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► **To cite this version:**

David del Testa, Abby Clobridge. From Internet Users to Digital Historians: A Student Project Praxis Developed between an Historian and a Librarian-Technologist. 2009. sic_00359476

HAL Id: sic_00359476

https://archivesic.ccsd.cnrs.fr/sic_00359476v1

Preprint submitted on 7 Feb 2009

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**From Internet Users to Digital Historians:
A Student Project Praxis Developed between an Historian and a Librarian-Technologist**

*« Comment l'internaute devient historien :
une pédagogie hybride pour croiser l'analyse documentaire et la création de ressources numériques
au sein d'un cours d'histoire »*

**Paper for the ERTé Conference “L'éducation à la culture informationnelle” in Lille, France,
16 – 18 October 2008**

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Résumé en français

Dans le contexte d'une évaluation de la qualité de l'enseignement à l'université de Bucknell (Pennsylvanie, USA) et suite à une forte incitation à renforcer la présence d'outils de pédagogie numériques dans les cours universitaires en général, le professeur David Del Testa et Mme Abby Clobridge ont développé en collaboration un module d'enseignement intégré dans un cours d'histoire de premier cycle. Cet enseignement propose une initiation aux méthodes de recherche de l'historien à travers l'exemple de la Deuxième Guerre Mondiale. L'emploi de deux formes de technologie numérique – les systèmes de réponse personnelle et les interfaces de gestion numérique des média – a permis à Clobridge et Del Testa de créer les conditions nécessaires pour « laisser agir » les étudiants en tant qu'historiens professionnels, avec des résultats appréciables. Ces résultats ont pu être obtenus grâce à la présence de Clobridge et Del Testa en tant que co-instructeurs dans le cours, ce qui a permis un croisement visible de leurs domaines d'expertise, et grâce à l'accès aux outils de recherche numériques qui ont amélioré considérablement la qualité du travail des étudiants.

Introduction and pedagogy

The authors of this paper argue that an educational experience facilitated by digital media demands a careful linkage between the materials studied and its interface, and that collaborative co-teaching between instructor and technologist produces qualitatively superior results for students than separated instruction of materials and media would.¹ The authors present as evidence a module of study – the World War II Poster Project – that they co-taught in fall 2006. In this unit, the authors used a mix of "analog" sources and "digital" technologies to encourage good historical practice. Students researched, analyzed, described, and “dissected” original WWII propaganda posters from the University's archives and then created a digital repository of images of them and their individual research about them. The project incorporated two significant technology components: digital image technologies and personal response systems (clickers).

The richness of this project comes from a holistic approach for the students: their experiences linking the material and digital worlds; the relationships they created between their individual work and that of the group; and finally, their experiences creating knowledge as professionals. In particular, this

¹ Close institutionalized faculty-librarian collaboration has occurred narrowly in the United States since at least the late 1930s, with a flowering of it in the late 1960s and early 1970s at select schools, and a rapid period of experimentation beginning in the late 1980s. This latter period resulted from several damning reports about faculty-students relationships that appeared in the late 1970s and early 1980s; faculty need or desire for informational enhancement in their courses and research; and a general weakening of institutional hierarchies and disciplinary boundaries. A sample of case studies or retrospection includes: Dick Raspa and Dane Ward, eds., *The Collaborative Imperative: Librarians and Faculty Working Together in the Information Universe* (Chicago: Association of College and Research Libraries, 2000), C. Bielema et al., "Faculty and Librarian Collaborations: A Case Study and Proposal for Online Learning Environments," *Research Strategies* 20, no. 4 (2003), Esther Grassian, "Do They Really Do That? Librarians Teaching Outside the Classroom," *Change* 36, no. 3 (2004).

demanded mature praxis that purely secondary source-based assignments would not have engendered.² As professor Cecilia Elizabeth O'Leary argues, "[t]he weight of being accountable to the people who have lived and died in the past is heightened as [students] take responsibility for who and what will be included or excluded from the public digital histories they [...] create."³

Motivational Context

For a long time, instructors and technologists at Bucknell University have cooperated closely on information technology projects, but the majority of these projects consisted of technologists helping instructors to enhance the delivery of their courses with digital aids, such as PowerPoint. Typically, this collaboration has been mono-directional, that is, technologists imparted expertise to teachers but did not participate directly in the course. In this sense, this technical facilitation is logical, because the domains of expertise are divided. But, in another sense, given that today the learning of technique frequently accompanies the learning of knowledge and that the learning of one can complement the learning of the other, that these domains are neatly separated does not always make sense.

