

1125-J1-1886

James H Fife* (jfife@ets.org), Educational Testing Service, 660 Rosedale Road, Princeton, NJ 08541. *Automated Scoring of Extended Text Responses to Mathematics Test Items.*

The immediate, automated scoring of constructed responses is an important and necessary feature for large-scale summative assessments, where efficient and cost-effective scoring is required, and for smaller-scale formative assessments, where immediate feedback is part of the learning process. A common framework for traditional paper-and-pencil mathematics tasks is to ask a question that has a simple numeric answer but to require the student to show his or her work. The scratch work can be read to make certain that the student has solved the problem correctly or to determine if the student deserves partial credit when the final response is incorrect. For computer-delivered assessments, the instruction to “Show your work” is not really appropriate, so instead students are often asked to explain their reasoning. These explanations must be human scored, adding time and cost to the assessment. In this talk, I will describe a project in which we used machine-learning techniques to score responses to computer-delivered mathematics tasks that requested an explanation or other extended text response. (Received September 19, 2016)