Wordle.net “Express yourself”
How to Use E-Readers to Support Reader Comprehension in Grades 3-12

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Literacy Symposium, 2012
What is comprehension?

• “the process of simultaneously extracting and constructing meaning through interaction and involvement with written language.”

• “consists of three elements: the reader, the text, and the activity of reading.”

• Snow, 2002; RAND Reading Study Group, 2002
Good readers are capable of choosing and using a variety of strategies depending on the task

Van-Duzer, 1999

Good readers approach a reading task in a variety of ways using a multitude of strategies

Many et al., 1996

The most effective strategy will depend on the need of the reader and the level of interaction with content and device.
Specialized Locational Metacognition

- Digital-based metacognition
  - requires more *specialized locational metacognition*
- Different devices have different functions and features.
  - Touch screen, resolution, format
  - Highlighting, built in hyperlinks, comments, text to speech, themes, fonts, size, panes, lighting, search function, note, define
- Digital devices require additional layers of cognition based on device.
QUESTIONS WE SHOULD BE ASKING....

- What skills and strategies will be needed for active comprehension on a digital device?
- What feature of a dedicated E-Reader do students use to help facilitate the process of reading comprehension?
- What functional skills do students display while reading on an e-reader?
- What features of the e-reader may alter the meta-process of comprehension?
Metacognitive Strategies

Print Based Text Comprehension Transferred to Digital Text
No two readers construct the same "PHYSICAL TEXT" online although they have the same question....
Proficient readers actively construct meaning using a small set of powerful reading strategies in the printed text environment.

Strategic reading, activating prior knowledge, questioning, inferring and synthesizing as they read

- Pressley & Afflerbach, 1995

Spiro, 2004 states that learning must be “fluidly changeable”

- Self regulated- cognitive flexibility

Textual features present challenges with cognitive overload, disorientation, distraction, and frustration

- Tripp & Roby, 1990
Hypertext is a type of environment in which textual materials and ideas are linked to one another in multiple ways.

Hypertext require readers to take a much more active role in determining the quality and coherence of the text they read.

- Burbles & Callister, 2000
Successful Readers

- Are thinking metacognitively
- They are setting a purpose and developing strategies to be successful
- They are doing this all the time with flexibility
- They are monitoring their understanding
- Adjusting their strategies
- Developing a higher level of cognitive thinking
- They are strategic readers- activating prior knowledge- questioning, inferring and synthesizing as they are reading
E-readers and Metacognition

• Strong connection between metacognition and navigation in a digital environment
  ✤ Schwartz, Hong, Howard and McGee, 2004

• Strong navigation skills allow readers to develop stronger metacognition
  ✤ Lawless and Schrader, 2008

• Students experienced with navigation exerted fewer cognitive resources
  ✤ Sperling, Howard, Miller, & Murphy, 2002
ENGAGEMENT - METACOGNITION

- Students need to engage in metacognitive behaviors to take advantage of the features of e-readers.
  - Teacher modeling
  - Peer Modeling
  - Active Engagement
  - Practice
Think Alouds

• Transference - Importance
• Modeling - Teacher models as they demonstrate
• Gradual Release of Responsibility (GRoR)
• Students' begin to take ownership, modeling their thinking process discussing their thinking
  • Scaffolding Process
Think Aloud

• Modeling –Teacher-Peers-Self
  • Collaboration
    • Communication

• Opportunity to Practice
  • Self Monitoring
    • Collaboration
      • Communication
Comparison of Reading Strategies Used with Print-Based and Digital-Based Text

Print-Based Text

Awareness of Purpose

“I need to find a quote or a fact that will have ideas about what should be done about acid rain.”

Digital-Based Text

Awareness of Purpose

“I need to be careful not to get distracted by anything that is flashing, or by chasing links, or even checking my e-mail, because I don’t have too much time today. I need to log on to the Web and do a Google search to find information about acid rain. Maybe there will be a chart or graph or something else that will help too. If I can’t find that with Google, I might need to use a different search engine that will let me search specifically for multimedia besides just text.”

