

Implementing Technology within Universally Designed Literature Circles

Carole Mackenzie, M.Ed. ¹ and Gabrielle Young, Ph.D. ²

¹Elementary Educator, British Columbia

²Assistant Professor, Faculty of Education, Memorial University of Newfoundland

Correspondence surrounding this article should be directed to Gabrielle Young via e-mail (gabrielle.young@mun.ca), phone (709-864-4413), or mail:

G.A. Hickman Building, Box 169
Faculty of Education
Memorial University of Newfoundland
St. John's, NL, A1B 3X8

Having all students read the same book conveys a message to students – that everyone has the same interests and reading abilities. The traditional practice of all students reading the same novel is being replaced by those which take into account a student’s needs, abilities and interests (Wu, 2013). Kids love the choice, discussion, and the freedom to read at their own pace. Exposing students to the joys of discussing a good book is an essential life skill that can be carried into adulthood. Literature circles allow and encourage the exchange of information and ideas through discussion, journaling and digital communication, and can be perceived as inclusive practice as there are a variety of adaptations that can be used to accommodate various reading abilities. The literature circle process can enable students to learn and practice reading strategies, be exposed to a variety of rich texts and engage in conversations and writing that will promote critical, creative and reflective thinking. Through the use of technology students can conduct research, improve keyboarding skills, experience online collaboration, practice appropriate use, and learn how to produce a variety of multimedia presentations. Using technology within the literature circle process can help to ensure that all students are included.

No longer is literacy about what students can accomplish using pencils and paper (Cavanaugh, 2006). Literacy can be developed using current technology and demonstrated through various multimedia. Technology can be used to assist and accommodate students with special needs or it can be used as an enhancement to a process that is already in place. Adding web 2.0 technologies can ensure that all students remain included, engaged and able to fulfill the curriculum competencies. The teacher’s job as the provider of information is shifting to a position of coach, facilitator and manager of technology (Afshari, Bakar, Luan, Samah, & Fooi, 2008). It is only logical that today’s classroom pedagogical practice should effectively include and integrate all that computer technology can offer (Klages, Pate, & Conforti, 2007).

Technology is changing the face of education with more teachers and students using devices in support of learning. However, schools are finding it difficult to keep up with the fast paced nature of technological advancements. A student is more likely to have experience operating a mobile device outside of school than from within. Therefore, a student is more likely to use a device for social purposes rather than to advance education (Beleslin & Tapavicki, 2013). Educators need to teach students how current technologies can support and enhance regular classroom learning while ensuring responsible and appropriate use. All students need to develop digital literacy and make a commitment to being responsible digital citizens. Digital literacy requires students to be able to communicate, research, create and problem solve using technology and digital citizenry requires students to do this in a safe and appropriate manner. Digital communication should be considered and developed appropriately.

Literature Circles

While explicit instruction in phonemic awareness, vocabulary and comprehension strategies are critical elements of learning to read, writing and collaborating about reading are also important in developing literacy (Brownlee, 2005). For both students and teachers, the heart of education is based on the art of collaboration (Klages, Pate, & Conforti 2007). Literature circles contribute to student collaboration because readers interact with the text and with others who have read the text (Klages et al.). Literature circles have been used as a way to encourage students to engage in natural conversations about literature they read (Bowers-Campbell, 2011). There are many variations of the process that have been suggested; however, the main goals of the process consist of stimulating conversation, collaboration and reflective thinking and writing.

According to Harvey Daniels' (2003) literature circle process, students chose their books from a reading selection and rotate through a variety of discussion roles (i.e., creator, discussion

director, word wizard and connector). Students are expected to arrive at their book meetings having read to an assigned page and their discussion role completed. Daniels' (2003) practice does not align with 21st century initiatives surrounding independent and personalized learning as students who are competent readers are held back reducing their enthusiasm for the process and lessening their exposure to a variety of other books.

Faye Brownlee (2005) presents the idea of fluid groups and the elimination of roles. Brownlee suggests that students should be able to read at their own pace without restrictive discussion roles. Using Brownlee's approach, students are able to read from the selected books, complete journal entries, comprehension activities and choose another book as soon as they are ready. Fluid discussion groups are constantly changing and include students who are reading different sections of the story. More capable readers may attend more than two meetings per week while moderate or slower readers may attend the same meeting for a couple of weeks. This allows for differentiation. Faster readers do not feel that they are being held back and moderate or slower readers are given the opportunity and needed time to engage in more conversations about the book.

Teachers can be uneasy about managing a process where all students are reading different books at varying rates and completing comprehension activities independently. However, fluid groups can work smoothly and effectively providing that the foundations of this approach have been achieved (Mackenzie, 2014). Students need explicit instruction and practice in reading strategies and on how to journal and complete the required comprehension activities. Teacher modelling, practice and the gradual release of responsibility can ensure that students are able to work independently and at their own pace.

Reading strategies and journaling should be taught before beginning the literature circle process. Students will need to learn what reading strategies help them understand stories they read. Teacher modelling, activities and practice should be provided to allow students to recognize and understand how to make connections, inferences, and visualizations. Students need to be introduced to reading strategies and encouraged to use reading strategy language when discussing content. Students also need to be taught to search for “golden lines” that spark connections, questions, inferences or visualizations. Golden lines are words or sentences in the book that stimulate prior knowledge, connections, questions, opinions or emotional responses. Journal submissions provide a quote and response to the quote and students are required to write their responses in advance of their circle meetings. Students must be taught that the quality of their written responses will depend on the lines they choose. Students need direct instruction on how to connect their thoughts and ideas with the story details. Students need to connect new knowledge from the story to what they already know. Young students or those unfamiliar with this process may begin writing basic and direct connections. As students become more familiar and confident with this process, their journaling and conversations become more sophisticated (Mackenzie, 2014).

Students need to feel that they are safe to express their ideas, therefore, over assessment and correction of journal writing is not recommended (Brownlee, 2005). While student’s work needs to be read, over correction of conventions may lessen the confidence and motivation for this process. This is particularly true for young students and those who struggle with written output. Deficiencies in writing can be addressed under other writing outcomes. What is important is that students are presenting their opinions, reactions and understandings of the

readings at their cognitive level as well as listening to the ideas and thoughts of others. See Appendix A for a sample rubric on journal responses.

