Use of Primary Source Documents for Teaching
21st Century Information Literacy Skills

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Introduction

Information rich, information overload, and information explosion are popular terms in our culture today. Classroom teachers, media, and technology specialists recognize that skilled consumption of information requires careful selection and evaluation of resources before information can be used for students’ research projects (Lamb 2004). Often it is an overwhelming task sifting through the electronic sources to locate appropriate and usable information. In working with elementary and secondary school students, one of the most common roadblocks to the use of digital sources is the indiscriminate copying and pasting of information to a student’s research paper. Teachers are distressed when students copy and paste directly from the Internet to “write” their final paper. The media or technology specialist is equally frustrated when students wander aimlessly browsing the web, looking for “interesting” facts about their topic. More often than not, ample time is devoted to searching for facts but students lack a focused research question (McKenzie, online). In a typical classroom activity, the teacher provides a list of topics for research and the media specialist a list of possible resources in the form of a pathfinder (Bush, 2003). The final paper is a compilation of information, reporting interesting facts and figures related to the topic. However, even with careful planning, many teachers experience less than satisfactory results from their students. Research papers requiring library and Internet resources for research projects are often superficial in content and lacking valid conclusions statements. The solution to these problems may be in the use of a new curriculum that focuses on “21st Century Literacy” for K12 classrooms.

Review of the Literature.

In 21st century classrooms, the current trend for teaching information literacy is in conjunction with technology-based tools using Internet and other digital information resources (National Higher Education Consortium, 2005; Lamb, 2001; 2004). Information Communication and Technology (ICT) is one of several components in the 21st Century Skills Model recommended by a leading advocacy organization for infusing 21st century skills into education (See www.21stcenturyskills.org). Using ICT, students learn not only how to query a database but also layout the design of an electronic slide presentation. In an article in Change magazine it was reported that technology-savvy students of the 21st century use fewer critical thinking skills than their parents (Breivik, 2005). Even with the use of Internet, cell phones, DVD’s, and a multitude of electronic devices, information comes cheap and often is not used for critical analysis and evaluation. Quick-fix research using search engines may yield copy and paste solutions, but extended thinking is often lacking in the research process. Even though Information Communication and Technology skills are being strongly promoted as a critical need for 21st century classrooms, many students enter the workplace with inadequate skills for use of information to solve typical work-related tasks (Educational Testing Service, 2005). Defining the information need and articulating a concise and logical report is in high demand for most positions in business and industry (NCREL, 2003).

The 21st Century Partnership was established by the U.S. Department of Education and several member organizations including the Educational Testing Service (ETS), American Association of School Librarians (AASL), and the International Society for Technology in Education (ISTE). In addition, there is an extensive list of members from the technology industry (See http://www.21stcenturyskills.org) The 21st Century Learning Model has six components – Life Skills, 21st Century Content, Core Subjects, Learning & Thinking Skills, 21st Century Assessments, and ICT Literacy. Based on a report published by the Educational Testing Service (2005), components for ICT Literacy include several processes in which the student must engage in order to perform at the level recommended by the 21st century literacy consortium. Students must define the information need; collect and manage information from digital environments; interpret information using ICT tools for comparison, analysis, and synthesis; evaluate information for authority, bias, and timeliness; and communicate their findings through the creative use of ICT environments. If students are to engage in classroom activities that will transfer to future work environments, there must be a 21st century approach to the use of information to solve problems and report solutions.
In elementary, secondary, and college classrooms, skills for formulating a clear and concise research question are directly related to Information Skills curriculum recommended by the American Library Association and the Association for Educational Communications & Technology (ALA & AECT, 1998, p.11). If you combine this with the ICT Literacy model recommended by ETS, the first step would be to “identify and appropriately represent an information need” (p. 18 ETS, 2005). This involves behaviors related to formulating a research statement and retrieving information from a variety of sources. But, this is just the first step. Using the information to efficiently generate a summary report or solutions to a problem should be the culminating step for a real-world research assignment. This demands a level of thinking and content analysis that is often missing in K12 research projects. One reason might be an over reliance on simplistic research projects using general information sources (Loertscher, 2005). Students may benefit from more problem solving and higher level learning activities within their research projects. Early in 2004 I was invited to participate in a formative evaluation project for a primary sources website. As a professor of media and technology the idea of using digital primary source documents became an intriguing possibility. I decided to investigate the effects of ICT environments for teaching the use of primary source documents for high school research projects.