## Comparison of Reading Strategies Used with Print-Based and Digital-Based Text

<table>
<thead>
<tr>
<th>Print-Based Text</th>
<th>Digital-Based Text</th>
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<tbody>
<tr>
<td><strong>Discovering New Meaning of Words</strong></td>
<td><strong>Discovering New Meaning of Words</strong></td>
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<td>“I don’t know what that word means. It seems like it is important because it is used several times in the next few sentences. Let me reread that to see if it makes more sense. Was it explained earlier and I missed it or is the definition coming up? If I can’t figure this out, I am going to need to get a dictionary, check the back of this book, or ask someone else for help.”</td>
<td>“I am not really sure what that word means. Let me click on it—it’s blue so I think there is a link to something else. Hopefully, it will tell me what it means or send me somewhere else where the word is explained better. I just don’t want to go away from this page too far and forget where I am!”</td>
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Comparison of Reading Strategies Used with Print-Based and Digital-Based Text

Print-Based Text

Interpreting the Text and Conversing with the Author

“I wonder if there is something in this author’s background or experiences that has made him write the text this way? I guess I will have to ask the teacher or try to find a biography or another book or article that talks about the author and why he writes this way.”

Digital-Based Text

Interpreting the Text and Conversing with the Author

“I wonder why the author said that. Maybe there will be an email address somewhere on this page where I can write and ask him. Or maybe there is a bulletin board where I can look to see if anyone else has ever had this same question before…”

Strategies

• Reciprocal Teaching
  Palincsar & Brown, 1989

• Reciprocal Peer Teaching

• Internet Reciprocal Teaching
  Leu, Coiro, Castek, Hartman, Henry, & Reinking, 2011
# Reciprocal Teaching

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Internet</th>
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<tr>
<td>• Predicting</td>
<td>• Questioning</td>
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<tr>
<td>• Questioning</td>
<td>• Locating Information</td>
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<td>• Clarifying</td>
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<td>• Summarizing</td>
<td>• Understanding and communicating the info</td>
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<td></td>
<td>• Sharing with others</td>
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Palincsar & Brown, 1984

Leu, 2009- Keynote
Literature Circles using E-Readers

- Literature Circle roles are assigned to individual students’ and a schedule of rotation should be noted.
  - Students rotate through the assigned roles weekly: Character educator, discussion director, vocabulary enricher, summarizer and travel tracer.
- Daily Summaries are written on each device using sticky notes
- All roles MUST be noted and written on the device using sticky notes
- Protocols extremely important for electronic note taking
Riva and her brothers are deciding to leave. We learned a new quote in the book "If hope is lost. All is lost." Riva and her brothers used this quote throughout this chapter. I believe this quote that if you lose hope you will not gain anything.

Summary:
Riva and her brothers are leaving and deciding what to take with them. Motele said to Riva that they should take Riva's poems. Riva says no to Motele.

May 20, 2011
[Student’s Name]
Character Educator
Riva- She will have to have a lot of courage to survive.

Summary:
All of the women are forced to take all of their clothes off and all of their hair to be shaved off. Then they go into freezing showers to wash off any dirt. They then go into rooms and people are asking weird questions but other people answer. Rifkele encounters one of her good friends, Tola, and they all cuddle up together into Tola's bed.
quarrel
disagreement or argument between two good on
A Faraway Island (Annika Thor)
- Note on Page 120 | Loc. 1655 | Added on Friday, May 20, 2011, 02:31 PM

individual summary

Stephie walkes to auntie almas house and apologizes for the china dog. Auntie alma forgives her and takes her to the pensticola church. Stephie asks aunt marta for a white long gown. aunt marta gives her the gown and stephie goes to school and everyone laughs at her and stephies hair catches on fire.
EVALUATION OF STUDENT WORK

• Protocols extremely important
  • Sharing devices
    • Multiple Issues
  • Grading
    • Time
  • Connections to Standards
Protocols

• First name last name, role, and summary
• Conventions within sentence structure
• Attention to punctuation, capitalization, and sentence structure
What do we know about Literature Circles based on our research?

- Students’ adjusted their strategies’ accordingly
  - awareness of purpose, self-regulation, and awareness of device were important for a reader’s active development of reading strategies.
  - Some print based strategies were being transferred often unsuccessfully
  - Some Print based strategies require minor modifications for digital based text
Online test prep....