Brownlee (2005) suggests that teachers create a schedule for book talks and post it within the classroom so students are aware of their meetings. Students who have completed the book may be given the opportunity to return to a meeting if there are not enough students available for the group. Literary discussions typically begin with the “say something” strategy where a student begins by saying something general about the book while the others listen carefully; this process continues until all members have had their say (Brownlee, 2005). What follows is a systematic process of all students sharing their written responses and a lively discussion based on the students’ written responses. Building capacity for deeper opinions and discussions about the stories is crucial. Students should be encouraged to tease others about what’s coming next in the story but avoid spoilers (Brownlee, 2005). Students should be taught the strategy of waiting their turn to talk when there is a pause in the conversation. Literature circles can develop a deeper understanding of stories and create life-long readers (Cavanaugh, 2006). Bookmarks can be made to highlight reading strategies and conversation and writing prompts (see Appendix B). Writing prompts are useful as journal starters, and if discussions get off topic, students can use their bookmark prompts to bring the conversation back to the story. Teachers need to model the motto “we need a circle and not a line” (Mackenzie, 2014), and use this practice to guide the physical formation of their literature circles.

Limitations of Literature Circles

The literature circle process offers opportunities to develop language skills and interactions and gets students engaging in deeper cognitive thinking. Although literature circles can be an effective process to encourage active discussion and cognitive development, there are

limitations to consider (Bowers-Campbell, 2011). While the main purpose of literature circles is to encourage students to engage in deep and natural conversations about the books they read, instructional enhancements are necessary to accommodate all students in reading, writing and oral language (Cavanaugh, 2006). In inclusive classes there are students who read below, at and beyond grade level. Students with disabilities require specific accommodations within the literature circle process. If the content is not differentiated to suit the needs of the class, students who struggle with reading and writing can feel excluded from this process (Cavanaugh, 2006).

Face-to-face discussions can be dominated by a small number of students and students who are eager and anxious to share their ideas can overwhelm the shy or struggling speaker (Bowers-Campbell, 2011). Students who are intimidated by face-to-face discussions require specific accommodations to ensure their safety, comfort and inclusion. Students with selective mutism can be extremely bright yet be unable to converse due to extreme anxiety surrounding organizing and processing thoughts. Students with selective mutism can find participating in discussions uncomfortable and extremely challenging (Bell, 2007). Students who are extremely shy or who have difficulties regulating their behaviour will require accommodations during literature circle discussions. In addition, gender differences can contribute to awkwardness during discussions, particularly if the fluid group has one male and three females, as some students may find this awkward and be less than eager to participate (Bowers-Campbell, 2011). Teachers should consider the need to develop conversation and the need to provide a safe and comfortable environment in which to contribute (Bowers-Campbell, 2011).

Individuals who are less efficacious or those struggling with self-regulation may be less inclined to remain focused and on task. Often students with learning disabilities have additional struggles such as Attention Deficit Hyperactivity Disorder, making it particularly challenging for

them to remain focused and be a productive member of the group. This may frustrate students who are on-task and lead them to doubt the effectiveness of literature circles. In addition, literature circle discussions can be too dependent on the presence of an adult; once a teacher or facilitator moves from the group, the discussions can collapse (Bowers-Campbell, 2011). The role of the facilitator is to ensure that the discussions run smoothly and remain on topic, and that students receive equal opportunities to express themselves. Students require guidance and support in making sure that they remain on task and are respectful of the thoughts and ideas of others (Bowers-Campbell, 2011). An inclusive process ensures that each student in the circle has the opportunity to share their initial “say something” and their responses. Nevertheless, students with particular needs may require more time and encouragement to share and respond to others.

In traditional literature circles there are typically about six book selections for primary students, and to accommodate the larger class sizes, there are approximately eight book selections for intermediate students. Each book group requires a volunteer to facilitate the group discussions. The facilitator must have read the book and be prepared to discuss it along with the students. Support staff, principals, librarians, parents, and grandparents can act as facilitators; however, it can be a challenge to find volunteers that are available to assist on a regular basis for approximately six weeks. Intermediate students can run their own meeting if the group is highly motivated to remain on task and follow the regular process. Nevertheless, making sure that the meetings run regularly and on time can be challenging. Traditional literature circles are limited by time and space and the discussions can be finite. In addition, the teacher must ensure that the parent volunteers are appropriately screened and prepared to follow the literature circle protocol (see Appendix C). Privacy issues can arise during discussions and it is important for teachers to discuss this with volunteers and provide a list of strategies to stimulate conversation

without risking inappropriate disclosure from students. Teachers should speak with volunteers to discuss the importance of ensuring students focus on the details and the events of the book. Planning the time for meetings, training facilitators, and ensuring that confidentiality is upheld can be problematic; however, professional guidance and open communication with volunteers can lessen the risk. Additional challenges occur when students with special needs are absent from school for a variety of medical reasons. Fortunately, technology can alleviate some of these challenges and provide accommodations for all students to succeed.

Assistive Technology

Assistive technology refers to any item, piece of equipment, or product system that is used to increase, maintain, or improve functional capabilities of a child with a disability (Individuals with Disabilities Education Improvement Act of 1990 (IDEA) P.L. 101-1476). Assistive technology can range from low-tech devices such as finger grips to high-tech devices such as iPads, laptops, interactive whiteboards, document cameras, as well as programs offering text-to-speech, word prediction and graphic organizers. Grant (2009) recommends the use of Inspiration, WordQ and Kurzweil. Assistive technologies can be used to bypass barriers that prevent students from successfully completing a task (Haq & Elhoweris, 2013). For example, students with written output challenges can sidestep the disability through the use of an Alpha smart, laptop, iPad or tablet. Assistive technology can increase a student's motivation to engage in tasks (Grant, 2009).

