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The Predictive Validity of a Kindergarten Dynamic Assessment of Language

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Introduction

Kindergarten students are often administered screening instruments designed to identify weaknesses in emergent literacy skills. Unfortunately, these screeners, which only measure what a student currently knows, cannot validly differentiate between students who have low scores because of limited exposure, language/dialectal differences, or a disability. A more valid approach to identifying kindergarten students for future reading difficulty is needed. Dynamic assessment is emerging as a valid alternative to traditional screening measures. The language subtest of the PEARL (Petersen & Spencer, 2016) uses a dynamic assessment approach where students are administered a pretest (a story retell), participate in language instruction on story retelling, and then are administered a posttest (another story retell). This dynamic assessment approach measures how well a student can learn language, as opposed to their current language ability. The purpose of this study was to examine the predictive validity of the PEARL. Our research questions were: 1) To what extent are the scores from progress monitoring assessments lower for kindergarten students at risk/not at risk? 2) What is the sensitivity and specificity of the PEARL?

Methodology

The PEARL was administered to all kindergarten students in an elementary school. A random sample of 7 students were identified as at risk for future reading comprehension difficulty. A team of undergraduate research assistants provided individualized language instruction and closely monitored progress using evidence-based language intervention three times per week for five weeks. A sample of 7 kindergarten students who were not identified as at risk on the PEARL from matching classrooms also participated in the same language intervention. Student progress was measured at the beginning and end of most sessions using a progress monitoring tool. Interventionists completed a rating scale at the end of each session to measure students’ response to intervention. We used logistic regression to combine mean language performance scores, posttest scores, and response to intervention over time (modifiability) to create a composite gold standard for language ability.

Results

An independent samples t-test indicated that there was a significant difference on scores from progress monitoring assessments between students identified as at risk and students identified as not at risk (Figure 1). A ROC analysis resulted in 100% sensitivity and 86% specificity (Figure 2). These results indicate the PEARL was able to identify 100% of the children who had language disorder and identify 86% of the children who did not have a language disorder.

Discussion

The results of this study indicate that dynamic assessment is predictive of a student’s response to language instruction. This study adds to the body of dynamic assessment research through a) replication,
b) the use of a distinct sample of students, and c) the use of an innovative design that better reflects difficulty learning to understand and use complex academic language.

**Conclusion**

By correctly identifying students who will struggle with future language and reading comprehension difficulty at the beginning of kindergarten, early identification can take place, leading to preventative intervention. With strong sensitivity and specificity, these results could impact the way early reading screening and intervention is implemented for young students across the U.S.

![Figure 1. Posttest scores for kindergarten students at risk and not at risk on the PEARL. Independent samples t-test indicated there was a significant difference between groups, t (2,12) = -2.38, p < .05.](image)

![Figure 2. Sensitivity and Specificity (classification accuracy) of the PEARL.](image)

**References**

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