

Reading Team Term Project
Teaching & Learning in the Digital Age, Fall Term 2004
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ICT in the Discipline of Reading
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Teaching and Learning in the Digital Age I
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December 2, 2004

What is Reading?

Reading is the construction of meaning. Without understanding, there is no reading. When we read, we pick up information and our minds work continuously to connect that information to what we already know, remember what is important, adjust our funds of knowledge to incorporate new ideas or interpret them in a different way, read “between the lines” to get at deeper meaning, and evaluate information and ideas. When teaching reading, we teach students to develop phonological awareness, develop a strong phonics base, integrate phonics and structure, and read for comprehension. There are various levels of these definitions of reading at each grade level. As students progress through these levels, they ascend toward the goal of becoming an expert reader.

Standards

Listed below are the Oregon Department of Education’s Common Curricular Goals for reading in grades Kindergarten through Fifth:

- Analyze words, recognize words, and learn to read grade-level text fluently across the subject areas.
- Listen to, read, and understand a wide variety of informational and narrative text across the subject areas at school and on own, applying comprehension strategies as needed.
- Increase word knowledge through systematic vocabulary development; determine the meaning of new words by applying knowledge of word origins, word relationships, and context clues; verify the meaning of new words; and use those new words accurately across the subject areas.
- Find, understand, and use specific information in a variety of texts across the subject areas to perform a task.
- Demonstrate general understanding of grade-level informational text across the subject areas.
- Develop an interpretation of grade level informational text across the subject areas.
- Examine content and structure of grade level informational text across the subject areas.

NETS

Listed below are Technology Foundation Standards for Students, produced by the International Society for Technology in Education (ISTE):

- Basic operations and concepts
 - Students demonstrate a sound understanding of the nature and operation of technology systems.
 - Students are proficient in the use of technology.
- Social, ethical, and human issues
 - Students understand the ethical, cultural, and societal issues related to technology.
 - Students practice responsible use of technology systems, information, and software.

- Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
- Technology productivity tools
 - Students use technology tools to enhance learning, increase productivity, and promote creativity.
 - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
- Technology communications tools
 - Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
 - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
- Technology research tools
 - Students use technology to locate, evaluate, and collect information from a variety of sources.
 - Students use technology tools to process data and report results.
 - Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.
- Technology problem-solving and decision-making tools
 - Students use technology resources for solving problems and making informed decisions.
 - Students employ technology in the development of strategies for solving problems in the real world.

Reading Across the Content Areas

Reading is a discipline in schools that is seen through out all the other disciplines. With reading being integrated so much into other content areas, it needs to actually be taught within each area. Through the Maryland School Performance Assessment Program (MSPAP), “reading processes have been identified as critical for success in all content areas. Teaching reading is an integral part of all content areas, therefore, every teacher must be a reading teacher” (Chriest n.d.). Students are faced with reading problems within each area of the curriculum. Every student begins their experience with books that are mainly storybooks. Suddenly as they being to further their skills in reading, the reading becomes more dominantly done in textbooks. This is a big reason why students struggle with textbooks.

Students need to be taught about the specific vocabulary within each content area. They need to understand how to understand language and symbols that are used with every subject. We as teachers should help them understand “the features within the chapters, such as words in italics or bold print, definitions, explanations, examples, margin notes, diagrams, and summaries” (Albright n.d.). This can be accomplished through teacher modeling. The teacher can think aloud as they are reading to the class for students to see a great way of interpreting what they are reading. This can go beyond textbooks to involve understanding this same type of material being read off of a computer. As some research has found, “One concern teachers express is that students do not have the skills to read and comprehend context-based text. Content areas teachers need to be skilled in content-based reading strategies” (Chriest n.d.). Teachers can teach these strategies through various whole-class and small-group activities.

