This past year, American University launched an annual cycle of assessment of undergraduate programs that included assessment activity descriptions, results, corresponding changes to programs, and assessments planned for the upcoming year. The Department of Mathematics and Statistics identified the ability to learn mathematics independently as a key attribute of successful undergraduate mathematics majors. Faculty wanted to see evidence of students teaching themselves new concepts based on their prior knowledge. During spring 2005, faculty members in advanced courses required an oral presentation based on a student-selected/faculty-approved research article. The presentations were video-taped and reviewed by faculty. Along with the results of that assessment, this paper provides an overview of the complexities involved in initiating outcomes-based assessment with a skeptical faculty and describes the faculty’s transition to appreciating the value of outcomes-based assessment. Recommendations will be given on how to use oral presentations to target specific outcomes. The paper will conclude with the larger question of how to apply the assessment results and with a summary of the department’s future assessment plans. (Received September 07, 2005)