Technology to Support Writing

The writing process requires individuals to combine motor, cognitive, linguistic and social skills to communicate effectively (Batorowicz, Missiuna, & Pollock, 2012). During the pre-writing stage students brainstorm, plan and organize their thoughts. Inspiration

(www.inspiration.com) offers an online graphic organizer where students can brainstorm and organize their ideas. Inspiration was created for intermediate students while Kidspiration (www.inspiration.com/Kidspiration) was created for primary students. In alignment with the principles of universal design, this program can be used to support the pre-writing activities of students who are achieving below, at, or above grade level. While struggling writers may use Inspiration or Kidspiration to brainstorm ideas prior to writing, all students can use this tool to plan journal entries, blog and complete comprehension activities. Students can use the internet for research and embed videos or music within their online organizers. Graphic organizers can also be converted to a linear outline to support the writing process. All students require tools to plan and organize their ideas prior to writing and Inspiration is a valuable tool to support these endeavours (Grant, 2009).

During the writing phase, WordQ (www.gogsoftware.com) and Co-writer (www.donjohnston.com/products/cowriter/index.html) can offer support with word choice, ideas and text-to-speech functions. WordQ and Co-Writer are word prediction software programs which are equipped with built-in dictionaries which can be used to help students construct sentences. The effectiveness of the program will depend on the student's understanding of beginning letters and sounds or the program's ability to recognize phonetic similarities. Depending on a student's level of distractibility and ability to make use of the selected word choices, word prediction programs can either be emancipating or restricting. While WordQ does not have a grammar check feature, Evmenova, Graff, Jerome, and Behrmann, (2010), suggest that students and teachers appear to prefer WordQ over other word prediction programs.

During the revising stage text-to-speech, spelling and grammar checkers are important tools as students can reread and listen to their typed work to check for errors in spelling or

grammar. Reading the text aloud and using text-to-speech technology can allow students to recognize errors in their grammar and spelling (Haq & Elhoweris, 2013). While research shows promising results for writing support using assistive technology, Bartorowitz, Missiuna and Pollock (2012) remind readers that research is complex. Not all studies have been completed using up-to-date program features and there are numerous variables to consider when assessing the effectiveness of a program on a particular student. Literature on assistive technology stresses that any program used to support writing should be carefully considered, matched with the student's specific needs and abilities, and embedded within quality instruction. Teachers and support staff should discuss assistive technology at all Individual Education Plan meetings, and report cards should include all assistive technology that has been successfully and unsuccessfully applied. The teacher and support staff can then decide to continue, discontinue or find an alternative that would better suit the needs of the child.

Technology to Support Reading

Mixing literature circles with web 2.0 technologies tap into students' digital literacy skills and their desire for peer interaction and can inject interest and engagement in an already successful process (Edmondson, 2012). Using Kindles and other e-readers to compensate for reading difficulties can build hope and renewed motivation for reading (Miranda, Johnson, & Rossi-Williams, 2012). While the e-reader has many features that can assist with making text accessible, research on the benefits of e-books on comprehension is scarce (Schugar, Smith, & Shugar, 2013). The interactive features of e-readers make it easy for students to take notes while they read; however, reading from a handheld device is not the same as a computer screen as the handheld devices are smaller, leading to eye strain and fatigue (Connell, Bayliss, & Farmer, 2012). Fortunately, students can increase the size and darken the font on these smaller devices

helping to alleviate this problem. Students can use e-readers independently; however, it is important to monitor how students use the options as young children can be drawn more to the interactive features than to the text itself (Getting & Swainey, 2012), and the features of some e-readers can create distractions which interfere with comprehension (Schugar et al., 2013).

Educators need to be mindful of the purpose and goal of assistive technology (Anderson-Inman & Horney, 2007). What is needed is more specific design features that keep students supported and engaged in the reading and “an electronic reading environment that intelligently transforms text into something that supports comprehension and extends meaningful learning” (Korat & Shamir, 2007, p.153). Dictionary options are valuable but they can confuse students when there are several meanings to choose from. It would be beneficial for the student if the device not only displayed the meaning of the word, but the meaning within the context of the story. In addition, design features that could assist readers in identifying interesting quotes or events for journaling would be beneficial (Korat & Shamir, 2007). E-readers should not be overused or used to replace books on a consistent basis as there are concerns that students may overuse the dictionary and other features (Schugar et al.). While there is limited research on the effects of e-readers on comprehension, students are highly motivated to use these devices (Connell, Bayliss, & Farmer, 2012), and these devices offer promising results in raising the confidence and comprehension of struggling readers.

When an individual feels that they are not good at a particular skill, they will lose the motivation if support is not provided (Dickey, Randolph-Eddy, & Bowman, 2012). Kurzweil 3000 has been described as the most interactive tool for decoding, fluency and comprehension (Kanitkar, Ochoa, & Handel, 2012), and despite its restrictive price tag, in most schools Kurzweil 3000 remains the leading text-to-speech software program used to support reading.

Textbook pages can be scanned and uploaded onto the screen where students can highlight, take notes, summarize, and listen to the text being read at varying speeds. Kurzweil 3000 can slow reading enough for readers to decode and process (Kanitkar et al., 2012), and individual words are highlighted as they are read aloud, helping to improve student's sight word vocabulary and comprehension of the text (Strangman & Dalton, 2005). Kurzweil can blur the lines between general and special education (Dicky et al., 2012). Students with learning disabilities may need to use Kurzweil 3000 to compensate for their poor decoding or reading comprehension abilities; however, their typically achieving peers may prefer to use the read back function to support their editing of text. While reading and listening to a book selection on Kurzweil 3000, students might slow the reading to search for "golden lines" or key ideas. These ideas can be dropped into Kidspiration to assist in the planning and organization of journal or blog entries. Students may choose to compose a response using WordQ for support in spelling and word choice.

iPads

While some schools or school districts may opt to purchase site licenses, Kurzweil 3000 is typically only purchased by schools for a small number of users due to cost restrictions. On the other hand, there are a vast array of free and reasonably priced apps that offer similar support in writing, word prediction and reading. The UDL tech toolkit website (<http://udltechtoolkit.wikispaces.com>) is a wiki developed by educators for educators that provides access to free software in a variety of academic domains. The following apps can support literacy and students with disabilities.

Supportive writing apps.

- Abilipad (<http://appytherapy.com>) offers text-to-speech and word prediction.