Technology as a Tool for Instruction

Through technology, students are able to build their overall knowledge base and develop literacy skills (Kasper, 2003). Internet technologies enable the teacher to enhance and expand this curriculum within and beyond the physical classroom. Students' use of text-based computer-mediated communication, and intensive reading and research using Internet hypertext documents can all improve their learning. In addition, the use of technology enables students to improve skills needed in other areas of the classroom. For example, guided practice that familiarizes students with criteria for evaluating web sites and that takes them through a hypertext document facilitates their acquisition of the cognitive strategies (Kasper, 2003) necessary for searching nonlinear texts for research. When carefully integrated into the curriculum, technology can provide students with high motivation to develop literacy skills that they will need in the age of information.

Effects of ICT in the Teaching of Reading

ICT is affecting how reading is being taught in elementary schools. Teachers are integrating commercially available programs into the reading curriculum. Some such programs include The Learning Company's Kid Pix and talking book versions of popular children's stories. Linda Labbo (2000) introduced these programs in her kindergarten literacy curriculum. To use these programs, the teacher must first demonstrate keyboarding skills and the usefulness of the computer in whole class instruction, for those students who do not have sufficient experience with computers. In Labbo's class, the Kid Pix program provided the kindergartners with the opportunity to express their emerging literacy abilities through electronic text. For example, with the software, they began to make the kinds of speech-to-text connections that young learners make when using more traditional writing materials such as paper and pencils, crayons, or markers (Labbo & Kuhn, 2000). These explorations had the advantage of being easily modified, so that if a child decided that her expression was not exactly what she had hoped for, she could easily change her work or even begin again. On the other hand, if another child found that what he had created captured what he was attempting to express, he could save it or print it out as a permanent, tangible artifact of the work he had done.

The talking books acted as scaffolds for the children's developing concepts of print (Labbo & Kuhn, 2000). This occurred in ways similar to traditional adult-child print interactions, with the talking book taking the place of the skilled reader. In talking books, the text of the story is highlighted left to right on the computer screen, while the narrator reads expressively. However, there is an important caveat that must be considered when using such products: most talking books have an option that provides animation, which can distract students and cause them to lose track of the story. Some of the animation contributes to the story development, but on occasion it serves only as a diversion, leading to an incoherent sense of narrative. Therefore, if the goal in using this genre of computer software is to develop students' sense of story, the "play" option should be turned off, at least initially (Labbo & Kuhn, 2000).

Although the activities described above were designed with kindergartners in mind, they can be easily modified for use with students throughout the early grades. For example, students at a number of grade levels can use Kid Pix to respond to stories through graphics and writing. Such an extension can be used after students complete their experiences with a talking book, following a traditional activity in which a teacher or older student reads a story aloud, or in response to a print-based text that a student is reading independently.

Using technology to read text aloud is beginning to be used in the elementary classroom. According to Augustine & Brown (2001), using screen reading software as an accommodation for students with poor reading skills is effective. This is especially true when reading for content. Students who read to learn content who lack reading proficiency may perform poorly due to their reading skills. This causes them to be assessed incorrectly. Several applications of various software exist, including talking word processors (TWP's), which can highlight, re-read text, and import text from other programs. Students with learning disabilities find that having written material read aloud assists them to better edit, comprehend and organize (Reading, 2003). Once any file (story from a book, assignment, article, typed information, etc.) is imported into a talking word processor, the text can be read aloud to the student. These TWP programs offer other adjustments such as enlarging the size of the text and changing the color of the foreground, background and highlighting box to assist students in following along as the text is read. Any products created by the teacher that are available in electronic format can be imported to be read aloud. Therefore, quizzes, exams, outlines, directions, worksheets, etc., can be made more accessible to students.

In addition to dedicated talking word processors that read their own files as well as copied text, there are other "readers" available. As students get older and work in multiple programs, including web browsers and e-mail, these programs are more useful. Text Readers are software programs that read all the text in any given document or application and often include other assistive features such as word prediction and spell check. Those with a reading disability, but with adequate vision most often use them (Reading, 2003). Typically a floating tool bar is installed to work with any Windows software program such as a word processor, spreadsheet, database, email or Internet options. Its areas of support include: speech feedback, screen reading, phonetic spell checker, word prediction, and thesaurus. To use these programs, students and teachers would require an introduction to allow them to become familiar with the software methods. Additionally, a set of headphones would likely be desirable, as they would prevent the program from distracting other students.

