Book Floods: The Benefits of Electronic Book Readers in L2 Acquisition

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Warwick Elley's *book floods* (Elley, Cutting, Mangubhai, & Hugo, 1996), which in essence are an instructional approach to implementing extensive reading in the language classroom, have been evidenced through multiple classroom-based trials to boost the proficiency level of L2 learners in a variety of global contexts. According to a review of the literature, current advances in electronic book reader (EBR) technology have made the implementation of Elley's book floods more globally accessible to both instructors and students. This review outlines the benefits that electronic books and EBRs offer to language learners, such as improved performance in the rate of literacy acquisition, pronunciation, and reader motivation, and significant literacy gains for children who would normally be considered at risk. The author asserts that the use of EBRs offers a multitude of potential benefits for both teachers and learners and outlines the need for further classroom-based research of EBR-based book floods.

ワーウィック・エリーの「本の洪水」(Elley, Cutting, Mangubhai, & Hugo, 1996) は、本来多読を教室に取り入れるための指導手段であるが、様々なクラスルーム・ベースの研究により、世界中の第二言語学習者の言語習熟度にも大きく寄与する事が証明されてきた。本文献研究は、今日の電子書籍 (EBR) 技術の発達によりエリーの「本の洪水」が指導者と学習者の双方にとってより身近になった事実を示す。同時に、EBRが識字能力の獲得、発音、読書へのモチベーションに与える好影響、また通常学習困難者とされる児童生徒が持つ識字能力の大幅な発達への寄与といった利益を概説する。著者は、EBRの使用が指導者と学習者の双方にもたらすことの出来る多大な利益を述べ、EBRを使用した「本の洪水」に関するクラスルーム・ベースの研究の更なる必要性も概説する。

Warwick Elley's book floods (Elley, Cutting, Mangubhai, & Hugo, 1996) have been tested through repeated experimental studies since the 1980s and have been shown to be an effective instructional technique for L2 acquisition. In this literature review and synthesis I will discuss the various factors involved in the successful repetition of Elley's book floods. I will then move on to discuss the additional benefits electronic books (EBs) and electronic book readers (EBRs) offer to the book flood process. In conclusion I will summarize the benefits of an EBR-based book flood curriculum and identify gaps in the literature and areas for future research. The benefits proposed in this review are especially accessible to those teaching in the Japanese context, and the application of this medium could be embraced in a variety of global contexts and for learners from the primary to university level. This review is in the form of six question-based sections:

1. What is a book flood?
2. What are the benefits of book floods?
3. How do EBRs counteract resistance to traditional book floods?
4. What are the additional benefits of EBRs to learners?
5. What are the expected benefits of an EBR-based book flood?
6. What are future research possibilities?

What is a Book Flood?

A book flood curriculum is a semi-structured approach to extensive reading that revolves around the presentation of a high-interest classroom library to students, from which they can freely draw reading materials of their choice (Elley, 2000). Successful book flood libraries have ranged in size from 70 to 200 books (Lin, 2010). Elley originally called for students to draw from the classroom library at a rate of four books per student per week (Elley et al., 1996), but success has been achieved with floods when only two books were read per student per week (Lin, 2010). The key to success lies in the high-interest nature of the texts, rather than their sheer number (Elley et al., 1996). The time dedicated to reading by students per school day in successful book floods hovers at only 20 to 30 minutes (Day, Omura, & Hiramatsu, 1991; Elley, 1991; Elley & Mangubhai, 1983). Book floods have succeeded in a variety of primary to university level ESL/EFL classrooms in both urban and rural environments and with a variety of ethnic groups in Niue, Fiji, Singapore, Sri Lanka, South Africa, Solomon Islands, Taiwan, and several other countries (Elley, 1991, 2000; Elley et al., 1996; Elley & Lumelume, 2009; Elley & Mangubhai, 1983; Lin, 2010). With reasonable consistency, book floods have been shown to produce proficiency gains that are 15 to 20 percent higher than control groups utilizing various other modern methods of language instruction in as little as 10 weeks (Elley et al., 1996; Elley & Lumelume, 2009; Elley & Mangubhai, 1983). Most studies have lasted between 14 and 15 weeks, but additional studies of 1 to 2 years have continued to show even more significant results (Elley et al., 1996; Elley & Mangubhai, 1983).

What Are the Benefits of Book Floods?