- Idea Sketch (www.nosleep.net/) allows students to draw mind maps, plan presentations, and develop organizational charts.
- MyStudybar (<http://isu.edu/disabilityservices/mystudybar.shtml>) offers a floating toolbar with applications appropriate for struggling readers and writers.
- Popplet (www.popplet.com) is a graphic organizer used to map and connect ideas.
- SimpleMind (www.simpleapps.eu/simplemind/) is a graphic organizer used to brainstorm and map ideas.
- Texthelp (<http://www.texthelp.com/UK>) interacts with web pages to offer text-to-speech, translator and dictionary support tools.

Supportive reading apps. *The following apps provide text-to-speech.*

- Firefly (<http://www.fireflybykurzweil.com>) provides text-to-speech for iPads. Need to be a fully licensed user of Kurzweil 3000 to access this as a free app; however, you can access free text-to-speech using the accessibility features embedded within the iPad.
- Blio (www.blio.com) provides text-to-speech for e-readers.

iPads can be used to promote independence and individualized learning (Cavanaugh, Hargis, Munns, Kamali, 2012). The iPad has shown promising results when used for inquiry based projects (Cavanaugh et al., 2012). The popularity of the iPad is due to its user-friendliness and portability, making the iPad a highly engaging tool that can be utilized anytime and anywhere (Cavanaugh et al., 2012). iPads can assist students for whom English is a second language. The dictionary and translator options provide English language learners with the flexibility of being able to communicate while on the move (Cumming & Rodriguez 2013). Students who are less confident in their abilities to experiment with the English language are more willing to practice within the comfort of their own home. From audio textbooks, movies,

videos and internet access, the iPad offers English language learners with the necessary tools to advance their language skills.

There are few controlled studies on the benefits of using iPads to support students with learning disabilities; however, McClanahan (2012) shares a pre-service teacher's action research project based on a student with attention deficit hyperactivity disorder and lagging reading skills. After a variety of strategically planned iPad lessons that included word recognition, making inferences, and sequencing, the student's reading level improved a full grade level. Using the iPad improved the student's focus and he required less prompting to remain on task (McClanahan, 2012). Equally significant, was his improvement in metacognition and confidence. The teacher encouraged the student to listen to himself read and this helped him to be more reflective about his reading and consider ways to improve (McClanahan, 2012). The iPad is a tool that can support a prescriptive and individualized program for each student. The mainstream nature of iPads and other portable devices provides a successful introduction to technology for students with various challenges (Cumming & Rodriguez, 2013).

Overcoming Challenges

A rubric is a list of criteria and expectations that is used to assess or evaluate an assignment or project. The rubric shows where a student is being successful and areas in need of improvement. Teachers should invite students to provide input on how an assignment or project will be assessed or weighted. Students who are included in the process of creating rubrics are more likely to take ownership of the assignment, demonstrate extra effort and produce work of good quality (Weber, 2014). Rubrics can serve as a scoring guide for students, teachers and parents to recognize what is going well and what still needs to be accomplished. Fluency, grammar and punctuation can be an additional focus area, and students may be required to read

their posts with a friend and/or instructor before posting it to the blog. The rubric criteria should also include the length and frequency of posts. Students should be expected to post at least twice per week and be required to respond to others by asking questions for clarification or adding to the ideas of others. Teachers should be the administrators of the site, post on comments that others are able to read, and speak to students about any posts that needed to be revised, edited or deleted.

Teachers should begin typing instruction as early as possible. Traditional programs include: All the Right Type (<http://www.atrtonline.com>); or Dance Mat Typing (<http://www.bbc.co.uk/guides/z3c6tfr>), a colourful website with motivating graphics, varying levels of difficulty, and words of encouragement. Students' access to technology at home may far surpass what is available within schools (Afshari, Bakar, Luan, Samaha, & Fooi, 2008). Encouraging blogging at home allows students to continue their conversations and gives parents the opportunity to follow or contribute to the blog. Having students bring their own device to school can alleviate the need to rely on the school iPads or computer lab (Mackenzie, 2004).

Teacher training is crucial as teachers need to feel confident that they are able to implement and support students in the use of a variety of technologies. However, the appetite for using technology in the classroom can be varied because of a lack of technological knowledge and equipment. Students are digital natives and are comfortable using technology; on the other hand, many teachers are digital immigrants who have had to rely on professional development and a supportive leader to introduce and support the use of technology in the classroom (Prensky, 2001). A one-day professional development opportunity isn't sufficient to build confidence and capacity in using new equipment or applications. What is needed is an administrator or interested staff member who is willing to support others in the use of technology. With strong

administrative support, teachers can be given the time and the resources to use technology in their own teaching and share their experiences with other teachers (Su, 2009).

Getting technology into schools depends on a supportive and creative leader who is willing to create a technological vision and a desire to try and experiment with new practices (Cavanaugh, Hargis, Munns, & Kamali, 2012). Once school principals are on board, getting the technology into the hands of teachers, along with appropriate professional development, is the key to encouraging new practices (Cavanaugh et al., 2012). Once most teachers experience the benefits of the iPad, they will be motivated to want to use it more. Seeing how the devices can improve independence and engagement in learning is often enough to get teachers on board (Cavanaugh et al., 2012). Tech-savvy teachers can support each other in the use of technology within the classroom.

Melding Literary Circles and Technology

Kindles, Kurzweil 3000, or other text-to-speech programs should be made available to all students as this will normalize them as tools that everyone can use. Schools should purchase the Kindle audiobook version which is more expensive but allows for an authentic voice instead of a monotone computer voice which is not a good match for students with fluency challenges. While students can't read the story from the Kindle audiobook, it does offer more authentic voices, which can greatly enhance the reading experience for students with disabilities, and students can listen to the story while following the text in their novel.

The literature circle process begins by choosing a literature selection in collaboration with students, the librarian or another teacher. The literature may be organized around a theme and there can be novels, picture books, graphic novels, or poems included in the selections. The books must be highly engaging and appropriate for the grade level (Brownlee, 2005), and must

be carefully selected based on student interest, reading level and alignment with curriculum objectives. It is important for teachers to choose high interest books for literature circle sessions and topics that will generate discussion and provide opportunities for connections. The books must be relevant to the student's lives and teach knowledge that provides opportunities for critical, creative and reflective thinking. Books should appeal to both genders, the topics must be highly engaging, and the content should be manageable yet challenging for each student (Getting & Swainey, 2012).

