A poster on my office wall shows a child holding a flashlight under the covers as he reads in bed. Many literacy education students respond to the poster by claiming, 'I used to do that.' Their confession is not surprising, for most who decide to teach English or language arts do love literature. Usually they have been avid readers who have had no difficulty becoming immersed in plots, fascinated by characters, or drawn into the deeper issues of literary study. Usually their passion for language and literature serves their students well. However, in some cases, the passion and ease with which literacy education students approach texts prevents them from reflecting on how they interact with texts and from making their personal strategies available to students.

Thus, the sophisticated literacy skills of practicing (Zancanella, 1991) and prospective English language arts teachers can create a bind in literacy teacher education. In a case-study examination of the subject-matter expertise of an English teacher, Holt-Reynolds (1999) demonstrated that the teacher's failure to understand that she had been taught the processes of reading literature resulted in her inability to identify those processes or to see that they were teachable. Because the processes were invisible to her, they were 'unavailable' to her students.

In discussing this case, Holt-Reynolds recalled Berliner's distinction between 'knowing that' and 'knowing how.' She explained that 'knowing that' is 'represented by an ability to perform a skill or demonstrate comprehension of the discipline's facts, principles, or theories.' Many prospective literacy teachers have no problem with the 'knowing that' aspect of teaching literature. They know famous authors, common themes, and the famous speeches of heroes and heroines. However, the second kind of knowledge, 'knowing how' is more difficult to come by. This sort of knowledge 'includes an ability to articulate the personal strategies' one uses to understand or respond to the facts, principles, or theories of the discipline (1999, p. 31).

For literacy education faculty, the challenge embedded in these different ways of knowing about English or language arts is in finding a way to help prospective teachers arrive at knowing how, at a recognition of the processes that are embedded in literacy studies. In this article I describe how technology may be used in an intermediate reading methods class to help prospective English language arts teachers develop a deeper sense of knowing how.
The Role of Selective Attention in Knowing How

As I planned this course, I worked from an understanding that learning is deeply connected to the way we pay attention, to the way we focus on the different elements of an environment in which we are immersed. In discussing the nature of this phenomenon, Rosenblatt (1988) used 'selective attention,' a term coined by William James to describe the idea that there is a selection process, a conscious or unconscious decision to focus, to attend to certain objects, facts, or processes at any moment.

Rosenblatt (1988) suggested that we experience a 'dynamic centering on the contents of consciousness' and that this centering determines 'what is brought into awareness,' as well as 'what is pushed into the background or suppressed' (p. 3). I explain this concept to students by using an example of a team photograph or a picture from a yearbook. I note that when we see such a photograph and know a loved one is present, we quickly scan it to find the face of the familiar person. After we have found that face, we cannot unfind it. It becomes the focus of our attention each time we view the photograph, unless we make a conscious effort to look elsewhere.

Generally, when we read our selective attention is focused on understanding the text before us rather than on the strategies we are using to make sense of the text. After all, though our primary reason for reading a text may be for enjoyment or for learning something new, our primary focus is usually engaged by determining what the text has to offer. Most prospective teachers are practiced students who have spent a lifetime figuring out what the text is 'saying.' The processes they use to figure things out, however, are usually pushed to the background or suppressed. In the intermediate reading class, I try to get students to bring their own strategies for understanding into view, to reflect on the role of reader so they may begin to grasp the knowing how of teaching texts.

Slowing Down Reading to Pay Attention to Personal Processes and Strategies

One mechanism for helping students reflect on their own strategies for making meaning of texts is to slow down their consumption of texts in order that they might take time to focus on what they do as they read. On the first day of class we engage in a slow-motion reading of a poem.

Vine and Faust (1992) used the slow-motion process in their study of how hundreds of readers responded to a single poem. Participants in their study read the poem three times during one sitting. After each reading they turned the poem face down and wrote all that they could remember about the poem. After the third cycle, readers considered not only the poem but also their previous responses. That is, they read over all they had written before and tried to discover how their understanding of the poem had changed over the course of the multiple readings.

