

Technology and Struggling Readers: The Ticket to a Brave New Future

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Abstract

Technology is changing the way reading is taught and is adding new possibilities to existing pedagogical practices. The challenge for educators is to effectively incorporate new technologies in the reading classroom to effectively introduce students to the experience and benefits of multi modal texts. As Larson (2009) notes, multimodal text experiences are common for learners as they engage with a variety of text mediums on a daily basis. In order to best prepare students for rewarding reading experiences, they need to be equipped with the skills to utilise the full potential of these devices.

This research paper serves to challenge existing notions of reading instruction and explores the potential that new technologies provide towards assisting struggling readers. Kindles, iPads and other such technologies are discussed while reflecting upon the immense benefits they provide to reading engagement and the building of comprehension skills. Research by Barone & Wright (2008) supports the use of technologies to support engagement noting “Greater engagement equals higher achievement. End of story”(p. 302).

By providing an analysis of current research into best practice techniques and sharing best practice examples from the classroom, this paper provides a pedagogical base for further consideration. Case studies of the effective use of technology within the U-CAN READ Literacy Intervention Program (Australia) and a local primary school are compared in order to make recommendations for classroom integration.

Technology is an essential component of the modern literacy classroom and is proving to be a unique asset when assisting struggling readers in their development. The term new literacies is frequently applied to forms of technology and the associated processes which assist a student in developing their literacy related skills. New literacies is successfully defined by Leu, Kinzer, Corio & Cammack (2002), as the skills, strategies, and insights necessary to successfully exploit the rapidly changing information and communication technologies that continuously emerge in our world (p.1572). Leu, Kinzer, Corio & Cammack go on to note that the defining feature of new literacies is that they are ever changing, as is the technology that delivers them into the classroom.

New literacies and their use within the classroom have already demonstrated the potential to change traditional aspects of the literacy classroom. The use of a variety of technologies in reading education is constantly evolving due to a wide variety of factors, including; the rapid development in new technologies and the development of new features associated with devices. The importance of analysing research associated with this topic cannot be overstated as it provides the lens by which to investigate the educational impact that new literacies have upon traditional pedagogical approaches to teaching reading.

The importance of new literacies within future reading instruction is without question. The way in which students interact with texts is rapidly changing. As Larson (2009) notes, multimodal text experiences are common for learners as they engage with a variety of text mediums on a daily basis. Evans (2005) defines texts in a number of forms, including “a chunk of discourse – a speech, conversation, radio program, text message or photo in a newspaper” (p.8). The Adelaide Declaration outlining Australia’s National Goals for Schooling in the 21st Century, outlines the importance of new literacies in the Australian education system by stating with importance that students leave school confident, creative and productive users of new technologies, while understanding the impact these technologies may have upon society.

What does the research say about technology and reading instruction?

Literacy and the way in which we interact with it has slowly changed and evolved over a long period of time. New literacies are speeding up this process dramatically, changing the nature of literacy practices and interactions both inside and outside of the classroom. The way in which a student engages with a text is changing, dependent upon their interaction. Leu (2011) outlines that literacy has become deictic with the development of the Internet, changing rapidly over a short period of time. The development of the Internet provided a unique opportunity for many to broadcast vast amounts of unique information to a wide audience in a relatively easy manner. The natural progression of Internet based technologies has resulted in the development of a broad range of different tools that can be used to interact with literacies in a variety of new ways. Leu et al. (2004) see the transformation from the Internet into the broader range of new technologies as an area of concern for schools as they work to successfully skill students in their effective use and meet concerns expressed by parents.

When integrating new technologies within a reading classroom, there is a risk of not creating enough change in practices to make the potential benefits of the technology worthwhile. Researchers suggest that many educators simply integrate the technology into the classroom with little consideration of the benefits that it may deliver. Honan (2012) refers to educators using new technologies within classrooms as ‘old wine in new bottles’ (p.83). This example highlights that some educators simply use electronic texts in the same form as they would a paper copy of a book. In working in this fashion, some educators are failing to realize the potential that these texts can provide. Bormann & Lowe (2010) and Larson (2010) refer to the benefits that reading on an electronic device can provide. Empowering readers by providing opportunities to adjust font sizes and use text to speech functions enables them to use in built features to support their reading development and therefore engage with the text in a more complex manner than with a traditional paper text.