There are times during the literature circle process where gathering sufficient volunteers to run book talks can be a challenge, and as a result, blogging can be an alternative to the book meetings. Teachers should facilitate meetings combining discussions and guided reading sessions as this will provide them with the opportunity to listen to students read, support the completion of comprehension activities, and address any blogging questions, comments or misconceptions. Students are more likely to blog about readings, events or actions that confuse them as opposed to discussing them face-to-face (Kitsis, 2010). Online discussions provide students with the opportunity to reflect on their comments before responding. In addition, online journaling offers students with disabilities the opportunity to carefully construct their thoughts and reply to the various comments. Students are able to revisit their ideas without interruptions or the time constraints surrounding face-to-face interactions. Online discussions can improve equal participation among members and researchers claim that shy students can come across as equally or more reflective than vocal students (Bowers-Campbell, 2011). In addition, blogging may help to support communication across genders. "Integrating technology into literature discussions enables authentic reading experiences that honor the voices of all students with diverse ideas, communication styles, confidence levels and abilities" (Bowers-Campbell, 2011,

p.557). As an alternative or addition to face-to-face discussions, blogging can be an effective platform for students to engage in discussions that widen their readership.

Blogs and wikis can facilitate a digital literature circle community (Edmondson, 2012), and there are a variety of blogging platforms available for teacher use (e.g., Blogger, Kidblog, Moodle, and Think Quest). Kidblog (<http://kidblog.org/home/>) provides teachers with tools to help students safely navigate the digital and increasingly social online landscape and allows students to exercise digital citizenship within a secure, private classroom blogging space. Kidblog is a safe and secure site, which allows students easy access with effective privacy settings. Educators can set the privacy setting high, allowing only the posts they have read to be posted in the discussion forum. Students should be exposed to blogging expectations and the importance of digital citizenship (see Appendix D).

Once the books and technologies are in place, the book presentations can commence. To increase excitement and curiosity, the teacher may use YouTube videos to present the novels. Alternatively, Animoto (<https://animoto.com>) offers the ability to create video presentations for each of the books. The graphics are eye-catching and the music can be matched to the theme or topic of each book. Video book presentations can offer flexibility and relieve the challenge of coordinating facilitators to do this job. Introducing the books by video alleviates the challenges associated with student absences as students can watch the videos at home or later in the classroom. Book introductions can be a whole afternoon affair and students are usually required to sit for a lengthy period of time. This is particularly challenging for younger students or those with special needs. The videos can be paused to offer explanations and answer questions if required.

As an alternative to physically choosing their first choice of novel, students can post their preferences to the blog (Edmondson, 2012). This can encourage students to make choices based on personal interest and ability rather than being influenced by friends. Indicating book preferences on the blog provides teachers with the opportunity to sit down and review student choices and speak to students individually before they are assigned their first book. This provides the needed time to ensure that the books are downloaded on laptops and Kindles are ready for students who had chosen more challenging stories.

Teachers can embed YouTube videos introducing the literature into Kidblog. This allows students to watch the book trailer if it had been missed or simply refresh their memory about the book. Once students understand how to navigate the blog, they should blog on their first book choice and why they were drawn to this book. Additional questions should be posed to activate prior knowledge. Activating prior knowledge is important so that students can link what they read to what they already know. This can be achieved through the blog. Sometimes educators expect students to make connections when in fact they have limited experiences to be able to do this effectively. Text-to-text and text-to-world connections require more sophisticated thought. Teachers can present multimedia material that can offer opportunities to make connections; poems, stories, videos, images, and songs with similar topics or themes can be posted to the blog to allow students to develop these strategies.

Students can be provided with a list of blogging prompts on a 3 x 3 choice board grid. For example, students could choose from a variety of options such as:

- What character would you like as a friend and why?
- As an interior decorator, how do you think your favourite character would decorate their bedroom?

- What do you think your character would like for his or her birthday?

Questions should be created to encourage critical and creative thinking. Rather than asking students to discuss their favourite part or their favourite character, choice boards should offer questions of specific relevancy to the lives of students and require deep and creative thinking. Teachers should use choice boards within the blogging process, and the questions must be relevant to the student's lives and stimulate deep cognitive thinking. When questions connect and relate to the life of students, responses show an increase in critical and creative thinking (Mackenzie, 2014). The questions provide structure for beginning writers and bloggers, and teachers can easily match the questions to the theme or topics of the books. Teachers can create choice boards that encourage students to make connections and inferences, pose questions and discuss transformations, and entice students to provide opinions and reactions. Choice boards can be differentiated and embedded within the blog to cover reading strategies and the elements of the story (see Appendix E).

Blogs encourage students to engage in meaningful conversations with classmates, share connections, ask questions, make inferences, and share thoughts and opinions about a selection of books. Furthermore, blogging can promote writing development. iPads can be used to compose blogs and produce a variety of mini comprehension assignments. iPads can also be used to introduce books and explain why their peers should read it, and students can take turns asking and answering questions about their favourite book in the selection. In addition, iPads can be used to create a video about a book, add props and music, and transcribe the video.

Literature circle sessions should last six to eight weeks, and the final culminating project should be based on Project Based Learning, which allows students to plan, communicate, and make decisions surrounding tasks to complete an independent project. Depending on the grade,

students create songs, poems, games, art projects, writing assignments such as sequels, wanted posters, magazines, and movie trailers. Projects that involve technology can be offered and aligned with a student's learning preference. Teachers can introduce a variety of apps and applications that tap into a student's preferred way of demonstrating their learning while promoting digital literacy skills. The following apps have been chosen to explain how to support students within the literature circle process.

Students who prefer to learn through discussion with classmates may enjoy ScreenChomp. This free app allows students to communicate and solve problems together through an interactive whiteboard which allows messages to be sent from one user to another and supports collaboration, the sharing of ideas, and group problem solving. Students might use this app to create a group journal entry where one student chooses the "golden lines" and responds, then passes the writing to others for their input and additional thoughts. This app would also be useful in teaching students how to write longer more sophisticated journal entries (<https://itunes.apple.com/ca/app/screenchomp/id442415881?mt=8>).

