INFORMATION LITERACY 2.0: EMPOWERING STUDENTS THROUGH PERSONAL ENGAGEMENT

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ABSTRACT

Web 2.0 technologies such as blogs, wikis, and social networking sites have impacted the Information Literacy (IL) curriculum at The American University in Cairo, where librarians teach LALT 101, a required, semester-long IL course. During fall 2005 and spring 2006, librarians used a Web 2.0 photo sharing tool, *Flickr* (www.flickr.com), to teach database concepts in several experimental sections of LALT 101. Observations show that the experimental sections were more engaging and enjoyable for the students than the control sections. Pretest and Posttest data show that learning occurred in both the experimental and the control groups with no statistically significant difference between them.

Keywords: Information Literacy, Active Learning, Web 2.0, experimental classroom techniques.

BACKGROUND

The Setting

The American University in Cairo (AUC), founded in 1919, is a liberal arts institution in the Middle East accredited in the United States by the Commission on Higher Education of the Middle States Association of Colleges and Schools. The university mission is "to provide high quality educational opportunities to students from all segments of Egyptian society as well as from other countries, and to contribute to Egypt's cultural and intellectual life" (AUC, 2005). AUC currently enrolls over 5,000 students in both undergraduate and graduate programs. The student population is 89.5% Egyptian, 46.8% male, and 53.2% female. All coursework at AUC is conducted in the English language and the faculty is comprised of Americans, Egyptians, as well as those from other countries.

Information Literacy at AUC

Information Literacy, which is defined as the "set of skills needed to find, retrieve, analyze, and use information," is central to achieving the mission of providing a high-quality liberal arts education (ACRL, 2003). The American Library Association's Presidential Committee on Information Literacy released a report, which summarized the fundamental goal of information literacy education, stating: "Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand" (ALA, 1989).

AUC acknowledges that its students need information literacy education in order to ensure academic success. To meet these information literacy needs, AUC's Main Library launched LALT 101 in fall 2003. LALT 101 is a required, core curriculum course taught by faculty librarians. Each semester the course enrolls over 300 students and meets weekly for 13 weeks. The broad course objectives are for students to: "Understand the organization of and the information services available through the AUC library"; "Develop and apply effective search strategies in order to locate needed information"; "Critically analyze and evaluate information"; and to "Use information ethically and responsibly" (AUC Libraries, 2006). LALT 101 has been growing and evolving since its inception, with experimentation and innovation being the driving forces behind curriculum development.

The Association of College and Research Libraries promotes active, experiential, and student-centered pedagogies, stating that environments, "where inquiry is the norm, problem solving becomes the focus, and thinking critically is part of the process" involve information literacy competencies (ACRL, 2007). Information literacy education has seen an increase in active and experiential learning; technology, specifically Web 2.0, has enabled these new pedagogies to thrive. Web 2.0, also referred to as the Read/Write Web, is revolutionizing the way people use information online. Simply defined, Web 2.0 is "the web as platform," where users create, share, and interact with information in fluid, ever-changing ways (O'Reilly, 2005). This new and dynamic online environment has the potential to impact and transform information literacy education, with instructors experimenting to integrate these technologies into their assignments, curricula, and assessment tools. Common Web 2.0 applications such as blogs, wikis, and social bookmarking tools are "intrinsically user-centered and can be leveraged by Information Literacy (IL) instructors for a creative, student-centered teaching and learning environment" (Bussert, Brown, & Armstrong, 2007). During the academic year 2005-2006, LALT 101 instructors at The American University in Cairo used a social software site, *Flickr*, to teach traditional information literacy concepts.

METHOD

Study Sample

In the fall 2005 semester, 85 students in 5 sections out of a total enrollment of 303 students in 16 sections were taught with an experimental lesson plan, which used *Flickr*. In the spring 2006 semester, 137 students in 6 sections out of a total enrollment of 347 students in 11 sections were taught with the same experimental lesson plan. Herein sections that used *Flickr* are referred to as "experimental" and the remaining sections as "control." All students are undergraduates enrolled in LALT 101 at The American University in Cairo.

Intervention

Control sections used standard LALT 101 course materials, which introduce students to the fundamentals of finding, locating, and evaluating information using print and electronic resources. Traditionally, the first two weeks of LALT 101 are spent detailing the course expectations and syllabus as well as introducing the library's resources and services. Experimental sections of LALT 101 employed a new lesson plan spanning the first two weeks of the course. In these sections, instructors used *Flickr* to create a searchable photo database of the students. In the first week of class, they took photos of the students in groups and in the second week the students entered the metadata on the *Flickr* site. The student-created *Flickr* database became a touchstone for these students. The database was used throughout the semester to teach and relate concepts such as: database organization and retrieval; keywords, subject headings, and controlled vocabulary; tags and folksonomy; database terminology; and the concept of a record.

Data Collection and Analysis

Pretest and posttest data assessing information literacy skills were collected at the beginning and the end of each semester. The pretest/posttest is a 58 question assessment tool which was designed by librarians in the AUC Information Literacy department and validated by the AUC Testing & Evaluation Services. Librarians used a table of specifications to design the pretest/posttest, which is given on the first day of classes and again as the final quiz. The score is expressed as a percentage, 100% being a perfect score.
Our data shows that learning occurred in the experimental sections for both the fall 2005 and the spring 2006 semester and that there is no statistically significant difference in learning between the sections that used the experimental lesson plan and those that used the control lesson plan. Table 1 shows pretest/posttest mean scores and standard deviations for the fall 2005 semester and Table 2 shows the same data for the spring 2006 semester.