From the perspective of Clobridge and her colleagues in the Library & Information Technology Department, information literacy was a key motivator in creating the World War II Poster Project. In the United States, the Association of College & Research Libraries (ACRL) has defined information literacy as: "the set of skills needed to find, retrieve, analyze, and use information."⁴ The ACRL standard outlines performance indicators and goals to track and measure students' abilities to find and evaluate information, and, to a lesser degree, create new information. The performance indicators also address issues surrounding the ethical use of information. While the standards provide a national framework for information literacy, they are purposefully vague and do not include specific recommendations for implementation; each institution can interpret and adapt the standards for its own environment.

In addition, many colleges and universities are required to abide by regional standards based on state-mandated accreditation criteria.⁵ Because of its location, the Middle States Commission on Higher Education (MSCHE) accredits Bucknell University. In 2002, MSCHE began to include information literacy among criteria for review. Institutions now need to provide to the MSCHE evidence of plans for information literacy and examples of implementation as part of their accreditation.

A 2004 MSCHE review motivated the Department of History to create of new courses. This review had criticized the Department for its lack of sufficient introductory courses. Concomitantly, Del Testa's colleagues commiserated on how students in advanced courses had an unequal level of knowledge of research methods. Creating an experimental introductory course – Thinking about History, in which the title and emphasis on methodology would stay the same from year to year but the instructor and subject matter would change – provided one solution. Del Testa chose WWII as a theme for his version of the course because of broad student interest in the topic and because the library possessed era posters that could serve as the basis of an interesting assignment.

The propaganda poster module and its results

Clobridge and Del Testa collaborated on the WWII Poster Project within this context of information literacy standards, current pedagogies, and a spirit of experimentation. Although it remains unclear whether students retain information any better through digitally-enhanced courses than through courses relying on traditional modes of delivery,⁶ hands-on research-based work does enhance students' retention of knowledge.⁷ In this case, the digital component created accessible research resources and facilitated student data manipulation and management.

² For a similar experience, see Grassian, "Do They Really Do That? Librarians Teaching Outside the Classroom."

³ Tracy M. Weis, Cecilia O'Leary, and Bret Eynon, "Digital Technologies and Pedagogies," *Social Justice* 29, no. 4 (2002): 161.

⁴ (<http://www.ala.org/ala/acrl/acrlissues/acrlinfolit/infolitoverview/introtoinfolit/introinfolit.cfm>)

⁵ The MSCHE governs accreditation for colleges and universities in Delaware, the District of Columbia, Pennsylvania, New York, New Jersey, Maryland, Puerto Rico, the U.S. Virgin Islands, and several American international schools.

⁶ Stephanie Sutton and Amaury Nora, "An Exploration of College Persistence for Students Enrolled in Web-Enhanced Courses: A Multivariate Analytic Approach," *Journal of College Student Retention: research, theory & practice* 10, no. 1 (2008): 235.

For this module, which lasted six weeks during a sixteen week semester, 40 students formed into twenty pairs. Over the course of six weeks, these pairs worked with the rare and fragile World War II posters. With the aid of the authors and other librarians and technologists, student pairs chose an original poster, documented it following professional standards, and researched it, analyzed it, prepared it for digital imaging, and mounted it on an Internet site.⁸

Prior to starting the unit, Clobridge had students use clickers to determine collective knowledge. Increasingly, educators recognize that clickers permit on-the-fly analysis; allow the generation of useful response reports; and encourage participation from students.⁹ Clobridge asked a series of questions related to historical research methods that were projected to the class. Students answered the question by selecting the button on the clicker that corresponded to the answer choice they believed was correct. After all students had answered the question, the correct answer was displayed along with the percentage of students who selected each answer. If the majority of the class answered the question correctly, Clobridge asked for a volunteer to explain the answer. If most students answered incorrectly, she led the class in a brief discussion about that particular topic.

All of the data generated by the clickers was collected and saved, giving instructors a baseline for comparison about students' understanding of research methods and allowing instructors to tailor in-class discussions based on students' strengths and weaknesses. For instance, most students had a good understanding of how to use an online library catalog system, but few understood how to request materials through inter-library loan. Presentations to students were adapted in response to these results.