FCAT Test Prep

Transferring KNOWN strategies

Into new places-

How will we prepare them?
The tools and resources available to students will vary slightly depending on the content area assessed.

All students will have access to the following e-tools:

**Review:** Students may use this e-tool to mark items to be reviewed at a later time. Before exiting the test and submitting their responses, students will be taken to a screen which lists items that are answered, unanswered, and marked for review.

**Eliminate Choice:** Students may use this tool to mark through answer choices that they wish to eliminate.

**Highlighter:** Students may highlight sections of an item or passage.

**Eraser:** Students may use the eraser to remove marks made by the highlighter or the eliminate choice tool.

**Help:** Students may click the Help icon to learn more about the e-tools. The Help text appears in a separate window.
Print Based Text Coding

Coding the Text

? = I Have a Question
✓ = I Agree
X = I disagree
! = Interesting
~ = Confusing
★ = Important
■ = Picture in my Head
▲ = I wonder...
# = Important date
Margaret hurried down High Street with her basket. It was Friday, and all the farmers brought their goods to Philadelphia. Margaret often went shopping with her mother. Today, Mama was sick in bed so Margaret had to go by herself. Even though she had just turned twelve, Margaret didn’t mind. It had been a year since her family had come from Germany, and she knew the city.

It was early in the morning, but the marketplace was very busy. Margaret went straight to the place in the market where the sellers sold meat. Old Mr. Ober, who raised the best chickens, always sold out early. In fact, when Margaret arrived, she found two women poking the chickens that hung by their legs from a pole.

Mr. Ober was impatient. “You want it or not?” he asked to one of the women. “Stop poking and start choosing.”
Highlighting on the iPad using Text Coding

Abuse Protection Services, a nonprofit group based in Roslyn that creates student-targeted programs to combat abuse, bullying and peer harassment, 83 percent of sixth and seventh graders on the Island said their schools had a bullying problem, and 45 percent said it was significant or severe. In the survey, 5 out of 10 students over all, including 1 in 4 girls, said they had bullied someone themselves.

"Bullying today is less about children hitting each other than it is about children being victimized by a culture of meanness," said Alane Fagin, executive director of the organization. "Children understand what many adults seem to have forgotten. You don't have to get hit to get hurt."

And the Internet is making matters a great deal worse, parents and experts say, because it provides a cloak of anonymity and removes physical size and bravery from the equation. Children as young as 7 or 8, who would never have dared to belittle or confront a classmate face to face, are empowered to be vulgar and vengeful at the keyboard.

The new online dimension of bullying has grown to the point that Scope, a nonprofit group that provides educational services to school districts, convened the Island’s first conference on bullying in cyberspace at Stony Brook University on Sept. 28. Five hundred teachers, administrators, technology experts and students from 3rd to 12th grade took part.

On the Internet, said Betty Kauffman, manager of Scope, "you can take a kid who is 4 feet 11 and thin as a rail, and be the biggest bully in the world, but in real life he couldn't do it."

Ms. Kauffman identified two common species of Internet bullies. One is "the tough kids, the thugs, the power-hungry," she said, who use the Internet to continue picking on a victim, one on one.

The other is the joint-bullying pack in the "mean girl" mode, though they may be of either sex. "They get their enjoyment out of getting everyone to join in with the teasing and the bullying," she said, in an arena where there are no teachers or aides to intervene. The victims "are being emotionally hurt and they are being ganged up on, which might not necessarily happen in a schoolyard," Ms. Kauffman said.
Sticky Notes

- As teachers we ask student's to respond to the text while reading using sticky notes
- How will students accomplish this in digital text?
The prisoner in the photograph is me. The ID number is mine. The photo was taken in 1972 at the medium-security Federal Correctional Institution in Ashland, Kentucky was twenty-one years old and had been locked up for a year already—the bleakest year of my life—and I had more time ahead of me.