In 2004, the academic library at East Carolina University received a large grant from the North Carolina State Library (North Carolina State Library, online). Previously, Joyner Library had worked with local museums to archive images of artifacts from the Country Doctor Museum, and the Tobacco Farm Life Museum. The purpose of the project was to digitize approximately 200 texts pertaining to the history of 29 eastern North Carolina counties. Currently the Digital Library of Eastern North Carolina is a product of these early efforts to preserve old and rare books, documents, and images through the grant-funded digitization project (available online http://digital.lib.ecu.edu/historyfiction/ ). The Digital Library of Eastern North Carolina follows the example of other online resources providing digital primary source documents, The American Memory Project, sponsored by the Library of Congress is “a digital record of American history and creativity” (http://memory.loc.gov/ammem/about/index.html). It was first begun in the early 1990's and currently stores more than 9 million items related to American history and culture.

In addition to the websites sponsored by East Carolina and the Library of Congress, there are numerous Internet resources providing access to primary source documents. Formats for the primary sources include letters, diaries, legal documents, maps, broadsides, and many other resources scanned and archived as digital primary sources (Brown, 2005; Veccia, 2004). Because these documents are primarily written as first person accounts by individuals, and are not “textbook facts”, students soon learn that careful evaluation of all sources is an important step in the research process. Biases and opinions are deeply rooted within most letters and diaries (Friedman, 2005; Library of Congress, online). Even official documents and legal reports can be biased, depending on geographic region and time period. Extensive reading in any of the primary sources leads to the possibility of writing your own version of history. Much depends on how well the author presents various viewpoints and perspectives in the reporting a singular event. Based on earlier work by Friedman, I proposed a partnership project with a rural high school in eastern North Carolina to investigate students' proficiencies with ICT literacy using electronic resources and primary source documents. Using three Internet based resources for primary source documents, the question was asked, “are digital primary source documents useful tools for teaching Information and Communication Technology (ICT) literacy skills in K12 schools?”

Method.

In case studies reported by Barton (2005), high school students participated in perspective-taking activities to write alternate points of view for events in history. Using old diaries, letters, and journals, students soon learned that history could change based on such things as geographic location and social position of the person relating their story. Replicating many of Barton’s activities, a case study investigation was used to report the strategies students used to analyze primary source documents for “writing their own history”. In addition, surveys and focus group interviews were used to gather feedback from students and their response to use of primary source documents as reference materials for doing research.

A rubric was used to identify proficiencies in the seven areas recommended by Educational Testing Service for ICT Literacy. These are- define, access, manage, integrate, evaluate, create and communicate. My observations were focused on these proficiencies and how often students demonstrate skills for defining a question, accessing and managing information, integrating resources into useful summaries, evaluating their sources, and creating a valid conclusion statement presented electronically to their peers (ETS, 2003). Upon recommendation by the school media specialist and a classroom teacher, the 12th grade English Literature students were given instruction in how to use (1) skills in generating a research question, (2) use specific search strategies to locate primary source documents,
(3) evaluate information for bias and engage in perspective-taking thinking processes, and (4) apply technology literacy skills for use of PowerPoint software for the purpose of reporting conclusions to a peer-audience. The researcher, media specialist, and classroom teacher provided additional remediation and support as students learned new skills in use of Boolean methods for entering keywords in a variety of search engines and educational databases. They also received instruction in how to present their final report to their peers in the classroom setting.

In an earlier publication, the Educational Testing Service (2003) reported testing the seven ICT proficiencies for college level students, however, in a recent report by MSNBC (available online), the college level skills have been translated for use in testing high school students:

Students will receive an individual score on a point scale of 400 to 700, and schools will get reports showing how students fare in seven core skills: defining, accessing, managing, integrating, evaluating, creating and communicating information.

Using the ICT proficiencies as a framework, a rubric was designed to identify the seven core proficiencies within students’ research behaviors and in the content of their final products (See Appendix).

The first proficiency is identifying need and generating the research question (Define). Students should be able to “frame” (McKenzie, online) a research question using problem-based learning techniques for brainstorming, perspective-taking, and critical thinking skills. Second, students should use ICT tools to gather information and, based on information need for the defined research question, organize the information into a useful format (Access and Manage). Next, students engage in higher order thinking skills to compare and contrast, synthesize, and summarize information (Integrate). Following integration, students should be able to make judgments on whether the information satisfied needs for the task in the ICT environment, including authority of the source, bias and timeliness of the materials (Evaluate). Last, using ICT tools students must be able to report their findings, conclusions, and solutions within appropriate context for the audience (Create/Communicate). The observation instrument included the following behaviors: (1) students ability to frame their research questions related to the time period and circumstances for the research project; (2) students ability to generate a focused research question that is useful to meet an authentic information need; (3) students persistence in use of search engines to find useful information; (4) students persistence to work with software for developing their electronic slide presentations; (5) students problem solving ability within the ICT environment.