Under the guidance of the university's archivist, students learned basic archival techniques such as handling and measuring fragile objects; researched various dimensions of the posters such as their authors and symbolism and ultimately wrote an analytical paper describing their experiences deconstructing the poster, tying together research and their own opinions, and documenting all of the processes used throughout the project.

After two weeks of working with posters and researching them, instructors shifted the emphasis from working with the posters themselves to creating a digital interface for the project. First, students created digital surrogates of their posters. Under the guidance of technologists, students used a digital camera to photograph the posters.¹⁰ Students were then given copies of the images. Using Adobe Photoshop®, students cropped, rotated, and performed basic color correction on the images.

The next step was having students work to take this assortment of digital images and put them together into a cohesive digital collection. As part of an in-class exercise, Clobridge presented two international metadata standards, Dublin Core and VRA Core 3.0. Dublin Core is used within the information science/information technology profession to describe all types of digital materials.¹¹ It is useful for cataloging items at a broad level, but does not allow for granular descriptions. VRA Core is used mainly by the visual arts community and is designed for cataloging works of art. The complexity of the field structure makes it ideal for describing both an analog object (e.g. the World War II poster) and its digital surrogate (e.g. digital images of the posters).¹² The class as a whole discussed the advantages and disadvantages of using each of these standards and then created a hybrid schema that incorporated the most relevant elements of each standard and added some new fields to convey specific details, such as course name, semester, and the professor's name.

After the students created a metadata schema for the collection, Clobridge built a database and interface for the collection within Luna Imaging Inc.'s Insight® software. Insight uses a relational database structure for storing data records. Images are uploaded through the interface and converted on

⁷ As illustrated qualitatively in Joseph Coohill, "Images and the History Lecture: Teaching the History Channel Generation," *The History Teacher* 39, no. 4 (2006), Stephen H. White et al., "A History Lab Environment in the Classroom Brings the Standards to Life," *Middle School Journal* (2006).

⁸ For the final results of the project, see: <http://www.bucknell.edu/x36100.xml>.

⁹ See Ken Prock, Sylvia Pham, and Will Jefferson, "Using Clickers in Information Literacy Instruction," *Pennsylvania Library Association Bulletin* (2008).

¹⁰ Using the digital camera, images were shot and saved as uncompressed Tagged Image File Format (TIFF) images.

¹¹ Full details available at: <http://dublincore.org/documents/dces/>.

¹² A full list of fields is available at: <http://www.vraweb.org/projects/vracore3/categories.html>.

the fly to JPEG2000, which allows users to zoom in on details. During the last class session for the project, students logged into the system and cataloged their own records using the Inscribe® cataloging interface.

The results were impressive, especially because the students became historians themselves in the process. Del Testa augmented this module with “normal” teaching of the history of the war and analysis of sources. Thus, students applied their knowledge of the course immediately to the project.

Conclusions and Future Plans

Additional data was collected via web surveys to get feedback from students about their attitudes and experiences with this project as compared to traditional research papers. The data collected indicates that most of the students left the module with a deeper appreciation of the war than before. But more importantly, they acknowledged that the skills that they had learned in the course helped them in their future courses and that they felt more competent in terms of their ability to do thoughtful and thorough research than their peers who had not taken a course. As with similar projects, students gained insight about librarians as instructors, not just information-providers.¹³

The World War II Poster Project was first taught in the autumn of 2006 and was repeated in the autumn of 2008. Digital images and records from 2008 will be added to the digital repository; furthermore, this collection will be one of the first collections added to the Liberal Arts Scholarly Repository (LASR), a new digital repository of materials from seven liberal arts colleges and universities in the United States. The repository is designed to showcase student scholarship. LASR is built in DSpace, an institutional repository system used throughout the world. Materials are searchable through Google.

Clobridge and Del Testa determined that this hybrid of pedagogy and approaches produced very appreciable results that were applicable to other courses without regard to discipline. This approach comes from a hybrid of pedagogies, especially the approach of collaborative learning (where students teach one another with the aid of the teacher),¹⁴ active learning (where student engagement replaces passive reception),¹⁵ and project-based learning (where a project of multiple elements forms a vehicle for knowledge in the place of lecture).¹⁶ Although the documentation studied must not be necessarily tangible, close visible collaboration of instructor and technologist affected students deeply in the projects, and digital enhancement lent immediacy and a publicity to the project, engendering a sense of authorship, ownership, and professional pride.

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