Developing struggling readers’ skills in the use of new literacies increases their ability to become more proficient readers. The experiences of technology below highlight the use of specific devices in a range of educational settings.

Using e-Readers to assist struggling readers

The use of e-readers in the U-CAN Read Literacy Intervention program in Australia has empowered disengaged readers to take control of their own learning, and serves as an example of how technology can be best utilised in a one on one setting. In their paper, *Technology the Bridge to Reading Success*, Lowe and Spencer (2012) detail how technology has been effectively used to motivate struggling readers. The case study details the way in which the Kindle e-reader was used to re-engage John with the reading process. The Kindle served two purposes. Firstly, it was the bridge to engagement because John already demonstrated an interest in electronic devices and secondly, it provided readily accessible reading material to meet his interests (Lowe & Spencer 2012).

The Kindle in this case study provided the opportunity for John to read on his own terms. The Kindle allowed John to modify the size and positioning of the font to his specifications without him feeling overwhelmed by a page of text-dense print. The screen reader and the dictionary prompt were available to support John when he confronted unfamiliar words. According to John, the Kindle was “cool”. It did not trivialize reading nor make what he was reading appear immature to anyone who may observe his engagement (p.2477). The Kindle allowed John the flexibility to make choices about his reading content, complimented his use of technology and gave him the independence that adolescents strive to have.

In this case study, the kindle was initially used to display John’s self-authored content, as this was the only reading material that was of his interest. The kindle served as a bridge to enable John to make the passage from reading material that was created by him, to formalised fiction that he had previously described as too long and too hard (p.2477). In summary the authors describe the value of the e-reader in engaging John in reading as providing authentic reading experiences, giving students responsibility and choice in what they read and encourage students to be self-regulating (p.2480).

Larson (2010) provides a comprehensive evaluation of the use of Kindles within a whole class setting, working with struggling readers. In her study, Larson notes that the e-reader promoted new literacy practices, whilst extending connections and promoting engagement (p. 17). Larson noted that the Kindle tools (adjusting font size, text to speech functions) were those that most prompted engagement and placed the reader in greater control when reading the text.

Ciampa's study exploring Canadian primary grade student's experiences with reading e-books provides another opportunity to assess the use of e-readers in a whole class setting (Ciampa, 2012). This study is useful as it also highlights the differences that may be identified to traditional reading methods. Ciampa's analysis of the reading behaviours of the students in the class prior to the introduction of technology were characterized by low participation levels and frequent unmotivated off task behaviours. Children in the class were frequently noted to stop reading when reaching unfamiliar words and were heavily reliant upon teacher assistance in order to continue (p.13). During the study, students were introduced to e-readers and read texts in a similar way to traditional texts. Observations of these sessions indicated that students were on task and engaged all of the time (p.14). Clear indicators of an increase in comprehension were also evident with the use of e-readers. Students were more inclined to have a go at answering questions about the text and were correct on more occasions (p.15). Whilst it is easy to identify that motivation was a clear benefit from the use of technology, the side benefits of greater engagement with the text and decreased off task behaviour illustrate clear advantages towards meaning making and therefore increased levels of comprehension. Ciampa concludes her study on a valid note by recommending that e-reading tools be used alongside existing models of reading (p.21) to ensure that the practice is integrated and adaptable.