Increased Motivation

Book floods have been documented to benefit learners by heightening levels of motivation (Elley, 1991, 2000; Elley & Mangubhai, 1983; Lin, 2010). The causes of this boost in motivation can be attributed to a number of factors including cultural relevance, the high-interest materials, language usage outside the classroom, and the general satisfaction that comes from reading for pleasure (Elley, 1991, 2000; Elley & Mangubhai, 1983; Li & Seedhouse, 2010). Book floods give learning a language a sense of relevancy and applicability, while simultaneously making learning an enjoyable experience; participants have called the style both practical and fun (Elley & Lumelume, 2009; Lin, 2010). When these effects combine, a heightened level of intrinsic motivation for learners is the result and this effect has been found to stay with learners on their path to acquisition even after the conclusion of the initial book flood (Elley & Mangubhai, 1983; Lin, 2010).

Vocabulary Acquisition

It has been reasonably established that exposure to text-based input allows for incidental vocabulary acquisition amongst language learners (Day et al., 1991; Szamborski, 2007). Not only does this increased input result in more exposure, but vocabulary that is acquired through multiple encounters in a more naturalistic context has a better rate of retention (Elley, 1989; Luppescu & Day, 1993). By increasing the amount of textual

input to which students are exposed, the overall opportunity for incidental vocabulary acquisition rises (Day et al., 1991; Elley, 1989; Luppescu & Day, 1993; Szamborski, 2007).

Oral and Written Language

It is a generally recognized phenomenon that people who read more write better and Elley's book flood experiments have supported this claim (Elley, 1991, 2000). Not only has post-flood student writing improved, but studies have also found that the oral output of students during a story-based lesson is syntactically more diverse and complex (Ghosn, 2004; Li & Seedhouse, 2010).

Long-Term Academic Gains

In Elley's studies, in which book floods lasted for 15 weeks or more (Elley, 2000; Elley & Mangubhai, 1983), significant improvements in learner performance in subject areas outside the language classroom have been found. These studies showed that language learners taking part in a book flood have improved performance in content area coursework at a level that is significantly higher than their peers. Perhaps even more impressively, the performance gains noted in these studies have been documented as present amongst participants even years after the initial book flood had concluded (Elley, 2000). Improving reading skills in the target language lends itself to an improvement in reading skills in general, which translates to higher success in academic settings and arguably life (Garan & DeVoogd, 2008; Krashen, 2005). As noted by Wang, Young, and Smith (2009), book flood participants have reported post-flood that they feel themselves to be capable and successful students and readers.

Reading for Pleasure

The main reason for the success of book floods comes from the pleasure that students get from reading (Day et al., 1991; Lin, 2010). Students want to read in their target language, but they often lack the means to do so (Lin, 2010; Szamborski, 2007). Book floods not only provide materials, but also provide guidance on how to use those materials and enable students to pursue their own reading. Book flood experiments have resulted in the creation of independent readers who are motivated to continue their learning outside the classroom (Elley, 2000; Lin, 2010) and who continue their learning by using the reading strategies they have developed through the book flood (Garan & DeVoogd, 2008; Wang et al., 2009).

How do EBRs Counteract Resistance to Traditional Book Floods?

Long-Term Investment Cost

EBR-based floods do come with the initial investment cost of the book readers, but the cost of EBRs is now lower than it has ever been and continues to drop (Lendino, 2013). Additionally, it is a common practice for electronics manufacturers to offer discounts on their products when bought in bulk for educational purposes and this group discounting can be applied to both public and private schools, and from the primary to university level (Nagel, n.d.). One library can be shared for all of the EBRs in a classroom or school and all students have access to the same books at the same time. Students do not need to wait for another classmate to finish with a book before being able to read it and subsequently students have the ability to keep their reading as focused and high-interest as desired. Overall cost effectiveness will of course be dependent upon the size and expansiveness of the book flood curriculum and whether individual EBRs were purchased for each student or if a set number was to be shared

across classrooms. However, although the initial investment cost of EBRs may seem high, as time goes on the amount saved by utilizing EBRs accrues incrementally. Whereas the depreciation of electronics may seem off-putting, the need for highly relevant material during a book flood makes it seem impractical to buy and ship a new set of print books as students and their interests progress.