Teachers must teach their students to search for credible information on the web. This typically takes place around third grade and later, when students independently search for research material on the web. Skimming and scanning help to find the information needed, without reading everything on a Web page (Pearson Education Development Group, 2004). Skimming is glancing quickly over a text to get a general idea of the topic. When skimming, students should quickly look over the entire page, focusing on any titles and headings, and look at the illustrations, diagrams, and captions, and try to determine what they describe. Scanning is looking for key words and phrases that will give them the specific information they need. When scanning, students should look for key words, headings, and terms in bold or italics that refer to information they need. They should read the first and last sentences of the paragraphs on the page to see if they connect to information they need. Additionally the strategies described to help with reading hypermedia also can apply to help problem solve while researching. These strategies can be used across linear and non-linear forms of reading.

Reading Strategies for Linear Reading

Students begin to learn to read in a linear fashion. They learn to read from left to right, top to bottom. These are the fundamental concepts that are taught as students are beginning to learn to read. This is the start of the process of reading linearly. They read straight through a body of text and are not navigated out towards other resources.

There are three main points during reading where students need support and where reading strategies are important to know. These points are before, during and after the reading assignments, whether students are reading expository or narrative text. “Before reading, student should preview the section or chapter by looking at the chapter overview, headings, graphics such as pictures, charts, tables, and diagrams, bold or italicized words, and summaries” (Albright n.d.). As students read this information they need to begin to think about the information as it applies to what they already know and what the purpose of reading it might be. As people learn about the world around them, they apply what they are learning to the schema in their head of previous learned knowledge. Schemas are what people develop to organize and group information. New information is processed according to how it fits into these schemas. One idea that teachers should keep in mind is that, “Content teachers are best qualified to help students comprehend the material presented by developing prior knowledge related to the topic. Background knowledge and content provide an essential link between what students understand and what they read” (Christ n.d.). As the students are activating their prior knowledge, they need to begin to think of questions about the content.

As students read, they need to begin to think about how they would answer the questions they asked before they began reading. As with textbooks or other readings dealing with a subject like math, it is important that students pay close attention to the vocabulary and the examples that are provided. “Math textbooks often repeat the following pattern: statement, example, and explanation/summary” (Albright n.d.). When they do not understand the material they are reading, students should be taught the strategy of rereading, asking themselves questions, and then if they still do not understand, they should ask someone else for help.

After students are finished reading, no matter what content area they are reading in, students should review what they just read and then reflect on it. As readers, we are reading for a purpose. When finished reading, students should check to see if their purposes were met. Teachers can assign small-group and cooperative learning activities to help students work together to solve problems and work with concepts that were discussed within the reading.

Another great way to incorporate reading into the curriculum is through supplementing children’s literature and other literature into the curriculum. “There is a wonderful array of trade books about science and math available, and more are being published everyday. One accessible source for finding these books is the website of The National Science Teachers Association (<http://www.nsta.org/ostbc>), which annually selects Outstanding Science Trade Books for Children” (Albright n.d.). Books that are included on this site as well as many other books can be integrated into any curriculum. These books can be read aloud to students while the teacher also thinks-aloud so that students are not only receiving the information, but they are also seeing a great model of how to think about what they are reading while they read. “If all teachers provide reading opportunities for students, students will be better prepared to meet identified standards in all areas” (Christ n.d.).

Supporting reading is a process that is continuous. These strategies need to be reinforced even after the initial teaching of reading strategies. These strategies are very important because they involve reading all types of documents where that is a textbook, a novel, an assignment, an electronic document and even a webpage. A webpage brings in a new form of reading that is necessary and crucial for understanding what is being read.

Reading Hypermedia

There are several aspects of a hypertext. As Dr. Mark Horney and Lynne Anderson-Inman argue, "Hypertexts are electronic versions of texts presented via a computer. Hypertext versions of texts include resources that the reader can access while reading the text...including such resources as enrichment material, vocabulary support, prompted writing assignments, self-monitoring questions, and graphic overviews" (Horney 1994). These types of resources can be hidden from the reader until that person needs them. This provides fewer distractions as the student is reading the main portion of the text.

