depends upon the context in which the problem is presented, how students represent relevant knowledge, and what they focus attention on based on the visual cues they pick up from scanning the written symbols.

We will utilize the graphing calculator to identify how undergraduate students' responses built on previous experiences shape their current understanding of mathematics. Ways in which the graphing calculator can be used to address students' misconceptions will also be demonstrated. (Received October 03, 2004)