Edu.glogster would appeal to students who enjoy creating posters as a culminating activity. This app allows students to work together to create an interactive product such as wanted posters or advertisements presenting their favourite story or character. Web images, videos, drawings and photos can be embedded to create a unique poster created by two or more students. This is a free application (<http://edu.glogster.com>).

Students who enjoy deep reflection may be drawn to WordCollage. This app supports students in their vocabulary development and highlights the key features of text as words are presented in various sizes and colours depending on their significance in the text. This app can support students in recognizing key words and ideas within stories as it creates colourful collages

from the web or downloaded texts, which can be shared with teachers or friends. WordCollage is \$0.99 (<https://itunes.apple.com/ca/app/word-collage/id527057508?mt=8>).

LittleStoryCreator is a free app which allows students to create live books using videos, illustrations and photos. Students might create their own illustrations and videos based on a book, and students can use this app to support the retelling of a literature circle story (<https://itunes.apple.com/ca/app/little-story-creator-digital/id721782955?mt=8>).

Drawing Desk - Draw, Paint, Doodle, Sketch is a free bundle app that offers a host of options for drawing, painting and doodling and students are able to import images from other social networking sites to design and recreate new images. Prior to writing, students might use the Sketch desk to quickly map a favourite story. The Photo desk allows students to edit their images, add frames and colour, and the app allows students to import and export their creations. This app can support students in developing the reading strategy of visualization (<https://itunes.apple.com/ca/app/drawing-desk-draw-paint-doodle/id588358613?mt=8>).

Student assessment should be ongoing and conducted throughout the literature circle process using a variety of assessment tools. Written feedback, observations, interviews, self-assessments, videos and photographs, as well as rubrics, are many ways to gather evidence of a child's learning. Assessment for learning takes priority and students must be given consistent feedback through the literature circle process. According to the principles of Universal Design for Learning, assessment must be flexible, adaptable, varied and timely, and it must be used to improve future student learning (<http://www.cast.org/udl/>).

Recommendations and Conclusions

The literature circle process should not be stagnant; it should continuously evolve to reflect students' needs, interests and skills, and there are numerous ways in which the process

can be enhanced and extended. Educators often expect students to function collaboratively in a group and are surprised when things fall short of their expectations. Students require specific instruction on how to respond to others, take turns, and wait for pauses before speaking. Students should be provided with the opportunity to view others engaged in literature discussions (Mills & Jennings, 2011). This can be achieved through video presentations which allow students to view how discussions are achieved through respectful dialogue with everyone having their say. Knowing how to respond, waiting for pauses to speak, and making sure not to dominate the conversations are necessary skills to ensure the discussion process is a success.

Students need to be taught how to respond to the posts of others and should practice this skill before blogging. Teachers must demonstrate ways to piggy back on the ideas of others or ask questions for further clarification and understanding. Taking time to ensure that students are aware of the privacy concerns and understand the importance of ensuring anonymity while blogging is essential. Once assessment rubrics are designed and students are following the privacy expectations of the blog, educators might consider reducing the restrictions on who can visit the blog. Once parents have been apprised of the privacy concerns and the expectations of the blog, they might visit the blog with a comment or two. This would expand readership, show students that others care about what they say and write, and likely have a positive impact on student's motivation to write. Expanding the audience can be achieved once all privacy expectations are addressed and followed.

Choice boards can be used as discussion prompts on the blogging platform. A choice board can be created for each reading strategy, the story elements, and for expressing opinions, reactions and emotions. This will provide focus and scaffold younger students. The discussion prompts require that students use story details to form their creative responses and provide

opportunities to develop critical thinking. In addition, students should create a digital story based on a literature circle book (Tobin, 2012). Students begin by choosing their favourite story, creating small groups of three or four and dividing the roles of director, producer, writer and editor between them. The director oversees and makes final decisions, edits, revises and coordinates the photos and videos. The producer keeps members on task, ensures everyone is involved and keeps track of all the paperwork. The writer should be someone who enjoys writing and a member who is responsible for creating the script and making sure that it matches the storyboard. The editor should be someone who enjoys computers, editing movies and ensuring that the images match the storyboard (Tobin, 2012). Creating a digital story is an inquiry-based activity which encourages students to collaborate, ask questions, interpret the content and include personal connections. The book becomes the basis for inquiry and interpretation of how the digital story should look (Tobin, 2012).

Society expects that to the best of their ability, educational institutions provide personalized instruction for their child and the technology to support it (Cavanaugh et al., 2012). However, some schools embrace technology while others avoid it. Reluctance to use technology stems in part from the cost of training and providing one-to-one technology support. While technology such as Kurzweil 3000 can assist students living with a disability, it can greatly enhance instruction for all students. The literature circle process provides an inclusive program where students can read content at their own level and at their own pace with the aid of technology. Once a teacher is comfortable with the fundamentals of literature circles, the process can be enhanced and adapted to meet the needs of all students in the inclusive classroom.

