

Reading Comprehension 2.0

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Carlene Walter
SSLA Executive Member



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Students have a deep urge to make sense of their surroundings through reading. Proficient readers demonstrate the ability to flexibly engage in a variety of strategies to probe and attain a deep understanding of read material. Educational experts such as Susan Zimmermann, Ellin Oliver Keene, Stephanie Harvey, Anne Goudvis, Sharon Grimes, and Debbie Miller – have outlined strategies for creating a potent and efficacious community of thinkers.

Teacher-librarians are uniquely poised to assist with the cultivation of comprehension and to collaborate with educators in the probe for deep meaning. As strong advocates for the development of students' literacy skills, teacher-librarians is aware of emerging technologies and opportunities and their applications to meet their users' needs and modes of communication. Characterized by creating, collaborating, connecting, and conversations, school librarians can explore how online social tools can enhance communication with users and their potential to enhance the comprehension of read material (Levine, 2008). "Literacy, technology, and literacy instruction are quickly converging. Thus, teachers are challenged not only to integrate technology with traditional aspects of literacy instruction, but also to engage students in emerging technological instruction" ([Corio, Knobel, Lankshear, and Leu, 2007](#)).

This article is not intended to be a summary of the aforementioned educational reading experts' research and strategies for fostering reading comprehension. Rather, the intention of this article is to highlight online or Web 2.0 tools that could replace or enhance methods of recording students' reflections, questions, inferences, and connections.

Reading Comprehension 2.0?

Emerging technologies can play a vital role in helping students in their quest to understand their reading – to assist in the explicit teaching of comprehension strategies outlined by [Keene and Zimmerman \(2007\)](#) - connecting, questioning, determining importance, inferring, monitoring comprehension, evoking images, and synthesizing and to reach and *The Dimensions Of Understanding* (Keene, 2008) :

- Fervently challenge themselves
- Struggle for insight
- Dwell in ideas
- Generate new knowledge
- Revise our thinking by socially negotiating others' perspectives
- Engage in rigorous discourse about ideas
- Emotionally connect
- Remember insights

Ellin Oliver Keene, *To Understand*

MONITORING MEANING

Proficient readers monitor their comprehension during reading – they can identify if read text makes sense or not, the purpose for reading, the degree of their understanding, and employ flexible strategies for managing confusing ideas (Keene, 2008). Web 2.0 tools can be used to assist students’ evolving interpretation of the text.

EMERGING TECHNOLOGIES

Glogster (<http://www.glogster.com/edu/>)

Glogster is a visual display of the creator’s interests, thoughts, and understandings. Glogs are created using a variety of tools including text, images, voice, video, special effects, links, sounds, and designs. Recently, Glogster launched an education development program that, according to the site, “will create an interactive and online classroom experience”. *Glogster for Education* offers support and help with creating school accounts and keeping Glogs private. The ability to embed Glogs into wikis and blogs is outstanding and makes Glogs even more versatile. Glogster’s ability to allow students to easily express their current level of understanding helps to construct deeper meaning.

Example - A Student Project (<http://science2a.glogster.com/Rachel-Carson-2/>)

Stixy (<http://www.stixy.com>)

Stixy is an online bulletin board. On the Stixyboard, student can add notes, documents, photos, and bookmarks. Information can be arranged, reorganized, and shared as determined by the each individual user.

Example – The Bite of The Mango (<http://www.stixy.com/guest/34925>)

The screenshot shows a Stixyboard interface with a navigation bar at the top containing links like 'Go To Stixy', 'About Stixy', 'Feedback', 'Report a bug', 'Calendar', 'Personal Settings', and 'Sign Out'. Below the navigation bar are buttons for 'Open List', 'New Stixyboard', 'Share', 'Options', 'Auto-saves in', 'Save now', and 'Show S'. The main content area features several interconnected elements:

- A book cover for *THE BITE of the MANGO* by Mariatu Kamara with Susan McClellan. A yellow sticky note above it reads: "Memoire of a girl born in Sierra Leone who, at the age of 12, had her hands amputated by boy-rebel soldiers."
- A map of Sierra Leone with a yellow sticky note: "An impoverished country on the West Coast of Africa".
- A photograph of a young boy holding a rifle, with a yellow sticky note: "boy-soldiers".
- A central text box containing a quote: "One of the young rebels threw down his torch and grabbed the machete slung on his back. In one violent swoop, he chopped off the woman's head. The baby wailed as the woman's body fell back into the house on top of him. Her head rolled onto the road toward me. I started to cry again, and my body convulsed. 'Do you want to join them?' the rebel watching over me threatened. Part of me did."
- A yellow sticky note at the bottom center: "civil war".
- A green sticky note at the bottom left: "Connections to: Afrika Chanda's War".