At the time this picture was taken I weighed 145 pounds. When I look at my face in the photo I see nothing but the scowl mask I was hiding behind. I parted my hair down the middle and grew a mustache in order to look older and tougher, and with the greasy prison diet (salted chicken gizzards in a larded gravy, chicken wings with oily cheese sauce, deep-fried chicken necks) the stress, and the troubled dreams of capture and release, there was no controlling the acne. I was overmatched.

I might have been slight—but I was smart and cagey. I managed to avoid a lot of trouble because I knew how to blend in and generally sift through the days unnoticed by men who spent the majority of their time looking to inflict pain on others. I called these men "skulls" and they were freaks for violence. Here we were, all of us living in constant, pitiful misery, and instead of trying to feel more human, more free and unhinged in their hearts by simply respecting one another and getting along, many of the men found cruel and menacing ways to make each day a walk through a tunnel of fear for others.

Fear of being a target of irrational violence haunted me day and night. The constant tempo of that violence pulsed throughout my body and made me feel small, and weak, and cowardly. But no matter how big you were, there was no preventing the brutality. I had seen the results of violence so often—with guys hauling off and smashing someone’s face with their fists or with a metal tool, a baseball bat, a rock—and all for no other reason than some imagined offense or to establish a reputation for savagery. When I lived and worked in the prison hospital—especially after I had become the X-ray technician—I was part of an emergency medical response team. I was called on day and night to X-ray all types of ugly wounds to see if the bones behind the bruised or bleeding flesh had been cracked, chipped, or broken. As we examined them, the patients would be telling the guards, “I didn’t even know the guy” or “my greatest fear” I never heard ’em, never saw ’em.

I was this lottery of violence that haunted me. Your number could come up anywhere, anytime—in the dark of night while you slept in a dormitory with a hundred other men, or in full daylight on the exercise field while you strolled...
Digital – Based Text Reading

Text coding

At the time this picture was taken, I weighed 125 pounds. When I look at my face in the photo, I see nothing but the pocked mask I was hiding behind. I parted my hair down the middle and grew a mustache in order to look older and tougher, and with the greasy prison diet (salted chicken gizzards in a larded gravy, chicken wings with oily cheese sauce, deep-fried chicken necks), and the stress, and the troubled dreams of capture and release, there was no controlling the acne. I was overmatched.

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"Metacognition" is one of the latest buzz words in educational psychology, but what exactly is metacognition? The length and abstract nature of the word makes it sound intimidating, yet its not daunting a concept as it might seem. We engage in metacognitive activities everyday. Metacognition enables us to be successful learners, and has been associated with intelligence (e.g., Borkowski, Carr, & Pressley, 1987; Sternberg, 1984, 1986a, 1986b). Metacognition refers to higher order thinking which involves active control over the cognitive processes engaged in learning. Activities such as planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are metacognitive in nature. Because metacognition plays a critical role in successful learning, it is important to study metacognitive activity and development to determine how students can be taught to use their cognitive resources through metacognitive control.

"Metacognition" is defined as "thinking about thinking." In actuality, defining metacognition is not that simple. Although the term has been part of the vocabulary of educational psychologists for the last couple of decades, and the concept for as long as humans have been able to reflect on their cognitive experiences, there is much debate over exactly what metacognition is. One reason for this confusion is the fact that there are several terms currently used to describe the same basic phenomenon (e.g., self-regulation, executive control), or an aspect of that phenomenon (e.g., metamemory), and these terms are often used interchangeably in the literature. While there are some distinctions between definitions (see Van Zile-Tamsen, 1994, 1996 for a full discussion), all emphasize
• Self Monitoring

What works for one may not work for another
• Self Evaluation

Students need to be adept at applying their metacognitive knowledge and strategies

Make choices as they read Interaction with text
Lingering Questions

- Students’ actively construct knowledge using their personal experiences.
  - What happens if they do not have experience of device, does that equate to lack of comprehension or just lack of device knowledge?

- How will educators measure current print based strategies and comprehension in a digital based realm?
EDUCATIONAL SIGNIFICANCE

• Although the process is transferable and malleable, further research should look at the benefits of transferring print strategies to digital reading environments
• Significance is there are no digital instruments currently used to measure digital reading comprehension and metacognitive strategies
• Metacognition and reading are embedded within years of linear print reading research
BIBLIOGRAPHY


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