References

- Afshari, M., Bakar, K.A., Luan, W.S., Samaha, B.A., & Fooi, F.S. (2008). School leadership and information communication technology. *The Turkish Online Journal of Educational Technology*, 7(4), 82-91. doi: ISSN: 1303-6521.
- Anderson-Inman, L., & Horney, M. (2007). Supported e-text: Assistive technology through text transformations. *New Directions in Research*, 153-160. doi:10.1598/RRQ.42.1.8.
- Bartorowicz, B., Missiuna, C., & Pollock, N. (2012). Technology supporting written productivity in children with learning disabilities: A critical review. *Canadian Journal of Occupational Therapy*, 79(4), 211-224. doi: 10.2182/cjot.2012.79.4.3.
- Beleslin, T., & Tapavicki, T. (2013). Information competencies of using the internet in education: A child's right in schools in a networked society. *Journal of Contemporary Educational Studies*, 3, 38-54. UDC: 37.091.33-028.17.
- Bell, D.M. (2007). From dare I say...? to I dare say: A case example illustrating the extension of the use of talking mats to people with learning disabilities. *British Journal of Learning Disabilities*, 36, 122-127. doi: 10.1111/j.1468-3156.2007.00475.x.
- Bowers-Campbell, J. (2011). Take it out of class. Exploring virtual literature circles. *Journal of Adolescent & Adult Literacy*, 54(8), 557-567. doi: 10.1598/JAAL.54.8.
- Brownlee, F. (2005). *Grand Conversations, thoughtful responses: A Unique Approach to Literature Circles* (pp.1-95). Winnipeg: Portage & Main Press. ISBN 978-1-55379-054-9.
- Cavanaugh, T.W. (2006). Using Technology to enhance in the literature circle as an accommodation for learners with special needs. *SIT*.
https://www.unf.edu/~tcavanau/presentations/SITE/pres_tech-lit-cir/technology_enhancement_literature_circle_accommodation.pdf
- Cavanaugh, C., Hargis, J., Munns, S., & Kamali, T. (2012). ICelebrate teaching and learning: Sharing the iPad experience. *Journal of Teaching and Learning with Technologies*, 1(2), 1-12.
- Connell, C., Bayliss, L., & Farmer, W. (2012). Effects of ebook readers and tablet computers on reading comprehension. *International Journal of Instructional Media*, 39(2), 131-140.
- Cumming, T.M., & Rodriguez, C.D. (2013). Integrating the iPad into language arts instruction for students with disabilities: engagement and perspectives. *Journal of Special Education Technology*, 28(4), 43-52. ISSN. 01626434.
- Daniels, H. (2003). *Literature Circles: The Way to Go and How to Get There* (pp. 1-144). Teacher Created Resources.
- Dickey, A., Randolph-Eddy, C. & Bowman, C. (2005). Assistive Technology: An adventure in blurring the lines between general and special education. In C. Crawford et al. (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2005* (pp. 3912-3917). Chesapeake, VA: AACE. ISBN 978-1-880094-55-6.
- Edmondson, E. (2012). Wiki literature circles: Creating digital learning communities. *English Journal*, 43-49. ISSN 0013-8274.
- Evmenova, A., Graff, H., Jerome, M., & Behrmann, M. (2010). Word prediction programs with phonetic spelling support: Performance comparisons and impact on journal writing for students with writing difficulties. *Learning Disabilities Research and Practice*, 25(4), 170-182. doi:10.1111/j.1540-5826.2010.00315.x

- Freedom of Information and Protection of Privacy Act. (updated 2014, July 30).
Retrieved from
http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96165_00
- Getting, S., & Swainey, K. (2012). First graders with iPad. *Learning and Leading With Technology*, 24-27.
Retrieved from <http://files.eric.ed.gov/fulltext/EJ991227.pdf>.
- Grant, K. (2009). Inclusive technology suite: Combing WordQ, Inspiration and Kurzweil to support reading and writing. *Special Education Technology Practice*, 21-26. ISSN: 43491652.
- Haq, F.S., Elhoweris, H. (2013), Using assistive technology to enhance the learning of basic literacy skills for students with learning disabilities. *International J. Society, Science & Education*, 3(4), 880-885, ISSN: 2223-4934.
- Individuals with Disabilities Education Improvement Act of 1990 (IDEA) P.L. 101-1476
- Kanitkar, A., Ochoa, T., & Handel, M. (2012). Kurzweil: A computer-supported reading tool for students with learning and attention challenges in higher education.
In T. Amiel & B. Wilson (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications*, (pp. 648-653). Chesapeake, VA: AACE. ISBN 978-1-880094-95-2.
- Kitsis, (2010). The Virtual Circle, *Educational Leadership*, 68(1) 50-56.
- Korat, O., & Shamir, A. (2007). Electronic book versus adult readers: Effects on children emergent literacy as a function of social class. *Journal of Computer Assistance Learning*, 23, 248-259. doi: 10.1111/j.1365-2729.2006.00213.x.
- Klages, C., Pate, S., & Conforti, P. (2007). Virtual literature circles: A study of learning collaboration and synthesis in using collaborative classrooms in cyberspace. *Curriculum and Teaching Dialogue*, 9(1), 293–309.
- Learning Disability Association of Canada. (2012). *Learning disabilities at a glance*.
Retrieved from <http://www.ldac-acta.ca/learn-more/ld-basics/ld-at-a-glance>
- Mackenzie, C. (2014). *Mind the gap and close it with technology: An examination of the use of technology within literature circles in a Grade 3 classroom*. Unpublished Master's project, Memorial University of Newfoundland.
- McClanahan, B., Williams, K., & Kennedy, E. (2012). A Breakthrough for Josh: How use of an iPad facilitated reading improvement. *TechTrends*, 56(3), 20-28.
doi: 10.1007/s11528-012-0572-6.
- Mills, H., & Jennings, L. (2011). Talking about talk: Reclaiming the value and power of literature circles. *The Reading Teacher*, 64(8), 590-598. doi:10.1598/RT.64.8.4.
- Miranda, T., Johnson, K., & Rossi-Williams, D. (2012). E-Readers: Powering up for engagement. *Educational Leadership*, 69, 1-3. ISSN: 0013-1784.
- Prensky, M. (2001). Digital Natives, digital Immigrants. *On the Horizon*, 9(5), 1-6.
Retrieved from www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf.
- Schugar, H.R., Smith, C.A., & Schugar, J.T. (2013). Teaching with interactive picture e-books in grades k-6. *The Reading teacher*, 66 (8), 615-624. doi: 10.1002/TRTR.1168.
- Strangman, N., & Dalton, B. (2005). Using technology to support struggling readers: A review of the research. In D. Edyburn, K. Higgins, & R. Boone (Eds.), *Handbook of special education technology research and practice* (pp. 325-334). Whitefish Bay, WI: Knowledge by Design, Inc.

- Su, B. (2009). Effective technology integration: Old topic, new thoughts. *International Journal of Education & Development using Information & Communication Technology*, 5(2), 161-171.
- Tobin, M. T. (2012). Digital storytelling: Reinventing literature circles. *Voices from the Middle* 20(2), 40-48. ISSN-1074-4762.
- Wu, E. (2013). The path leading to differentiation: An interview with Carol Tomlinson. *Journal of Advance Academics*, 24(2), 125-133. doi:10.1177/1932202X13483472.
- Weber, T., (2014), Tools for teachers and students, *Techniques*, 8-9.