Through a study done by Horney and Anderson-Inman, where they observed the reading patterns displayed by students reading hypermedia, there were six different hypertext reading patterns found. These patterns include, "skimming, checking, reading, responding, studying, and reviewing" (Horney 1994). These are similar to the strategies that students use to read linear text. The students first skimmed the text looking for keywords and graphics which help to display what the text will be about. Then the reader checked back over the text systematically without reading, followed by the actual process of reading each page through all the text and diagrams. The students then began to access the interactive resources as they formed responses to what they had read. This may navigate them to various resources outside of the main body of text, providing them with more information. The students then studied what they read and reviewed it by re-reading and re-visiting resources. Through doing this study, one key finding included that, "Many variables affect how people read hypertext including instructional context, personal reading style, program design, and prior experience with hypertext reading" (Horney 1998). These factors relate to reading in all context areas. Students' learning will always depend on their prior knowledge, instructional style, and reading style. This is true for all reading that students do, outside and inside the classroom.

Hypermedia is being seen increasingly in educational environments. Hypermedia can involve literature "programs that read aloud to students in realistic digitized speech, colorful graphics accompany the text, and students often can interact with both text and graphics. Examples are the programs in series such as Living Books, Disney's Animated Storybooks, Reader Rabbit's Reading Development Library, Discis Books, Magic tales, and WiggleWorks" (Lewis 1998). These programs offer many advantages, but some levels of hypermedia offer more advantages than others. "There are three levels of hypertext in education based on the degree of the learner control: read-only hypermedia, participatory, and exploratory hypermedia" (Lu n.d.). Learner control is determined by what control the learner has over the lesson. There are different advantages that apply to various levels of hypermedia.

The first level of hypermedia is the read-only hypermedia. At this level, "learners have minimal control over the training event... This level hinders students from acquiring information, building sophisticated critical thinking and developing the habit of making connections with facts or information learned" (Lu n.d.). This level is great for students if they want to just read through something straight through linearly. The hypermedia guides the learner through what is available.

The second level of hypermedia is participatory hypermedia. This level follows the "research that suggests that for training to be effective the learner must be actively engaged in the learning process, and the training itself must be meaningful and relevant to the learner's current needs" (Lu n.d.). This type of hypermedia goes beyond reading like a book. Participatory hypermedia is

like a library where students can participate in several settings that allow the exchange of information. "Reading and writing with hypermedia empowers students, showing them that almost any interesting issue is up-for grabs" (Lu n.d.). This type of hypermedia allows students to write their own material, while commenting on other's writing.

The third level of hypermedia is referred to as exploratory because it "enables students to explore and construct their own learning. Students can access broader arrays of information, such as other libraries, or team with learners from other schools making the processes of acquiring information more meaningful and relevant" (Lu n.d.). One example of this type of hypermedia is video conferencing which enables students to work collaboratively as a team to accomplish tasks. Exploratory hypermedia provides the most flexibility for the learner to work with. Students can navigate on their own to a place where they feel most comfortable, whether they need to go back to a concept or skip ahead. "They have the opportunity to explore, gather information, and create unity out of their educational experiences" (Lu n.d.). Being able to construct knowledge on one's own is one of the most important characteristics of learning.

Advantages to Reading Hypermedia

Hypermedia systems have many advantages, but the major advantage is the opportunity for active student participation and information construction. The learner can control the speed and sequence at which they work through the lesson, the content that they work with and what feedback they receive. "The presentation of information in hypertext is nonlinear and represented in a semantic network in which multiple related sections of the text are connected to each other" (Kasper 2003). The responsibility of the learning becomes the learner's and not the designer or the computer, as they choose a path of reading based on their interests and needs.

Though, hypermedia-based children literature has many advantages, the most appealing aspect is the advantages for "students with learning disabilities who are struggling to acquire basic reading skills. First is the motivational appeal of this body of software" (Lewis 1998). This type of literature can include text that is realistically speech-enhanced, appealing graphics, and possibilities of students to interact with the material. As studies have shown, "even students with autism respond to the attractiveness of these programs with increased attention to the reading task. This level of motivational value may increase the probability that reluctant readers will persevere in their interactions with text" (Lewis 1998). Features aid in increasing comprehension through graphical cues and predictable text. This all provides instruction in the skill that is one concept that is seen in every Oregon state standard, decoding. Decoding skills are taught while students are decoding pictures and text to comprehend the reading.