Ease of Updating

The need for periodic updates makes traditional book floods problematic for a number of reasons including cost, acquisition, and storage (Elley, 2000). Shipping a load of texts is not simple or even feasible in many parts of the world. However, EBRs offer the benefit of wireless updating. Entire libraries can be transported to schools with no actual shipping costs or delays in delivery. Finally, the issue of storage that comes with updating a library is simplified by EBRs.

What Are the Additional Benefits of EBRs to Learners?

Content Recollection

Research has indicated that students exhibit a higher level of story retention when learning from EBs rather than traditional texts (Korat, 2010; Korat & Shamir, 2008; Segal-Drori, Korat, Shamir, & Klein, 2009; Verhallen, Bus, & de Jong, 2006). Additionally, these same studies indicate that students exhibited higher rates of vocabulary retention when using electronic books than their peers who read from traditional texts. This research suggests that the quality of learning taking place when a student reads an EB is greater than when a student reads a traditional text.

Attention Stimulation

Many EBs add an additional level of interaction to the relationship between the learner and the text through inserted visuals, textual highlighting and emphasis, and in some cases, content-related games. All of these factors combine to result in a higher level of attention from learners even after having read a text multiple times (Segal-Drori et al., 2009; Verhallen et al., 2006).

Text-to-Speech

Numerous scholars have advocated the inclusion of audio input alongside written stimuli in reading programs (Davis, 1995; Day & Bamford, 2002; Labbo, 2000; Lin, 2010; Underwood & Underwood, 1998). Auditory input is a resource for learners due to its added support of pronunciation input alongside the reading (Amer, 1997). Reading-intensive programs are often cited as less effective because learners do not receive enough auditory input. However, the text-to-speech feature serves as a counterweight to the opponents of reading-intensive language programs as the function provides learners with the missing auditory input. Additionally, auditory input from stories being read aloud lends itself to higher rates of vocabulary acquisition (Elley, 1989) and the ability to break up reading materials into meaningful semantic units, rather than breaking sentences into meaningless parts as they are read (Amer, 1997).

Young learners are frequently viewed as needing adult assistance in the early stages of literacy development. A series of studies have indicated that text-to-speech technology provides some of the benefits that reading with a parent or teacher offers learners (Korat & Shamir, 2008; Segal-Drori et al., 2009; Verhallen et al., 2006). These studies indicate that text-to-speech may not be as effective as adult guided reading, but the benefit over nonassisted reading is significant. Additionally, these recent works explored the notion that many low socioeconomic status

(LSES) learners fall into the category of students who do not have access to assisted reading outside the classroom and text-to-speech is a particular asset to that demographic. These studies, which were conducted in Denmark, Israel, and the United States, recognized that the lack of access many LSES learners face contributed to a large performance gap with learners of mid-socioeconomic status later in life, and the text-to-speech feature and similar technologies of EBs and EBRs have been shown to reduce that gap.

Electronic Dictionary

The use of dictionaries while reading in an L2 remains a controversial item. Heightened retention of content and vocabulary is noted when students use a dictionary as they read, but reading rate is significantly slower (Luppescu & Day, 1993). Building a native-like fluency in any language requires being able to read at a comfortable rate, and having to interrupt that rate by flipping back and forth between a text and a dictionary makes that level of proficiency difficult to attain. With EBRs the time necessary to look up a word is notably reduced (Korat & Shamir, 2008). On many EBRs the dictionary function is accessible on the same display page as the text itself, so the learner is never pulled away from the actual content (Korat & Shamir, 2008; Larson, 2010).

Comments

Another beneficial feature of EBRs is the integration of a comments feature. With this feature learners are able to highlight text and add their own annotation. Highlights and annotations can then be shared across devices. The sharing allows for communication between learners and allows teachers to understand the kinds of questions students are encountering. In Larson (2010) the comments feature was used to promote a dialogue between classmates about a text they were reading. In the experiment, students were able to write questions they had about the text and to help each other answer those questions. The teacher was also able to read the questions and comments being annotated into the story and pinpoint where learners were struggling with various elements of literacy acquisition. Both students and teachers considered the comments feature to be highly beneficial and easy to use.

Usability and Interest

Even in the kindergarten classroom many learners around the world are already beginning to interface with computers (Segal-Drori et al., 2009). Accordingly, studies have documented that even extremely young language learners are capable of using EBRs without assistance and with very limited initial instruction (Korat, 2010; Larson, 2010; Segal-Drori et al., 2009).