Blogs

A blog, or a Web log, is a space for personal and professional reflections and opinions that are viewable by a global audience. Combining solitary reflection and social interaction, the blog posts are written commentaries of students' thoughts, discoveries, and understandings from experiences and the perspectives of others. There are several free online hosting services:

Blogger (www.blogger.com)

Classblogmeister (www.classblogmeister.com)

Edublogs (www.edublogs.org)

Wordpress (www.wordpress.com)

Example - *Mrs. Cassidy's Classroom Blog*

(http://classblogmeister.com/blog.php?blogger_id=1337&l=1143592742)

Scrapblog (<http://www.scrapblog.com/>)

Scrapblog allows a user to create and share a personalized multimedia scrapbook. Creative elements, including photos and video, can be combined to visually display students' current understanding of read material.

Example – *Alternate Book Report* (<http://www.scrapblog.com/viewer/viewer.aspx?sbid=457884>)

Awesome Highlighter (<http://www.awesomehighlighter.com/>)

Awesome Highlighter, a simple application that does not require registration, allows educators to demonstrate reading strategies and for students to highlight text that stimulated predictions and/or connections. Highlighting with the absence of active synthesis of information may “lull students into dangerous passivity” (Harvard College Library, 2007 as cited in Harvey and Goudvais, 2007). In order to construct meaning, students need to leave a “comprehension footprint” – a trail of their thinking that is supplemented by written reflections and dialogue with peers.

Book Glutton (<http://bookglutton.com/>)

The creators of Book Glutton believe “people want to read, annotate and discuss, right there, immersed in the text”. This Web application allows students to either select a book from Book Glutton's catalogue or to upload their own material. The built-in-device Unbound Reader changes reading from a solidarity adventure to a collective experience. Students can engage in discussions synchronously via a chat window, and post comments. To prevent exposure of the ending and thus spoiling the reading experience, students can restrict their conversations to students viewing the same chapter.

USING PRIOR KNOWLEDGE

Proficient readers build upon schema, previous knowledge and experiences, to make sense of and accommodate new information (Keene, 2008). Online tools can help readers visually represent assimilated prior knowledge and drawn conclusions, as well as easily accommodate changes to schema due to new information gleaned from text.

EMERGING TECHNOLOGIES

Mindmaps and Concept Maps

Mindmaps and concept maps are graphical tool for organizing and representing understandings. The nonlinear format allows thoughts and ideas around a central main topic to be organized in a diagram - organizing prior knowledge, questions, and connections between ideas. The most notable Web based concept application for creating a simplistic mindmap or concept map are:

Bubble.us (<http://www.bubbl.us/>) creates notes and mindmaps online.

Mind42 (<http://mind42.com/>), a collaborative mindmapper, allows users to manage understandings individually or collaboratively.

Mead Map (<http://www.meadmap.com/>) assists with note taking and the organization of information. Its student/teacher collaboration facilitates continued dialogue.

Thinkature (<http://thinkature.com/>) is not only a mindmapping tool, but can be used to communicate by conversing, drawing, creating, and adding Web-based content.

Webspiration (<http://www.mywebspiration.com/>) is a collaborative tool that integrates outline and diagram formats.

Example – *JenniferTrigger* (http://sitemaker.umich.edu/jennifertrigger/web_2.0-thinkature)

SuperStickies (<http://wigflip.com/superstickies/>)

SuperStickies generates “sticky notes” from entered text. The stickynote picture can be customized – allowing students to choose the colour of the note, the colour of the text, and the text alignment. Students can create a sticky note picture of their connections, questions, and thoughts of read material. Stickynotes can be saved to the computer and/or photosharing sites, such as Flickr.