Another advantage of hypermedia-based children's literature programs is that they offer opportunities to students, even students with learning disabilities, to hear the story read aloud. This advantage can also be a great advantage for students where English is their second language. With programs that can hold such advantages also, "centers on students' background knowledge and experiences, allows for student initiations and student-directed discourse, and involves whole texts, rather than fragments" (Lewis 1998). Students are provided with multiple opportunities to acquire new knowledge when they are navigating themselves through the text as they reframe knowledge through cognitive reconstruction of text. Though there are many advantages, there are some disadvantages to hypermedia also.

Disadvantages to Reading Hypermedia

These types of programs rely on discovery learning. "Because they are hypermedia, the programs do not lead the student through a carefully sequenced series of instructional activities" (Lewis 1998). Students must have the skills to navigate themselves through the programs and know how to interact with the text, which may be very difficult for some students. Readers may feel lost in text, overloading with words and concepts that they do not understand. After being taught navigating skills, students will refine the skills as they work more with hypermedia and learn to not get to the point of feeling lost.

As Lewis also found, "the very elements of hypermedia-based children's literature that make it appealing and motivating to young readers may decrease its usefulness for students with learning disabilities. There is a wide variation in the degree of emphasis this software places on the reading task" (Lewis 1998). Some programs allow students to ignore the text and just play around, without ever actually needing to decode any of the text. This type of media would not be effective in the students' development of reading skills. Many people can see this as a waste of class time.

The third disadvantage is seen with students with learning disabilities. These students, "may encounter difficulty in the use of speech-enhanced text to support the reading process... Students with learning disabilities do not consistently take advantage of the support provided by speech-enhanced text" (Lewis 1998). Students with learning disabilities are often less skilled in the decoding process, creating difficulties with learning through speech-enhanced text.

Fourthly, these students are often below grade level and therefore need reading material that matches their interests while also enhancing their learning through slightly increased vocabulary. Most hypermedia is aimed at students who are already at grade level and include a more rapid increase in new information and vocabulary.

Effects of ICT in the Assessment of Reading

Traditionally, teachers frequently give assessments in the form of paper and pencil. They have either created these exams themselves or received from an outside source, such as a textbook publisher. With the use of ICT, teachers can more easily and efficiently give personally created assessments. Web-based quiz creation programs enable teachers to create quizzes for students to take and review online (Quiz Star, 2003). Students log in using personal usernames to identify themselves. Teachers may choose different options such as time limits, number of questions per page, size of print, ability for review before posting, possibility for re-takes, and whether students receive feedback and when to their responses. All of these options allow teachers to customize quizzes to the needs of their students. For example, creating a quiz with large print and only one question per page may allow a student with Autism to better focus on each question, and thus their performance will more accurately assess their understanding.

Teachers may also use online assessments to help in placing their students and judging their fluency level. Programs such as the Mindplay reading evaluation test students with a series of phonics and comprehension questions. The phonics portion is analyzed for errors, then tells the teacher exactly where the problems are. For example, it might say that the student has difficulty with short vowel distinction or difficulty forming plurals by adding -s, -es, or by changing the form of the word. In comprehension, it calculates performance on the reading passages and estimates approximate reading level. These assessments can help teachers determine what level

of books to provide their students. They can also act as formative assessments to guide further reading instruction.

Selecting Appropriate Software

There are many considerations to ponder while selecting appropriate software for the classroom. Hypermedia-based children's literature varies in several ways. These variations include the "title, computer platform and price, intended market, length of stories, availability of print books, estimated readability level, age appropriateness, availability of languages other than English, text interactivity, interactivity with graphics, and features and activities" (Lewis 1998). With more than 250 programs identified, there will be a large selection to choose from. Teachers need to keep in mind the different options so that students are receiving the most appropriate software. Through research done by Lewis, she found that "Most students felt programs would improve their reading skills because the story is read aloud, 'it shows the words and you can read along with it,' and 'you can click on a word and it will say it'" (Lewis 1998). Software that is interactive will be motivating for students to want to learn more by exploring further. The best fit program for a particular group of students, as well as thinking about the students' individual needs, will ensure that students are learning.