In the intermediate reading class, the slow-motion process is a mechanism for focusing prospective teachers on the complexities of reading. After students finish the reading, we share the multiple meanings we have constructed. This process helps us identify several patterns that are related to literary response. For example, students immediately recognize that prior experiences influence the different images they have visualized. They also notice that many students make connections with texts that are related to other texts or to their own personal
histories.

The slow-motion process helps students begin to pay attention to their own strategies for reading. However, one activity is not sufficient to help students form concepts about the knowing how of making sense of literary texts. Thus I incorporate other experiences into the class that provide opportunities for students to focus on reading literature both as a solitary and as a community activity. During these experiences prospective teachers make use of technology and the Internet.

**Using an eBook Reader to Record a Reader’s Journey**

In addition to working through the slow-motion strategy, prospective teachers also transact with an electronic text. In doing so, they may use several interactive reading tools to learn more about their own strategies. This process can begin by downloading a Reader, a computer program that displays a text in a book-like format, and an electronic text. Electronic texts or electronic books are called 'e-texts' or 'eBooks' in technology lingo. An e-text is any text designed to be read with an electronic device while an eBook is a text that is normally, sometimes simultaneously, published as book. Two readers, Adobe Reader and Microsoft Reader, are designed for computer use; stand-alone reading devices are also available. (See Appendix A for a brief discussion of eBook readers currently available.)

Though I have used both of the available readers, in this description I will refer to the Microsoft Reader. The Microsoft Reader opens in a window about the size of a paperback book. The reader opens in 'Library' mode and list of books or articles that have been loaded are displayed. To gain access to a text, the user simply clicks on a title and goes to the cover page. There the user is given the choice to begin reading or go to the table of contents, the most recent page, the furthest read, or the annotations index.

In addition to navigating the currently displayed text, the user can select from one of four choices that are displayed at all times at the bottom of the screen. Clicking the Bookstore icon displays a list of Internet sites where new eBooks can be acquired. Selecting 'Library' returns the user to the opening screen, while clicking 'Return' takes the user back to the book currently being read. A fourth option, 'Guidebook,' provides a series of pages that acquaint users with the features of the reader. These features are available anytime a book is open.

During reading the cursor converts to a pointing hand which can be used to select text by clicking and dragging as in word processing. Clicking on the selected text produces a pop-up menu that offers six possible ways to interact with the text:

1. Add bookmark'places a small red 'V' on the edge of the page.
2. Add highlight'places a transparent colored block over the selected text.
3. Add note'opens a large empty box on top of the text into which notes can be typed.
4. Add drawing'the cursor becomes a pen, and the user selects from several ink colors to make a quick sketch.
5. Find'displays a search feature that can locate any word or phrase in the text.
6. Copy text'copies the selected text to memory.

Students in the methods class can read stories on the reader and use each of the first four options at least once as they read. They can be encouraged to use the draw feature to make a mark each
time their mind wanders away from the reading and to type a quick note to record the experience. The point is not to interpret the text to reach a final conclusion about its meaning, but to consider how one goes about the process.

The interactions students record as they read can be used to chronicle a reading journey. Students use the collection of annotations made during reading to share the stories of these journeys and look for similarities in the paths they have cut through the material. These activities can be supplemented, of course, by readings about literary reading that we do in class (e.g., Langer, 1995; Wilhelm, 1997).

In addition to using a reader to help prospective teachers consider the knowing how of solitary reading, I also introduce the reader because of the potential it has for classroom teaching. Both readers offer adjustable text sizes and digitized sound; each feature has tremendous potential for students with visual difficulties or second language problems. Furthermore, the readers and the available eBooks are a bargain for schools. One eBook occupies very little space on a disk; a dozen or so eBooks for the Microsoft Reader can be stored on a 3½-inch floppy. Imagine what that kind of storage might do for a classroom library! Additionally, there are hundreds of free books available online. Many of these free books are classics and generally present a monocultural perspective, but that element in and of itself can raise issues that should be discussed in a methods course. Some university libraries are converting early texts from women and native Americans to eBook formats, and downloading these texts can augment those monocultural texts and offer an opportunity to consider diverse perspectives. (See Appendix B for sources for free eBooks.)