Discussion

Framing an Authentic Research Question.

Students needed guidance and instruction in how to frame and generate a research question. Even when provided a list of motivational topics, the researcher, teacher, and media specialist devoted several class periods modeling the cognitive process for “framing the question” and bringing the topic to a focused research question rather than a fact-gathering-and-report methodology. When generating their research questions, typical responses by the students might be - "research on battles of the Civil War", or "research on life on a southern plantation". Students were not able to frame their topics within the boundary of a focused research question. Nor were they able to generate an original query that would require critical analysis on information related to a topic. Instead, students wrote superficial questions that only required searching for basic facts. In Illustration 1 you will see two examples of focused questions generated by one male and one female from the class. The students gathered pertinent information and critically analyzed the content for perspectives based on culture, geography, and personal bias. By framing the research questions, students were able to define the information needs, access appropriate sources of information, and evaluate the content of information for usefulness in answering their research questions. Note, all three proficiencies, define, access, and evaluate are components for the ICT skills curriculum.
Framing Questions
What was prison life like at different prisons during the Civil War?
What was the difference between the treatment at Union Prisons and Confederate Prisons?

The Purpose
We often forget how difficult it was for women to win the battle for the vote.
What did they sacrifice?
Why would someone oppose women’s suffrage?

Many students needed additional instruction in how to evaluate the contents and validity of certain websites. In particular, credentials of the author, was an important information skill learned by students in this case study. Proficiencies for ICT Literacy include the ability to "judge the degree to which information satisfied the needs of the task in ICT environments, including determining authority, bias and timeliness of materials." In Illustrations 2 and 3, are examples of how students gathered information from several sources for critical analysis. The students' final conclusions are based on various perspectives. Considerable judgment and evaluation of content was needed for students to report on final conclusions related to their original research questions.

Illustration 2. An example of student’s ability to use ICT tools to Access, Integrate, Create, and Communicate information needed to answer a framed research question.

NARRATIVE OF PRISON LIFE
AT BALTIMORE AND JOHNSON’S ISLAND, OHIO:
By: Shepherd Henry E. Elli

- Building was uncleaned and not ceiled. It was simply weather boarded.
- Rations: One half loaf of hard bread and a piece of salted pork.
- Clothing and blankets were not suitable for weather conditions.

http://docsouth.unc.edu/shehperd/shepherd.html
Illustration 2 is an example of how students gathered information from several sources with first hand reports on prison conditions in the North compared with conditions as reported in the South during the American Civil War. The student’s conclusions are based on analysis of facts as these were reported by persons incarcerated in both northern and southern military prison campus.

In Illustration 3, the student reported the comments from the opposition as a strategy to report how bias is evident in the media. She compares this with media reports from broadsides that were in support of women voters. The student’s conclusion contained some personal bias but was still well articulated in her admiration for early leaders in the suffrage movement.

Illustration 3. An example of student’s ability to use ICT tools to *synthesize, summarize, compare and contrast* information.

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**The Women’s Reasons**

“Women must obey the laws…pay taxes…suffer from bad government… just as men do.

Women are citizens of a government of the people, by the people and for the people, and women are people.

They should vote equally with men.”
The Opposition

• The majority of women were believed to not want the vote.
• Another argument was that the responsibilities of voting would interfere with their duties as a housewife.
• Women were also expected to trust men with their interests.

Persistence in Use of Search Strategies.

Early in the project, students wasted too much time with aimless wandering of the Internet to locate “facts about my research”. This relates to the typical practice of locating basic facts without using higher-level thinking for comparing and contrasting, summarizing, and critical analysis of what was reported in the documents. Students also struggled with fact versus opinion with many of the documents. Legal documents, government websites, and other historical documents presented in textbook style were always interpreted and reported as entirely accurate. Students soon learned that documents were not always entirely accurate. They were prompted to compare several different viewpoints for one historical event and soon recognized the differences in geographic region, time period, and economic status can affect the accuracy of content within primary documents. Cognitive processes for this activity clearly support the ICT skill for integrate in which the student must "interpret and represent information" thinking skills to "synthesize, summarize, compare and contrast information from multiple sources" (ETS 2003).