Conclusion

Through doing this project and exploring various software, we have been convinced that technology should be an integral part of reading instruction. Additionally, reading needs to be taught within each content area in order for students to develop the essential skills needed throughout the general curriculum. The use of ICT is an effective way for teachers to teach students to read. Examples such as talking books and text to speech software provide students with the motivation necessary to learn to read. Additionally, learning to read hypermedia gives students the skills they need to find information in our electronic world. ICT in reading is critical for all students living in the digital age.

Annotated Bibliography

Albright, L. K. (n.d.). Ask the experts. Retrieved Nov. 22, 2004, from Reading is for Life Long Learners Web site: <http://www.rif.org/educators/advicetips/askexperts/default.msp>

There are many questions that teachers have about teaching reading, but some are not often thought about. What can you do for students who are struggling with reading their textbooks? How can reading be incorporated into the entire curriculum? These are questions this article deals with. Albright answers these questions in providing reading strategies to help students succeed across the curriculum.

Brown, Pamela J., & Augustine, A. (10 April 2001) Screen reading software as an assessment accommodation: Implications for instruction and student performance. Annual Meeting of the American Educational Research Association.

This paper was presented to the American Educational Research Association, and was retrieved from the ERIC database on November 30, 2004.

Bruce, B.C., & Bishop, A.P. (2002). Using the web to support inquiry-based literacy development. *Journal of Adolescent & Adult Literacy*, 45(8). Retrieved Nov. 30, 2004, from http://www.readingonline.org/electronic/elect_index.asp?HREF=/electronic/jaal/5-02_Column/index.html

Christ, A., & Maher, J. (n.d.). Reading across the curriculum. Retrieved Nov. 22, 2004, from Electronic Learning Community Web site: <http://www.pgcps.pg.k12.md.us/~elc/readingacross.html>

Teaching reading is an important part of the entire curriculum. Teachers should provide opportunities to read throughout the entire every subject area. To help students understand new material they are reading about, teachers need to present prior knowledge related to the topic. Background knowledge and content provides an essential link between what students understand and what they read.

Horney, M.A., & Anderson-Inman, L. (1994). The electrotest project: hypertext reading patterns of middle school students. *Journal of Education Multimedia and Hypermedia*, 3, 71-91. Website found at: <http://www.ncrel.literacy.smartlibrary.info/NewInterface/segment.cfm>

A study was done with 17 middle school students to see what patterns of hypertext reading existed. They found that students work through a six step reading processing including, skimming, checking, reading, responding, studying, and reviewing. They also found that instructional context, personal reading style, program design, and prior experience with hypertext reading all affect how people read hypertext.

Kasper, L. (2003, Nov). Interactive hypertext and the development of esl students' reading skills. *The Reading Matrix*, 3, 3. Retrieved Nov 22, 2004, from <http://www.readingmatrix.com/articles/kasper/index2.html>

Hypertext and reading skills are connected. Hypertext contrasts from traditional print as it reads in a nonlinear fashion. It does not move in predefined sequences because the reader is

choosing the path they take. Students choose routes they read based on their reading needs and interests. Hypermedia has great advantages but can also make the students feel lost in a sea of information, causing very little comprehension of the reading material.

Labbo, L.D., & Kuhn, M.R. (2000). Weaving chains of affect and cognition: A young child's understanding of CD-ROM talking books. *Journal of Literacy Research*, 32(2), 187-210.

Linda Labbo has conducted a series of studies that look at ways in which one teacher has effectively integrated commercial computer programs into the literacy curriculum of a kindergarten classroom in a low SES community.