Beyond their ease of use, EBRs bring a certain level of newness to the learning environment that inspires excitement in learners. In a study on the effects of introducing EBRs into the curriculum, students noted that they felt a *wow factor* when working with the technology (Larson, 2010). The added student investment in reading that EBRs offer through their novel form is a significant boon for educators looking to inspire. Larson (2010) noted that in integrating EBR reading into the classroom students reported transitioning from *not liking* to *liking* the activity of reading, and other book floods have noted similar positive attitude shifts (Lin, 2010).

What are the Expected Benefits of an EBR-Based Book Flood?

Traditional Book Flood Benefits

It is expected that with EBRs the same gains in proficiency of traditional book floods and extensive reading programs would be attained. However, given the added benefits that EBRs offer

to learners it is hypothesized that improved performance may be even more significant than that documented in traditional book floods. Additionally, it is hypothesized that long-term EBR-based book floods will see even greater rises in learner language proficiency and interdisciplinary performance than their traditional long-term book flood counterparts.

Predicted Gains

The boosts in language proficiency offered to learners through the usage of a dictionary while reading could be reasonably expected when using the built-in dictionary of an EBR. Not only would the gains in vocabulary retention of a standard book flood be attained by readers, but those gains could possibly be multiplied by the benefits of reading with a dictionary. However, this issue is complicated and the outcome described here may not be typical. Learners might attempt to take on more advanced texts with the assistance of a dictionary, but this increased use of the dictionary might be detrimental to fluency.

In addition to benefits with vocabulary acquisition, a boosted phonological awareness would likely be encountered in EBR-based book floods. A portion of the improvements in phonological awareness experienced by learners when reading alongside an adult (Ghosn, 2004; Wang et al., 2009) could also be reasonably expected from the use of text-to-speech functions (Korat, 2010; Korat & Shamir, 2008; Segal-Drori et al., 2009).

Traditional book floods resulted in learners progressing in speaking, listening, and writing skills (Elley, 2000; Elley & Lumelume, 2009; Elley & Mangubhai, 1983). All of the skill group performance improvements should remain present in an EBR-based flood. However, given the potential of the auditory input offered by the text-to-speech feature of EBRs, advancements are anticipated in speaking and listening. Through a heightened phonological awareness learners would be expected to feel more comfortable in their own ability to produce language and to capture the meaning of language when listening and speaking. Also, the usage of the comments feature by learners should produce developments in writing ability beyond those generated by a traditional book flood; however, the utilization of this feature takes away from time spent focusing entirely on reading the text.

Additional Academic Benefits

It is anticipated that as in long-term traditional book floods, through the implementation of EBR book floods, learners will show gains in all other subject areas outside of the language classroom (Elley, 2000; Elley & Mangubhai, 1983) and experience a change in attitude to seeing school more positively (Elley & Mangubhai, 1983; Lin, 2010).

What are Future Research Possibilities?

At this point there is a significant amount of research that still needs to be done on EBRs to test the benefits they offer to learners. There is a notable gap in the data as to how adult learners interact with EBRs. Ideally experiments should be designed to test this age group. Additionally, experiments testing a wider variety of age groups interacting with the specific features of EBRs, such as text-to-speech and the instantaneously accessible dictionary should be designed. There is a need for long-term testing of an EBR-based book flood, as the longest studies of traditional book floods occurred over a 2-year period, and it would be ideal to have a study of this length or longer with EBRs.

Conclusion

EBRs are still a relatively new technological innovation and as such their potentials and limits have not yet been fully explored.

Extensive reading, and in particular book flooding, has grabbed my attention as a way for students to pick up the nuances of an L2. I believe this new technology's introduction into the language-learning classroom is promising. The additional features that EBRs offer, such as text-to-speech, comments, and an included electronic dictionary, offer ways to develop the skill areas of listening and writing in a more multifaceted reading class. The benefits of EBRs over their print counterparts are numerous and now it is up to a new wave of research to determine what the long-term result will be for language instruction. This survey of the literature was aimed at discussing the implications of EBRs for a book flood curriculum, across language proficiency levels and student age groups, and on large and small scales. It is my hope that educators are interested in this topic may proceed to experiment with the introduction of EBRs into their language programs and to continue this thread of inquiry in their own specific contexts.

Bio Data

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