

**Robbie Goodman**

## Using Technology for Instructional Purposes. Literature Review

**Zusammenfassung**

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Literature Review

Robbie L. Goodman

Using Technology for Instructional Improvement

## Introduction

Apple announced it was changing its target market from birth to 6. This speaks volumes to how far technology has reached. If you give a child under 4 a device, you are certain to see the signature pincher grasp as they try to open or close the window screen. Prepare to laugh if it is a device that does not operate through touch, as they will appear dazed and confused.

Consumers continue to drive change throughout the world. Technology, People, and Information are all driven by the demand. In our classroom those consumers are our students. Everything we do should be driven by the needs of our students. If our students need paper and pencil to complete a task we have those supplies readily available for them. This general rule should apply to tools associated with technology as well.

Teachers are challenged more today than in times past to be effective educators. We should not be hesitant to incorporate technology into our classrooms, lessons, or assignments. Technology is defined by more than the power point or television. Teachers need to educate themselves on the vast choices in regards to integrating technology into the classroom.

Technology has changed the look of some classrooms. Smartboards are replacing white boards, electronic pens are replacing dry erase markers and I-pads are replacing notebook paper. While some districts have tools and resources readily available other districts may be lacking in funds thus hindering their ability to introduce students to the 21<sup>st</sup> century classroom.

*Does technology improve education? Do teachers have adequate training for using the technology in their classroom? How do students interact with technology in classroom? What are the challenges to incorporating technology in the classroom? What are the benefits of incorporating technology in the classroom? How are teachers using the interactive whiteboard?*

There are multiple empirical articles that share a standard deviation in regards to the answer to these questions. In this assignment I will review multiple empirical articles and share the data that has been collected within the specific studies.

An electronic search of several online databases was completed which included EBSCO host and Educational Resources Information Center. A cutoff date of 2014 was established using the following descriptors: technology, interactive technology, integration of technology,

special education, smartboard, and 21<sup>st</sup> century instruction. Data was collected through surveys, observations, and interviews.

**Does technology improve education.** It is increasingly agreed upon that the implementation of digital technologies in education needs a systemic approach in which stakeholders at the micro, meso and macro levels of the education system actively interact with each other to align the needs of learners and the potential of technology with requirements of educational systems (Voogt, 2016).

- A research study, conducted in Auburn, Maine showed that Kindergartner students using iPads scored much higher on literacy tests than students that didn't use the device. The use of the iPads helped the struggling readers to learn independently and encouraged the development of positive attitudes such as, 'I can do it'. We also discovered the development of technology skills supported young children's early literacy development through natural movements and use of fingers to tap, swipe, drag, pinch, stretch icons or texts (SuHua, 2013).
- MobiHealth News reported that Irvine Medical School at the University of California researched and discovered that iPad equipped medical students scored 23 percent higher on national exams than previously unequipped classes.
- A survey study at Oklahoma State University concluded that 75% of students agreed that the iPad enhanced their learning experience.

**Do teachers have adequate training for using the technology in their classroom.** Based on 10 interviews with classroom teachers, five patterns were seen. Many teachers do not feel adequately prepared to use technology in early childhood settings. The majority of participants described not feeling adequately prepared by their respective teacher education programs to incorporate technology in the classroom. Chris Crowell who has been a kindergarten teacher for 17 years has been experimenting with multi-touch learning. Chris feels that technology can provide a social, academic, and emotional garden-where his students can learn and grow roots. Where they can try and fail, develop grit that will help them throughout school and life (Fenty, 2016).

**How do students interact with technology in classroom?** Technology in early childhood classrooms offer many benefits. The majority of participants indicated that incorporating technology into early childhood classrooms presents significant benefits. Several participants highlighted the ways in which technology is helpful for gaining and maintaining young



children's attention. Sarah, a general education teacher, shared, "I think the Smartboard does a lot for the kids who wouldn't pay attention." Debbie, a special education teacher echoed, "I just think in a way the Smartboard can capture kid's attention a lot better (Islim, 2016)."

**What are the challenges to incorporating technology in the classroom.** All participants shared that they face significant challenges incorporating technology into an early childhood setting. For some participants, these challenges stem from the negative impact technology can have on children's behavior, especially during large and small group activities. "We use the smart board during circle time but it is a problem when it comes to sharing. Some of our students become very aggressive over the Smartboard." Julie, a special education teacher stated, (Fenty, 2016).

Across interviews, participants identified a need for more PD on using technology. One teacher shared, "There hasn't been any PD at this preschool that I know of for technology." Other participants wanted access to PD that was a good fit with their current knowledge base. For some participants, the PD they received was too advanced (Fenty, 2016).

In reviewing the articles listed below there were several patterns. In order for technology to work in any school everyone must be on board. Technology needs everyone's buy in to be successful. The majority of the reviews show that teachers wanted more professional development. Teachers want to learn more about technology. They want to have a better understanding of how to engage students and increase learning in the classroom with 21st century resources and tools. Teachers who used smart boards noticed it was easier to keep their student's attention when compared to the times they did not incorporate the tools.

Technology has changed the look of the 21st century classroom. Teachers have traded chalk for keyboards and students have traded note book paper for I-pads. Technology is not going away. It's imperative that teachers embrace it with open arms. It truly does make learning fun and engaging. If students are not engaged, they will not be learning. I think this is very important concept for teachers to understand. The days of standing in front of the room and lecturing are over. Teachers must interact and create a student centered environment that is inclusive to learning.

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