THE INTEGRATION OF TECHNOLOGY IN KINDERGARTEN LITERACY LEARNING

Abstract

Using a socio-constructive approach and based on Vygotsky’s (1978) theory of learning and development, this research project helps elucidate the role of technology in classrooms to support literacy learning in young children. Classroom observations of two classrooms (regular and learning-needs kindergarten classrooms) were taken in the form of handwritten notes, and semi-structured in-depth interviews conducted with the teachers were audio-recorded. This project observes how the use of technology influences literacy learning in kindergarten classrooms and the role of teachers in establishing this influence. Further, the data gathered helps establish the factors that affect teachers’ use and integration of digital and new media technology in classrooms. This qualitative study sheds light on varying uses of technology by teachers in regular and learning-needs kindergarten classrooms and the impact of teachers’ beliefs and views in using technology in their literacy curriculum with kindergartners.

Keywords: technology, integration, early-years literacy, teachers’ beliefs, environment
Summary

The tremendous growth of information technology today gives access to various new media and digital technologies at home, such as tablets, smart phones, etc. As a natural consequence, these technologies are easily accessible to our children therefore, there is an urgent need for children to learn and adapt to these technologies (Heydon, 2012), and an increasing need for educators today to bridge how students’ learn with technology, at home and at school (Northrop & Killeen, 2013).

There is substantial evidence that technology positively affects children’s literacy learning, inquiry, meaning building processes, and collaboration (Barone & Mallette, 2013; Newman & Roskos, 2005). Technology has also been found to substantially enhance learning among children with special needs (Mitra, 2013). As the benefits of new technology become more prominent, it is necessary that teachers incorporate and use technology both effectively and efficiently in their educational practices.

Despite the increasing use of new technology in schools (Durham District School Board, 2012), most classrooms still lack proper integration of technology (Chen & Chang, 2006). This gap may be caused by teachers’ lack of technological confidence or knowledge. Teachers’ poor technological knowledge and confidence may lead to a need for policy-makers to focus on bridging the technological gap through teacher education. Furthermore, while selecting the type of technology for a classroom, it is imperative that teachers not only focus on how to integrate technology in classrooms, but also emphasize on the curricular integration goals: that is, how to embed core curriculum with technology (Shields, Beggs, Bernard, Tefler, Council of Ontario Directors of Education, Canadian Electronic Library, & Ontario Ministry of Education, 2012, p. 154). Research suggests that teachers’ views and beliefs also affect the resources they provide in their classrooms and also the kind of literacy practices they encourage (Lynch, 2009). This trend is more apparent for teachers teaching in early-years classes (Lafey, 2004). Apart from teacher’s knowledge, goals, and views, their subsequent practices and approaches to teaching are also important determinants of how technology might be used in classroom curriculums.
Thus, to effectively use and integrate technology in early-years classroom it is important to understand all the factors that could influence the use of technology for literacy learning in young children.

This study is situated in a socio-constructive perspective. According to the socio-constructive approach, when people interact in their social environment, they construct meanings for their actions (Crotty, 1998). This research explores how different teachers use technology differently in their kindergarten classrooms based on their individual perceptions. Their practices (a reality) are observed through an ontological interpretive lens in order to highlight subjective differences in meaning making. Since individuals assign different meanings to their actions (Mack, 2010; Patton, 2002), in relation to this study, individual teachers use technologies for literacy learning with young children differently based on their interactions with their social environment (teacher colleges, school boards, schools, other staff, and children in their class etc.), thus forming their own meanings (teachers’ perspectives, values, and beliefs). These beliefs will further govern their actions and practices (Lynch, 2009).

Thus, the research study includes classroom observations of regular and learning needs kindergarteners, to capture teachers’ and children’s interactions with technology during literacy periods, and also includes semi-structured interviews with their teachers to understand their perspectives on the use of technology for literacy learning in young children. This methodological approach helps us understand how kindergarten teachers use technology in their classrooms, and how their individual experiences, beliefs, interactions with technology, teaching approaches, and other factors in their environment influence their use and integration of technology in kindergarten classrooms and finally, how these actions affect children’s literacy learning.

The major findings of this study reveal that teachers in both the regular kindergarten and learning-needs kindergarten classrooms employ several different technologies ranging from laptops, smart boards, to iPhones and document cameras for enhancing literacy learning in their classes. At the
same time teachers are also cognizant of different pedagogical needs among children in these classes and accordingly modify how they use these technologies to teach children. Overall the teachers have a positive perception of the benefits of technology; however, several factors in the child’s environment may hamper seamless integration of technology in these classes. Environment includes all the resources offered by school boards, schools, and teachers in their classrooms. It also includes the physical set up of a classroom. More importantly, the research study offers insights into the role of teachers by understanding the importance of scaffolding, power dynamics, and other environmental factors in a classroom which in turn, influences teachers’ effective use of technology in children’s literacy learning.

Reflecting on Vygotsky’s (1978) theory of learning and development, this study offers insight on teachers’ use of, and student engagement with, technology and literacy in kindergarten. From the researcher’s perspective, it was enlightening to gain knowledge of how technology can be intertwined with literacy learning in kindergartners, and through this research, teachers may be able to see how new learning modes, including technology use, are embedded in well-established theories of learning. The data analysis enabled the researcher to make several recommendations for the school board, schools, and teachers. These recommendations can help teachers improve their pedagogy with technology and enhance literacy learning in kindergarten classrooms.

The study further highlights the importance of teachers’ pedagogical approach, their rules of technology use in classrooms, as well as their beliefs that influence their use of technology with kindergartners. Being aware that teachers’ beliefs influence their use of technology in their curriculum, the study suggests that teachers reflect on their views and beliefs. The study provides recommendations to teachers on ways to further improve the integration of literacy and technology in the early years based on knowledge of teachers’ practices. This research also makes recommendation to school boards of further ways they can support technology development in the early years, including providing time and resource support.
References


