Universal Screening with Automated Essay Scoring: Evaluating Classification Accuracy in Grades 3 and 4

The adoption of the Common Core State Standards and its associated assessments has placed increased focus on writing performance. Consequently, weak writers may be at risk of failing Common Core English language arts assessments. Thus, this study examined whether PEG Writing, an automated essay scoring (AES) program, could be used to identify struggling writers before they fail, in time for teachers to provide remediation. We sought to answer the following research questions: Can PEG be used to accurately identify students at risk of failing the Smarter Balanced ELA assessment? If so, how accurate is PEG?

The current study sampled a diverse group of third and fourth grade students (n = 100 and 130, respectively) from two elementary schools during the 2014-15 school year. Students were administered writing screeners using the procedures of a Direct Assessment of Writing (DAW) in the Fall and again in the Spring. The DAW involved students responding to writing prompts in the argumentative genre. Students were given 30 minutes to plan and draft their response to the writing prompts, which were later transcribed into Word documents and submitted to the PEG Writing system for scoring. Data from the Spring 2015 Smarter Balanced ELA assessment was collected and analyses examined whether it was possible to predict whether students passed or failed that test based on their performance on the Fall and Spring writing prompts.

Results of the analyses indicated that PEG was able to accurately identify whether students passed or failed the state assessment. Overall classification accuracy was approximately 75% for both the Fall and Spring of Grade 3, and was 79% for Fall Grade 4 and 83% for Spring Grade 4. In Grade 3, students who scored 18 or above had less than a 7% chance of failing the Smarter Balanced ELA test. In Grade 4, students who scored 21 or above had less than a 10% chance of failing that test.

In sum, results indicate that PEG Writing can be used to accurately identify students at risk of failing the Smarter Balanced ELA test. Teachers who implement Fall and Spring screening/benchmark writing prompts can use PEG to automatically score students’ writing and identify students who may be in need of supplemental writing instruction/intervention.