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RESEARCH BRIEFS

January 2015

Georgia Southern College of Education

The Development and Validation of an Alternative Assessment to Measure Changes in Understanding of the Longleaf Pine Ecosystem

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Abstract

A drawing assessment to gauge changes in fourth grade students' understanding of the essential components of the longleaf pine ecosystem was developed to support an out-of-school environmental education program. Pre- and post-attendance drawings were scored with a rubric that was determined to have content validity and reliability among users. In the specific context of this intervention, the assessment documented significant growth in the understanding of the essential components, processes, flora and fauna of the ecosystem. This assessment found no significant differential advantage with respect to gender or dominance status of the students and is offered as an alternative to traditional assessments that favor select groups. Extensions of this framework to other ecosystems, and implications for in-service/pre-service educators and science proficiency, are discussed.

Practical Application

The profession of K-12 education in the United States becomes increasingly difficult with each annual budget cycle and the next best "fix" to document student gains. Unfortunately, as this occurs and we standardize the teaching and learning of science to fit this paradigm, it seems the marginalization of some populations only increase. The incorporation of an alternative method of assessment into practice, such as that offered in this paper, offer one way for both teachers and non-traditional learners to swim against this tide. Students are allowed to demonstrate understanding and growth in science content through an expressive media that provides flexibility to accommodate multiple competencies, and at least in this study, appears to level the playing field between dominant and non-dominant populations. For the teacher, facing increasing deprofessionalization, this method of assessment is fresh, adaptable and malleable enough to allow the teacher to consider what students bring to the learning environment and evaluate them accordingly.

Citation

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