Appendix A - Rubric for Journal / Blogging Responses

Category	1 Not there yet	2 Getting there	3 Better	4 Wow!
Quote	Quote has been chosen and written in journal.	Quote has been chosen and written in journal within "quotation marks".	Quote has been chosen and written in journal with quotation marks and page number.	Powerful quote has been chosen and neatly written in journal with quotation marks and page number. Student is able to choose quotes that "have life" and "spark emotions and reactions".
Journal Responses	Writing response is basic and obvious.	Writing response is more detailed and thoughtful. Students are beginning to write detail about their connections.	Writing responses are more detailed and thoughtful. Student is beginning to use a variety of reading strategies to analyze what has been read. For example, Connections Questions Inferences Visualization Transformation	Writing response is clear, detailed and thoughtful. Student uses a variety of reading strategies to analyze the events and characters of the story. The student is able to connect their response back to the story with thought and detail. Student shows a deeper understanding of the story events and characters through their responses.

Created by Carole Mackenzie

Appendix B - Bookmark for Literature Studies Writing and Discussions

<u>Conversation Starters and Continuers</u>	<u>Reading Strategies:</u>						
<p>Can you please repeat...</p> <p>Have you read any other books by this author?</p> <p>That reminds me of a time when...</p> <p>I think...</p> <p>I wonder why...</p> <p>I hope...</p> <p>I predict...</p> <p>Let's get back on track...</p>	<table border="1"> <tbody> <tr><td><i>Connecting</i></td></tr> <tr><td><i>Visualizing</i></td></tr> <tr><td><i>Questioning</i></td></tr> <tr><td><i>Predicting</i></td></tr> <tr><td><i>Inferring</i></td></tr> <tr><td><i>Transforming</i></td></tr> </tbody> </table> <p><u>Journal Writing Starters:</u></p> <p>This reminds me of...</p> <p>I remember...</p> <p>I can visualize...</p> <p>I would like to know why...</p> <p>I wonder why...</p> <p>I predict that...</p> <p>After reading this part of the story, I think...</p> <p>I believe...</p> <p>In my opinion...</p> <p>I agree/disagree...</p> <p>I now think that...</p>	<i>Connecting</i>	<i>Visualizing</i>	<i>Questioning</i>	<i>Predicting</i>	<i>Inferring</i>	<i>Transforming</i>
<i>Connecting</i>							
<i>Visualizing</i>							
<i>Questioning</i>							
<i>Predicting</i>							
<i>Inferring</i>							
<i>Transforming</i>							

Created by Carole Mackenzie

Appendix C - How to Run a Literature Circle Group

- Students should have their book, journal entry and pencil with them.
- All participants sit in a circle.
- Sometimes students will share where they have read to in the book to ensure that they don't give anything away.
- Decide who will begin.
- A student reads their quote/event, page number and response.
- Then, all students are expected to "say something" about this response. This may include comment about what it reminds them of, a question they have, or a general comment about the book.
- All students participate in the "say something".
- The next student reads their quote and response, again, all students "say something".
- Repeat until everyone has read their quote and response
- When appropriate to do so, students and the facilitator can encourage students to add to their response. For example, has the student provided enough detail, have they connected their ideas back to the story?
- If there is time at the end and everyone has participated, then the group can discuss questions they may have, other books they have read by the same author, their likes and dislikes about the book, challenging vocabulary and so on.
- Please ensure that the discussions focus on the book. If you sense a student is sharing private information about themselves or their families please stop them and direct the conversations back to the details of the story.
- Remind students about their bookmark if they are unsure of how to begin.

Created by Carole Mackenzie

Appendix D - Being a Responsible Digital Citizen Contract

**Blogging**

- Appropriate words, responsible use.
- Watch videos only on the blog. No clicking on YouTube.
- Use Microsoft Word to type blog entry and then edit before posting.
- *Do not* include any personal and private family information in your blogs.
- Check and read work carefully before posting.
- Write at least 10 complete sentences.
- Answer daily or weekly questions on the blog.
- Read and respond to other student and teacher blogs.
- Provide suggestions for the blog.

**Computer Lab and Personal Devices**

- Place device in container at the beginning of each day.
- Ensure devices are being used for lessons only.
- No filming or recording of students, unless this is part of a lesson or activity and permission is given.
- Appropriate use, responsible use.
- Keep password safe and secure.
- Ask for permission before searching on the internet or using other applications.
- Place device in container at the end of the lesson or activity or pack the device carefully in backpack and take home.
- Remember to bring your own device the next day.

I promise that I will follow the above guidelines so that I am able to Bring Your Own Device.
I can demonstrate that I am a Responsible Digital Citizen.

Student: _____

Date: _____

Images retrieved from

<http://www.monroe.k12.nj.us/cms/lib07/NJ01000268/Centricity/Domain/493/Kidblog%20logo.jpg>

http://www.biohorizons.com/images/app_hands.png

Created by Carole Mackenzie

Appendix E - Choice Boards for Literature Circles Blogging Prompts

Connections

Choose a character and write about how the character is like you. How is the character different?	Compare this book with another book that you have read.	What have you learned from this book?
If you could be a character in this book, who would it be?	Write a song or poem about a character or a place in the story.	Choose an event and write about how it reminded you of something you have done in the past.
Imagine you are the author of this story, explain why you chose to write this book.	Who would you recommend this book to? Explain why.	Did any of the characters or events remind you of something that you have seen on TV or the internet?

Characters

What characters would you like as a friend and why?	What character would you like to invite to dinner?	As an interior decorator, how do you think your favourite character would decorate their bedroom?
What do you think your character would like for their birthday?	What would your character do if they visited the classroom?	Discuss two emotions that your character felt, what made the character feel this way?
Which characters do you like the most? How would the story be different if this person were not in the story?	Describe your least favourite character and why?	What would your character do if they were to visit this school and classroom?

Similar grids can be made for the strategies of questioning, visualizing, transformations, and inferences as well as for the setting, plot, conflicts, and theme. Blogging prompts can be modified to suit the book contents and theme.

Created by Carole Mackenzie