

1125-VR-2723

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Learning mathematics involves a great development of the mind- a shift from memorization and simple computation to deductive and analytical reasoning. Many students will encounter a calculus course before or during their college career, and it is seen as a fundamental course in their development within the field of mathematics. It would be appropriate to view Calculus I as a course in which students develop intellectually as well as analytically. The purpose of this research is to study this supposed evolution of intellectual need and the development of analytical reasoning in mathematics students, namely first-year calculus students. Through questionnaires and interviews throughout the learning process, we map this growth of intellectual need and mathematical reasoning in order to observe and understand the development that is vital in this foundational course. (Received September 20, 2016)