Example – *Reading Comprehension Strategies*

(http://www.wordle.net/gallery/wrdl/340435/Comprehension_Strategies)

ASKING QUESTIONS

Proficient readers continually question, wonder, and inquire meaningfully and purposefully before, during, and after reading to deepen comprehension (Keene, 2008). As intriguing questions are inspired by the text, Web 2.0 tools provide a simplistic and proficient way of recording their queries.

EMERGING TECHNOLOGIES

VoiceThread (<http://voicethread.com/>)

VoiceThread is a collaborative, multimedia slideshow that holds images, documents, and videos and allows comments via text, audio, video, and voice. The ability to share thoughts and ideas promotes and fosters collaboration and community building.

Example - *How Are You Using VoiceThread In The Classroom?* (<http://voicethread.com/#q.b77623.i397019>)

Voicethread4Education Wiki (<http://voicethread4education.wikispaces.com/Library>)

BookGoo (<http://www.bookgoo.com/>)

BookGoo is a writing tool that allows students to highlight, draw, and annotate a document, and then share with others. Other students can also then annotate the same document. *BookGoo* allows students to note their connections, questions, and other thoughts evoked by reading.

Example – *Funny Stories for the Classroom*

(<http://bookgoo.com/goo/view/475f6716-b69b-11dd-b989-00144f788334>)

EVOKING IMAGES

Proficient readers visualize or evoke mental images emerging from five senses to enhance the reading experience (Keene, 2008). Online tools allow readers to display the rich detail of their mental picture and to easily adapt their image to incorporate additional information revealed through continual reading.

EMERGING TECHNOLOGIES

Flickr (<http://www.flickr.com/>)

Flickr is an online photo management and sharing application. Using the *Flickr Organizr*, students can place their images into photosets – an album of images - elicited from read material. Students can share their photos with those who do not have a Flickr account using the Guest Pass feature.

Conversation and the construction of deeper knowledge is elevated when students contribute to peers' developing photoset by adding notes directly onto the images (the text appears when the mouse moves over a designated part of a photos) or by posting comments below each individual photograph.

Example – *Annotated Images- Easy As Pie* (<http://www.flickr.com/photos/cogdog/269039506/>)

Dabbleboard (<http://www.dabbleboard.com/>)

Dabbleboard is an online whiteboard that provides a canvas for students to visualize, explore and communicate ideas. For the non-artistic, Dabbleboard cleans up rough strokes and allows students to add text and to embed images made with other applications. Individually or in collaboration with others, students can visually document their thinking and current understanding of read material in symbolic, written, and expressive forms.

GoogleDocs (<http://docs.google.com/>)

GoogleDocs is a collaborative word processing tool and presentation makers. Students can create documents, spreadsheets, or presentations and then share the material instantly. Once invited to edit or view, multiple students can collaborate with each other and add comments in real-time. The revision history allows those who have access to view who contributed to the material and at what time. Presentations can be viewed simultaneously by all invited students, who are able to follow the presenter.

Example – *Google for Educators: Google Docs* (http://www.google.com/educators/p_docs.html)

DETERMINING IMPORTANCE IN TEXT

Proficient readers are able to determine important ideas, themes, or key pieces of information in read material (Keene, 2008). Web 2.0 tools facilitate students' articulation of significant concepts and ideas at the word, sentence, and text level.

EMERGING TECHNOLOGIES

Word Generator

Wordle (<http://www.wordle.net/>) generates “word clouds” or artwork from provided text, giving greater prominence to words that appear more frequently in the source text. Wordle’s applications to fostering reading comprehension is limited only by the imagination – from identifying key words within a passage to analyzing content. To explore the various uses of Wordle, view examples at *TED: Ideas Worth Spreading* (http://blog.ted.com/2008/06/wordle_tedtalks.php) and view Chris Pirillo’s video, *How Do You Create Word Art* (<http://www.youtube.com/watch?v=XsM5EVnsBa4&feature=related>), discusses the various uses of Wordle.