Persistence in Use of Software for Problem Solving and Presentation of Research Results.

Students were motivated to report their findings using electronic slide presentations however many students were frustrated in learning basic computer skills and trouble-shooting for glitches in the software. There was also a need for prompting in the use of search engines and Boolean methods for entering keywords. The earlier pilot project was successful in that students were highly motivated to research their topic and because of the opportunity for additional time in the library using the Internet. However, the teacher reported less than satisfactory results for the final product. Student papers did not include valid conclusion statements. When interviewed during focus groups, students reported lack of time to write the final paper. With additional probing and questioning, the researcher concluded that students spent too much time with Internet searching for the primary sources. During the follow-up projects, (through collaborative efforts of the teacher and media specialist) an extended timeline was planned to provide adequate time for gathering data, processing the information, and writing final conclusions. In addition, students were provided a list of sources in a pathfinder and were instructed to search extensively within the websites and web portal provided by the media specialist. This helped alleviated the problems with too much time searching irrelevant websites.

Conclusions

Students gained new understanding in how to interpret historical documents as they read primary sources to “write their own history”. They also learned that all history is a biased report of events and are the viewpoint of the author. Comparison of viewpoints by age, race, gender, socio-economic status, and geographic region were used to
teach information literacy for the selection and evaluation of information to answer their self-generated research questions. Students began with simple fact-gathering but soon graduated to more in-depth analyses in order to identify biased and opinioned reports for an historical event. In addition, students exercised skills in evaluation of several different sources for the same event. Their evaluations were self-directional and required a high level of evaluative judgment for drawing final conclusions. This was an obstacle for many of the students early in the project until they recognized the importance for comparing stories from different perspectives. The American Civil War, Women’s Rights, and sensitive topics such as slavery of African Americans were useful topics leading to a successful experience with information and communication technology skills. Using the seven proficiencies recommended by the Educational Testing Service (ETS, 2003, 2005), I was able to devise an observation instrument with criteria for students’ ability to locate and access information. Using recommendation by ETS, a researcher-designed rubric was used for assessing skills in determining usefulness of information. In addition, criteria within the rubric were used to evaluate conclusions presented in students’ electronic PowerPoint® slides. In the beginning frustration was high, but mastery of basic technology skills led to a more relaxed learning environment. Just as with adult learners, high school students are pressured to work under time constraints when facing technology glitches and slowdowns. The teacher and the media specialist were highly motivated to achieve a successful completion for the projects, thus persevered even with technology delays. The effective use of Information and Communication Technology skills as described for 21st Century classrooms are evident from this study.

References


### Appendix

Rubric for Evaluating Contents of Research Projects *

*adapted from Educational Testing Service *Components of ICT Literacy*

<table>
<thead>
<tr>
<th>Define-Using ICT tools:</th>
<th>Access-Using ICT tools:</th>
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<tbody>
<tr>
<td>Select appropriate topic - teacher input</td>
<td>Locate, retrieve digital primary sources useful for answering the research question</td>
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<tr>
<td>Frame research question within focused boundaries</td>
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<tr>
<td>Identify appropriate resources to answer the research question</td>
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<tr>
<th>Manage- Using ICT tools:</th>
<th>Integrate- Using ICT tools:</th>
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<tr>
<td>Organize information to be able to efficiently analyze content</td>
<td>Read and interpret information using synthesis, summarization, and critical thinking skills for compare, contrast and perspective taking.</td>
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<tr>
<td>Summarize content</td>
<td>Read and interpret information from multiple sources</td>
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<tr>
<td>Report portions of content to answer the research question</td>
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<th>Evaluate- Within ICT environments:</th>
<th>Create- Using ICT tools:</th>
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<tr>
<td>Make judgments on the usability of the information to answer the research question</td>
<td>Adapt, apply, and design a report with conclusions to the original research question</td>
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<tr>
<td>Make judgments on authority of the source</td>
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<tr>
<td>Make judgments on bias</td>
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<tr>
<td>Make judgments on timeliness of the materials as this relates to the research question</td>
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<th>Communicate- Using ICT tools:</th>
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<td>Design a report that is appropriate for the audience</td>
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<tr>
<td>Design a report with content that is clearly communicated and understood by the audience.</td>
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