Teacher Assessment of Young Children Learning with Technology in Early Childhood Education

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ABSTRACT

Technology integration into the early childhood curriculum has seen some improvement. Many teachers now report using technology in instruction and providing young children the opportunity to use technology as a learning resource or tool in the classroom. While there has been some development in providing children with technological tools, research shows very little is known about how teachers assess what students know and can do with the technology. The current study examines teacher assessment of young children’s learning with technology using early childhood teachers from a Midwestern school district. The study shows a general lack of teacher understanding of assessment strategies and assessment data, hence the inability to verify the progress young children are making with technology in early childhood programs. Recommendations are made regarding how technology-related data may be effectively gathered and interpreted by early childhood educators.

Keywords: Early Childhood Education, Teacher Assessment, Technology Assessment, Technology Integration, Technology Use

INTRODUCTION

Assessment is an integral part of instruction. The information gathered through assessment is necessary for communicating student progress and determining what students know and can do, individually or collectively, at any point in time, before, during, or after instruction (Eliason & Jenkins, 2008; McAfee, Leong, & Bodrova, 2006; McLean, Wolery, & Bailey, 2004). In addition, assessment data helps guide teachers as to the types of teaching materials or tools that students may need in order to bring about optimal gains in learning.

One tool today’s teachers are encouraged to incorporate as early as possible into the 21st century learners’ curriculum is technology (Cuban, 2001; Haughland, 1992, 2005; Jones, 2001; NAEYC, 1996, 2001). So far the find-
ings from evaluative research document the potential outcomes that could be realized with the use of educational technology in teaching and learning. What remains unclear is how teachers assess the effects of such technology use on student learning. In order for teachers to improve instruction and student learning, there is a need for assessment of student outcomes; Technology-related assessment procedures need to be examined. The collection of assessment data during and after technology-integrated activities will help teachers determine what students know and are able to do with the help of technology. In essence, whether and how learning takes place with technology use. For such assessment to be meaningful, it should be “on going,” and collected using a variety of formats (Eliaison & Jenkins, 2008; Browne & Gordon, 2009; McAfee, Leong, & Bodrova, 2006; McLean, Bailey, & Wolery, 2004).

Considering the fact that assessment effects students’ progress in meeting curricula goals, it is surprising that very little research focuses on exploring teacher assessment of technology’s role in student performance, especially among young children. There is a need to document such data and where possible, highlight the barriers or challenges teachers face in assessing the influence of technology in their classrooms.

PURPOSE OF THE STUDY

The current study examines early childhood teacher assessment processes regarding what young children know and are able to do when technology is used as an instructional tool and learning resource. The research questions the study seeks to address include:

1. How do early childhood teachers assess student learning with technology?
2. What challenges do teachers face while assessing the effects of technology integration in early childhood curriculum?

METHODOLOGY

Research Design and Participant Selection

A mixed method approach was employed to gather and analyze data for this study. The first phase of the study involved the collection of survey data from a purposeful sample of 56 early childhood educators from a Midwestern school district. In the second phase, ten teachers were selected and asked to submit to about one-hour long face-to-face interviews using a semi-structured interview protocol. The interview data provided complementary findings that supported the information gathered from the surveys (Gall, Borg, & Gall, 2006).

Of the 56 teachers selected for the survey, 54 completed viable questionnaires. Out of this group, 18 (33%) taught kindergarten, 15 (28%) taught at the first grade level, 10 (19%) were second grade teachers, and 11 (20%) reported teaching third grade. The average class size for the most of the teachers was between 20-25 students. Also, the majority of the teachers (41%) reported having over 15 years of teaching experience and a master’s degree (54%).

For the second phase of the study, a typical sampling approach was used to select 10 of the 54 teacher participants for one-on-one interviews. “A typical sample would be one that is selected because it reflects the average person, situation, or instance of the phenomenon of interest” (Merriam, 2009, p. 62).

Data Collection and Analysis

The online survey that was designed for data collection in this study was assessed for content validity by subject matter experts to ensure that the instrument measured what it intended to measure (Gay, Mills, & Airasian, 2006). The instrument was also piloted with a convenient sample of teachers. Pilot testing the survey helped determine that the individuals in the sample were capable of completing the survey.
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