Examples: *Wordle: Using Word Clouds in a Lesson* (<http://www.boxoftricks.net/?p=103>)

Online Dictionary

Wordia (<http://www.wordia.com/>) is not only an online textual dictionary that defines unknown words, but a creative visual tool that invites students to watch or produce a video description of a word or key idea. The personal interpretations of meaning combined with creative production facilitates a deep delve into read material and a visualization of understanding. Etymologists may disapprove of the common people ability to define words, but Wordia’s subjective nature allows students to personally construct meaning rather than regurgitate the words of others without understanding.

Example – Incognito (<http://www.wordia.com/incognito>)

Autosummarize

Sharon Grimes, in *Reading Is Our Business* (2006), outlines how word processing software programs, such as Microsoft Word, can be used to scaffold students’ reading. Autosummarize can not only be used to assist when the text exceeds the student’s comprehension level, but to also determine importance in read material. In Word 2007, the Autosummarize feature can be found by clicking on the Office button and selecting Word Options. Prior versions of Word feature Autosummarize in the Tools menu. After students have read the concise summary, Grimes (2006) advocates incrementally increase the amount of summarized text to at least fifty percent of the original. The gradual increase of displayed text allows students to easily discriminate between the main idea and supporting details.

DRAWING INFERENCES

Proficient readers create a uniquely personal meaning from words, ideas, and concepts that are not explicitly stated in the read material. The inferences are a combination of prior knowledge and textual information that allow the reader

to draw conclusions, create connections, and interpret facts (Keene, 2008). Students' unique interpretation of text and the fervent struggle to understand complex concepts can be captured using Web 2.0 tools.

EMERGING TECHNOLOGIES

Google Notebook (<https://www.google.com/notebook>) is an online collection of reflections, clippings of information (text, images, and links) from across the Web, which is organized and can be shared with others all from a single location. There are many benefits to using an online productivity tool – accessibility, ease of collaboration, and ability to embed hyperlinks easily. The Google Notebook is accessible by any Internet connected computer – alleviating the problem of “where did I file this” and “is this the latest copy?” Wesley Fryer (2007) also cites many enticing reasons to use Google Notebooks including citation aid, flexible organization, and publishable.

Example – *ICT In My Classroom* (<http://tbarrett.edublogs.org/?s=google+notebook>) highlights the use of Google Notebooks in his classroom.

Flowgram (<http://www.flowgram.com/>) is a screencasting and link-sharing tool that does not require a download. Student can create multiple pages, add an audio commentary, highlight content, embed objects, and scroll to particular areas on each page. Notes can be added by the creator or by other students.

SYNTHESIS

Proficient readers maintain a cognitive synthesis as they read; they are metacognitive of evolving changes in their ideas and conclusion as they progress through reading (Keene, 2008). The active revision of students' cognitive synthesis can be easily documented using online tools/

EMERGING TECHNOLOGIES

Audacity (<http://audacity.sourceforge.net>) is a free, open-source software for recording and editing sounds. Without the restraint of documenting in written form while talking, a recording of students' thoughts as they socially negotiate through text is possible. Educators are also able to record their think alouds to help guide students through the gradual release of responsibility.

Examples – *Virtues Project* (<http://spiritsd.ca/scp/projects/virtues/default.htm>)
Aspects of China (<http://www.spiritsd.ca/scp/projects/china/>)
True Confessions of Charlotte Doyle (<http://spiritsd.ca/teachers/holly.stasiuk/doyle/default.htm>)

Animoto (<http://animoto.com>) is a free digital storytelling tool that allows students to gather images, add sound, and text to create a music video. As children younger than thirteen years of age are unable to register, *Animoto for Education* allows teachers to register for a Classroom Code inside which young students can each have their own accounts.

Example – *Animoto For Education* (<http://biz.animoto.com/education/practice.html>)

Conclusion

Comprehension strategies help to develop, enhance, deepen, intensify, expand, extend, and probe new layers of understanding (Keene, 2008). Teacher-librarians play a vital role in not only explicitly teaching comprehension strategies, but providing further student exploration to the unstructured and unscripted places charted by the strategies. Purposeful instruction integrated with emerging technologies and extended allocation of time for independent reading are the tools for creating a culture of critical readers.

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