**Using Online Book Sellers to Set Up Literature Circles**

I agree with Carroll and Bowman's (2000) observation that one strength of technology is located in the opportunities for collaboration that arise as students use technology. Thus, in addition to focusing on solitary reading we also consider what happens during community readings, as students participate in a literacy circle. When they participate in the literature circle, students are assigned to read any adult fictional work of more that 200 pages. There are two limitations: (a) students must find two or three other students in class who will read the same book and (b) students cannot read a romance novel.

One of the most difficult aspects I encounter as we form the circles is providing genuine reading choices for prospective teachers. Though we have made excursions to the local Barnes and Noble bookstore so that students could enjoy browsing, that solution has not proved satisfactory. So I have developed another approach: Students use email and commercial on-line bookstores (such as Amazon.com) to select a book. Many on-line stores provide first chapters and reviews of books. I distribute a list of these (See Appendix B) and students form groups. Then the groups use email, the reviews, and readings of excerpts to select a book. We use the book-selection process to talk about personal preferences and how one might decide to read one book rather than another. In addition, learning about the many sites where excerpts from text can be read gives prospective English language arts teachers another source for finding free literary texts.

The book selection process becomes one part of the experience of the group. As they create a 'circle chronicle,' to tell of their experience they begin by considering the emails they use to negotiate the book selection. In addition, I encourage students to use emails to ask each other questions about the books. Students are also required to use the interactive techniques introduced
with eBooks. However, in this instance, they are encouraged to interpret, to wonder, to question characters' actions, and to make judgments. They highlight, use sticky notes, dog-ear the pages and are told to 'mess up' the book with the work of reading it.

The literature circles have proven to be one of the most successful aspects of the methods class, partly because the selection process offers such a range of choices. Selecting and reading the book takes about 3 weeks and students have about 30-45 minutes (out of a 3-hour class period) to discuss their books in the literature circle each week. After each group meeting, students are asked to write a 5-minute reflection on the process.

The assignment culminates in some sort of presentation related to the book. Students have given oral readings, skits, and even multimedia presentations. Last year the group who read *White Oleander* performed a role-play, in which various 'therapists' discussed the events in the protagonist's life. The students came to class dressed in professional attire and toting thick folders of psychological profiles. The group who read *The Bluest Eye* provided seasonal collages and read excerpts from the text. The *Catcher in the Rye* group filled in what they saw as a 'missing chapter' at the end of the book. Each group member presented how he or she had filled textual gaps; needless to say this presentation offered a 'teachable moment,' in which we all discussed the indeterminacy of texts and what that might mean for teaching literature.

These activities enrich prospective teachers' understandings of the *how* of reading and transacting with literature. For many students they also provide an opportunity for them to remember the joy of reading a book that they really want to read. The simplicity of returning to what many of them love to do rekindles their enthusiasm for reading, for literature, and for teaching.

**Conclusion**

Unlike many of my colleagues in literacy, I have always been drawn to the wonder of technology and have always held out hope that it could develop into a powerful tool. At one point, I developed educational software for use as a writing tutorial (*The Writing Lab*, 1982; *The Writing Lab Plus*, 1987). But I turned away from technology because it was not interactive, was not responsive to students' natural curiosities, and was simply unavailable in many schools. It seemed that technology was more about training than about educating students, and I was uncomfortable with that difference.

However, my misgivings were formed in the pre-Internet days when educational software and word processing were the only uses of technology in English language arts classes. Now technology is so much more. It is a valuable tool that can be used for the manipulation of knowledge and information. Helping students use that tool seems a necessary part of my work as a teacher educator.

Using technology in any classroom should be undertaken, not because technology is crisp and bright and colorful (though those elements do make technology fun), but because it helps us do what we do in a better and more interactive way. In the methods class students use eBooks and online bookstores because these technologies support the larger instructional goal of helping prospective English language arts teachers get at the knowing how of teaching and reading literature.