Lewis, R. B. (1998). Reading software for students with learning disabilities. Retrieved Nov. 24, 2004, from LD Online Web site:

http://www.ldonline.org/ld_indepth/technology/lewis_rdgsoftware.html

Hypermedia-based children's literature has an appeal for all students but greatly benefits students with learning disabilities. This form of literature provides a motivational appeal with the great graphics and speech-enhanced text. There are some disadvantages for students who are not able to succeed through discovery learning as hypermedia offers. Also, this appeal of graphics and links can be distracting to readers, causing students to ignore text and only interacting with its illustrations.

Lu, H. (n.d.). Three levels of hypermedia in education. Retrieved Nov. 22, 2004, from Web site:

<http://coe.sdsu.edu/eet/Articles/HyperLevels3/start.htm>

There are three levels of hypermedia in education. These levels are based on the degree of learner control where the student who is learning has the control over the lesson. Learner control transfers the responsibility for learning from the designer or the computer to the student. The levels include read-only hypermedia, participatory, and exploratory hypermedia.

Oregon Department of Education. (2004). Retrieved Nov. 23, 2004, from Oregon Standards Web site:

<http://www.ode.state.or.us/teachlearn/standards/newspaper/2005/200405standards.pdf>

This website includes all the standards for reading for grades kindergarten through fifth grade, within the state of Oregon. It discusses what students at each grade level should have learned by the end of that year. It is very detailed. The concepts include vocabulary, decoding, phonemic awareness, and word recognition.

Programs, (n.d.). retrieved Nov. 30, 2004, from Teaching Reading In Every Classroom Web site:

<http://www.sdcoe.net/pdop/trec/support/welcome.html>.

Teaching Reading In Every Classroom is a collection of 16 online learning programs that provide professional development designed to assist classroom teachers to empower struggling readers.

Reading. (2003). retrieved Dec. 01, 2004, from Assistive Technology Training Online Project Web site:

<http://atto.buffalo.edu/registered/ATBasics/Curriculum/Reading/printmodule.php#top>

This webpage describes different forms and applications of text-to-speech technology, put together by the Assistive Technology Training Online Project at The University at Buffalo Center for Assistive Technology.

The art of teaching - learning to read on the web. (2004). retrieved Dec. 01, 2004, from Teachervision.com Web site: <http://www.teachervision.fen.com/lesson-plans/lesson-4893.html?detoured=1>.

This page was produced by Pearson Education Development Group, and was found on Teachervision.com. It describes strategies for teaching students to efficiently find information on the web.

Quiz star. (2003). retrieved Dec. 01, 2004, from QuizStar Web site: <http://quizstar.4teachers.org>.

QuizStar is an online program that allows teachers to create customized quizzes for their students, who can then log on to take the assessments.

Teacher Resources

- Living Books
 - <http://classsource.com/livingbooks/main.html>
 - Cost= \$7.95-\$24.95
 - Qualities:
 - Exposure to modern children's books: *Arthur*, *Dr. Seuss*, *Stellaluna*, *Just Grandma and Me*, and *Sesame Street*
 - Various age-appropriate books
 - Interactive for students to explore text and graphics
- Reader Rabbit's Development Library
 - <http://www.readerrabbit.com/>
 - Cost=Lots of free software (only \$5.95 for shipping and handling) at http://www.smart-estore.com/product_detail.asp?StoreId=211264&CategoryId=39&SID=&i=0&c=N20010&a=&ProductId=67
 - Qualities:
 - Two paths to learning: a systematic journey through 26 letter lands or a dynamic four-module "word factory"
 - Over 100 carefully sequenced lessons in phonics, word recognition, and reading comprehension
 - Exposure to a wide variety of engaging texts written at a child's reading level
 - 26 storybooks, with record and playback, give students control of the reading experience
 - Practice mode and storybook mode
 - Print progress reports, study word lists, and student certificates
- WiggleWorks
 - <http://teacher.scholastic.com/products/wiggleworks/classic/index.htm>
 - demo--<http://teacher.scholastic.com/products/wiggleworks/classic/flash.htm>
 - Qualities:
 - Leveled books
 - Teaching materials to go along with online books and activities
 - *Guided Reading Edition* available for teacher use
 - Offers software in other languages- Example: *WiggleWorks Espanol*