

AN EVER IMPROVING FORMULA FOR SUCCESS IN GENERAL CHEMISTRY: INCREASING STUDENT PERFORMANCE IN A BARRIER COURSE

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Since summer 2004, the chemistry faculty at a large HBCU has been working on improving student pass rates in general chemistry courses (CHM 1045 and CHM 1046). In an early work during fall 2005 and fall 2006, the pass rates for CHM 1045 were 32% and 30% respectively. In this previous work several interventions were initiated and the results analyzed. The intervention that had the most dramatic result was the use of SAT/ACT mathematics scores in combination with a American Chemical Society Placement Test. Students who were appropriately placed had an 80% passing rate for CHM 1045. Trying other methods in more recent work, faculty used learning activities such as share pair questions, the muddiest point, and lectures, and quizzes based on Bloom's Taxonomy; preliminary results are very encouraging. Also student study habits, extracurricular activities, preparation, and apprehension towards science was correlated to student performance. The correlation showed that science fears and motivational factors, as well as math preparation were strong deterrents to good performance in General Chemistry. These and other strategies will be presented in this work.