Table 1: Mean Scores and Standard Deviations for Fall 2005 Pretest/Posttest Data

	Pretest Experimental Sections	Posttest Experimental Sections	Pretest Control Sections	Posttest Control Sections
M	69.46	82.34	68.40	84.07
SD	7.06	7.59	7.07	7.98

Table 2: Mean Scores and Standard Deviations for Spring 2006 Pretest/Posttest Data

	Pretest Experimental Sections	Posttest Experimental Sections	Pretest Control Sections	Posttest Control Sections
M	70.13	84.06	71.99	84.73
SD	6.69	7.83	5.06	8.76

Because all students enter LALT 101 as freshman with little or no library experience, further statistical analysis combines pretest data for all sections and compares it to all posttests in the experimental group and all posttests in the control group.

As Table 3 shows, the average pretest score for incoming students was just under 70%. The average posttest score was 83% for the experimental group and 84% for the control group. Several t-tests were performed. When one-tailed t-tests were performed to compare the pretests to the experimental sections' posttests, the p value was 6.2177E-56. Similarly, the p value was 1.15954E-66 for the control group. These exceedingly small p values indicate that these groups are significantly different; supporting our assertion that learning occurred in both groups. Because the experimental and control posttests were so close, a two-tailed t-test was performed to determine whether or not there was a statistically significant difference between them. The p value for this test was 0.252786707, which shows that there is not a statistically significant difference between the two groups. Note: All t-tests assumed equal variance. However, the researchers also performed t-tests assuming unequal variance and yielded essentially the same results: pretest/experimental p value is 5.5774E-50; pretest/control p value is 3.37974E-63; and 2 tailed t-test experimental/control p value is 0.249259809. The pretest/posttest test data does not show a significant difference in learning between the control and experimental group.

Table 3: Mean Scores and Standard Deviations for Fall 2005 and Spring 2006 Combined Pretest/Posttest Data

	All Pretests	Posttest Experimental	Posttest Control
M	69.68	83.29	84.27
SD	6.72	7.75	8.21

Qualitative data was gathered both semesters in the form of a survey, which asks questions about learning preference and style; library familiarity and experience; and course expectations. In these surveys, students consistently said that they preferred active learning techniques to other teaching styles. Not surprisingly, observations in the classroom showed that the experimental sections had a more active and engaging classroom dynamic. This was likely because the experimental sections more closely matched students learning preferences. This was evidenced in the student course evaluations, which students completed at the end of each semester. In fall 2005, students gave the following comments: (1) "Very effective class, lots of information ranging from how to use the computer as a source to how to use the library was effective. Moreover the teaching of this course was effective, as lots of different activities were given, which made students more attentive and cooperative in class." (2) "I just love Dr. Nicole's classes. Very fun and very creative and most of all very beneficial. She was very helpful outside of class too!!" In spring 2006, one student put it well when she said, "The course is very useful and is being taught in a nice way. I use the information I get from this course in my daily life now." These quotes combined with observations from the classroom support the notion of using emerging technologies to teach information literacy concepts. Experimentation can lead to increased engagement, creativity, and fun in the classroom.

CONCLUSION

The fundamental hypothesis underlying the use of social software to teach key information literacy concepts is that student learning will increase due to personal engagement, use of preferred learning-styles, and application to daily life. Indeed, observations confirm that students were more engaged in the experimental lesson plan than in the traditional one. Although the findings of this study do not show that more learning occurred in the experimental group than in the control group, the researchers hypothesize that follow-up data might show increased learning, retention, and transfer of knowledge because 2.0 technologies bring relevance to the classroom by both relating to daily life and matching the preferred learning styles of today's students. Further research requires longitudinal studies, which will show whether these methods are more effective than traditional approaches. At AUC, future analysis may involve assessing students in their senior year to determine whether or not they have retained the skills and concepts taught in LALT 101. It would be particularly interesting to follow-up with members of the fall 2005 and spring 2006 experimental groups.

This study supports continued experimentation and innovation in information literacy education. As the data analysis shows, students in the experimental groups did not suffer gaps in their knowledge of information literacy skills at the end of the LALT 101 course. On the contrary, these students benefited from a fresh approach, one that is more focused on the attributes of creativity, making personal connections and discoveries that can be directly related to everyday life.

REFERENCES

ACRL, (2007). Information literacy competency standards for higher education. Retrieved February 23, 2007, from ALA Information Literacy Competency Standards for Higher Education Web site: http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm#ilhed

ACRL, (2003). Introduction to information literacy. Retrieved February 6, 2007, from ALA Intro to Info Lit Web site: http://www.ala.org/ala/acrl/acrlissues/acrlinfolit/infolitoverview/introtoinfolit/introinfolit.htm

ALA, (1989). Presidential committee on information literacy. Retrieved February 6, 2007, from ALA Presidential Committee on Information Literacy Web site: http://www.ala.org/ala/acrl/acrlpubs/whitepapers/presidential.htm

AUC, (2005). About AUC: Mission. Retrieved February 6, 2007, from AUC Mission Web site: http://www.aucegypt.edu/about/mission.html

AUC Libraries, (2006). LALT 101 course syllabus. Retrieved February 23, 2007, from AUC Libraries Web site: http://library.aucegypt.edu/services/infolit/lalt_101_course_syllabus_ilpage.htm

Bussert, K, Brown, N.E., & Armstrong, A.H. (2007). IL 2.0 at The American University in Cairo: Flickr in the classroom.

Internet Reference Services Quarterly. 12, Publication forthcoming.

O'Reilly, T (2005). What is Web 2.0: Design patterns and business models for the next generation of software. Retrieved February 06, 2007, from O'Reilly Web site: http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html