Using iPads to assist struggling readers

McClanahan, Williams, Kennedy & Tate (2012) underline the multiple ways in which the iPad has been used to effectively support reading instruction for disengaged learners. Most notably, the ability to use the device for effective one on one instruction is demonstrated (p.20). In analysing research into the use of new technologies with struggling readers, the modifications that can be made to the text are considered to be of the most useful. The authors detail a one on one reading intervention using an iPad for a variety of reading experiences with Josh, an elementary student diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). The study investigated the use of the iPad in a number of ways, including reading e-books, using educational websites and utilising educational games. McClanahan et al. (2012) note that an activity of particular benefit was an e-book reading app that was based at Josh's instructional reading level. The app allowed Josh to read the text whilst recording his voice, and then re-read the text while listening to his own narration (p.24). The benefit that was gained from this activity was that by being able to listen and identify his own miscues, he was able to improve his level of comprehension and gain more from the story. The use of the iPad in this way demonstrates a clear gain to engaging and assisting reluctant readers. Not only does the iPad provide for increased levels of engagement, as mirrored in previous accounts with e-readers, it also provides the means for a way in which to assist with increasing awareness of the text and build comprehension.

Culen & Gasparini's (2011) Norwegian study analyses how iPads can effectively be used to assist with the teaching of reading in a classroom setting with 26 students. In the study, students were immersed in a technology rich classroom that along with use of the iPads, also included interactive whiteboards, laptops and stationary PC's (p.201). The iPads were able to be taken home by students, which ensured that students had ample opportunities to become familiar with the use of the device and opportunities to experiment with its use. The theme of engagement was once again evident as a result of this study. 85% of students in the beginning of the study reported that the iPad was their preferred platform for reading (p.206). This figure remained consistent up until the end of the study, where students still preferred this method than traditional print books.

The integration of iPads into a medium sized comprehensive primary school in the Australian Capital Territory served to develop new pedagogical practices in the teaching of reading amongst educators within the school. The leadership team within the school aimed to provide all classes with reasonable access to class sets of iPad devices for use in literacy learning contexts. Little professional in-service was provided to the predominately young teaching cohort, which provided the opportunity for experimentation and new discoveries. Interviews with teaching staff confirmed that the iPad had the advantage of driving participation in reading lessons, by encouraging students who would have been otherwise reluctant to engage in the lessons (Personal Communication, 10 December 2012). The use of the iPad was also credited to the success of struggling readers to create authentic reading experiences, including opportunities for them to self-correct their own reading while using effective strategies for prediction of the text.

So what do these examples tell us?

Simply put, the overwhelming benefits of the use of technology with struggling readers are motivation and in turn, engagement. These examples work to prove the claim made by Barone and Wright (2008) that 'greater engagement equals higher achievement. End of story' (p.302). Each experience indicates how the use of technology encouraged otherwise reluctant readers to re-engage in a new and exciting way. Motivation alone however is not the only indicator of success when using technology. The ability for technology to make texts accessible in new ways through the adjustment of font sizes and layouts are also valuable advantages. The benefit that these devices play in the development of reading comprehension through voice recordings is also important to be considered. Some disadvantages that were noted across each of the studies usually concerned non-pedagogical issues, such as access to technology, compatibility of technology and systems related issues.

In summary, the following key points can be made:

1. *Technology motivates and encourages* – Students that are otherwise disengaged when it comes to reading traditional print books are excited when the reading material is presented in an electronic form.
2. *Technology gives students responsibility and choice in what they read* – By allowing students the choice to read what they like on an electronic device and

making it accessible through font size or text to speech functions, educators are driving authentic reading experiences.

3. *Students are encouraged to be self-regulating* – Reading on an electronic device is an overwhelmingly private experience, no-one can see what the student is reading. Students make choice on what they want to read based on their own opinions – not the peer pressure exerted from others.
4. *Technology provides the means by which to develop skills in 'New Literacies'* – Reading in this technology assisted style provides students with the opportunity to develop skills in the use of new literacies, which are transferable across disciplines.

Research clearly identifies the need for, and suitability of using technology in new and different ways within the reading classroom to support and encourage struggling readers. Practical examples prove the value and the advantages that technology can provide. Assisting struggling readers in this way provides the set of skills required to be productive and self-equipped learners.

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