Using technology in this way reflects the principles Pope & Golub (2000) described. For in the
context of my class, technology is used to augment the development of literary thinking by supporting active reading, and it is used to model positive strategies in literacy instruction. Linking those strategies to technology not only helps prospective English language arts teachers learn about reading and teaching literature but it also helps them become familiar with technologies that are sure to be an influence over the course of their teaching careers.

References


Contact Information:

Barbara G. Pace
College of Education
2403 Norman Hall
University of Florida
Gainesville, FL 32611
352-392-9191x276
E-mail: pace@ufl.edu
Appendix A

Information About eBook Readers

Currently there are two readers available for use on a computer: the Adobe Reader® (http://www.adobe.com/products/ebookreader) and Microsoft Reader® (www.microsoft.com/reader/). Either can be downloaded free of charge.

Both are capable of displaying texts and digitally reading the texts orally. However, I have not experienced this feature. Of course, if the digitized sound is clear, there is a lot of potential for classroom use of this option for second language learners or for students with visual disabilities.

I have used both Readers and have explored all of the options they offer, except for the digitized sound. Both readers allow users to adjust text size and sharpen the display of text. Both accept commercial eBooks which can be downloaded from book sellers, such as Barnes and Noble (www.bn.com) and Amazon (www.amazon.com). There are limitations on moving purchased, copyrighted books from computer to computer. However, with free eBooks this limitation is not an issue, and there are hundreds of free eBooks available online.

Of the two readers, the one from Microsoft is my personal preference for four reasons: (a) more books are available for this Reader, (b) the screen behind the reader window can be blacked out during reading which makes for clean reading environment, (c) downloaded books do not take as much disk space as do the Adobe books, and (d) Microsoft Word documents can easily be converted to e-texts with a supplemental free program from Microsoft. The ability to create your own e-texts or eBooks is an exciting feature. Teachers or students can change Word documents to eBooks by clicking a button on the Microsoft Word tool bar. The eBook author is free for the taking at the Microsoft Reader website (http://www.microsoft.com/ebooks/tools/make_authors.asp). Of course, Microsoft Reader must be installed in order to view an eBook created with Word. In addition, Pocket Encarta, a free dictionary that allows you to click on any word in a text to display the meaning, can also be downloaded at the Microsoft site.

In addition to the two readers for computers, a variety of stand-alone readers is becoming available. RCA has two reading appliances; one is color and the other only displays texts in black and white. In addition, a new reader called GoReader (http://www.goreader.com/index.htm) is being developed for the college textbook market. Students use a stylus to write on the screen text as they would on paper. Notes can be uploaded from a USB port. Go Reader developers have already entered into a contract with Harcourt College Publishers. The potential to customize texts for various regions and to keep textbooks current is interesting to consider. The potential for cost savings and local control may mean that these sorts of textbooks may be coming soon to K-12 schools. As with most new technologies, it is uncertain what standard of eBook file will be set. However, it is certain that this technology will not wither and die out. For more news visit eBooknet.com (http://www.ebooknet.com/).
Appendix B

Sources for E-books

Retail sources: (Most retail sources have free texts available, too)

www.amazon.com (Amazon)
www.bn.com (Barnes and Noble)
www.contentville.com (Contentville)
http://ebooks.previewport.com (Preview Port)

Book Links and General Information

http://www.bookspot.com/ (Bookspot)
http://www.ebooknet.com/ (eBooknet)

First Chapters and Excerpts

www.amazon.com (Amazon)
www.bn.com (Barnes and Noble)
http://www.bookspot.com/firstchapters.htm (Bookspot) ****
http://www.bookbrowse.com/ (Bookbrowse)
http://www.cnn.com//books/beginnings/ (Book First Chapters)

Contemporary Issues in Technology and Teacher Education is an online journal. All text, tables, and figures in the print version of this article are exact representations of the original. However, the original article may also include video and audio files, which can be accessed on the World Wide Web at http://www.citejournal.org