21st Century Workforce Initiatives: Implications for Information Literacy Instruction in Academic Libraries

By Laura L. Leavitt

Introduction

The discussion that follows is designed to expose the reader to a selection of educational reform initiatives that fall under the "21st Century Workforce" umbrella. The aims of these initiatives are quite harmonious with the overarching goals of librarianship and the opportunities for librarians to become involved and to demonstrate leadership in this arena are plentiful. The author's efforts to incorporate information literacy principles and to encourage critical thinking in a graduate level organizational behavior class – in light of these initiatives and in response to employer feedback – are also discussed. It is hoped that the following information will inspire librarians to explore the initiatives further and to re-examine current information literacy and instruction efforts within this larger framework.

Background

For the past twenty years, there has been an increasing concern on the part of employers, educators and government officials that the educational system in the United States is not adequately preparing students for our new economic reality. To excel in the 21st century workforce, individuals need to think creatively to solve problems, collaborate across multiple networks, communicate effectively using a wide range of media and demonstrate an entrepreneurial attitude toward their work (Wagner, 2008). Not only are the requisite skill sets for success changing, but the demand for employees with advanced degrees is also accelerating. The current state of the labor market bears this reality out. While the unemployment rate for the entire civilian labor force was 9.3% in July 2011, the unemployment rate of those individuals with at least a bachelor's degree was much lower at only 4.3%[1]. Despite the large number of people that

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[1] United States Bureau of Labor Statistics. (2011) *Table A-4, Employment status of the civilian population 25 years and over by educational attainment*. Retrieved October 7, 2011 from http://www.bls.gov/news.release/empsit.t04.htm.

are currently out of work, employers are still struggling to fill open positions. In a recent survey of 40,000 employers, Manpower, Inc. found that 34% of employers were having difficulty filling "mission critical" positions. The most common reasons for position vacancies were a lack of technical expertise as well as weak "workplace" skills such as critical thinking, flexibility and collaboration on the part of job applicants (Manpower Group, 2011).

Yet the majority of college graduates are not fairing very well once they enter the business world. In a recent study, only 31.5% of all college graduates were rated "excellent" by employers in terms of their overall preparation for the workforce (Casner-Lotto & Rosenblum, 2009). Furthermore, in a related report, the skills that many businesses designated as becoming increasingly important were precisely the same skills in which college graduates were seen as performing the poorest. These skills included written communication, leadership, professionalism/work ethic, creativity/innovation and self-direction/life-long learning (Conference Board, 2006). This gap has led many educators, policy makers and business officials alike to call for changes that will result in more highly qualified applicants…applicants with "21st century skills."

21st Century Skills

While there is some disagreement as to what constitutes a 21st century skill set, there is general consensus that it involves not only a firm grasp of basic content areas (reading, writing and arithmetic, for example), but also the ability to apply this knowledge in different contexts. The applied skills of critical thinking, collaboration, communication and creativity are generally agreed upon as the categories in which workers in the new global economy must excel (*A Framework for 21st Century Learning*, 2011). There are a number of large-scale projects and initiatives currently being undertaken by a variety of

interested stakeholders to address the current and future skills gap and to more fully prepare college students for the new reality that awaits them. A close examination of a few such initiatives with an eye to the unique opportunities presented for libraries and librarians follows.

21st Century Skills and 21st Century Workforce Projects

Future Work Skills 2020

In a 2011 report entitled, "Future Work Skills 2020," the *Institute for the Future* in conjunction with the *University of Phoenix Research Institute*, identified six major forces driving changes in the labor market as well as the ten job skills that will be needed in the future (Davies & Gorbis, 2011). Libraries and librarians should be encouraged by the list which includes many of the same concepts found in Association of College and Research Library's Information Literacy Standards. It also presents many opportunities for libraries to contribute to the larger efforts to fully prepare students for the new global economy. It seems, rather than being rendered obsolete by the fast pace of technological change and the explosion of readily available information, librarians are in fact needed more than ever. We have a critical role in not only educating the next generation but also in ensuring our competitiveness globally.

This report lists "sense-making" as the number one skill that will be required of future workers. Sense-making is defined as the "ability to determine the deeper meaning or significance of what is being expressed" (Davies & Gorbis, 2011, p. 8). Not only is this a (perhaps unintentional) homage to the work of Carol Kuhlthau, one of the world's leading researchers in the area of information seeking behavior, it is also strikingly similar to ACRL's Information Literacy Standard Three which stresses the critical evaluation of information. The list of ten skills includes a number of others which librarians generally try to develop through information literacy instruction, including novel and adaptive thinking (#3), computational thinking (#5), transdisciplinarity (#7) and cognitive load management (#10). Two of the remaining skills on the list - new media literacy (#6) and virtual collaboration (#9) - also have implications for libraries with respect to their role in technology and new media training.

The Assessment and Teaching of 21st Century Skills project (ATC21S)

The Assessment and Teaching of 21st Century Skills project (ATC21S) is another notable large-scale effort, sponsored by Cisco, Intel and Microsoft, concerned with preparing future generations for the dynamic workplace they will face. Headquartered at the University of Melbourne, the project's primary focus is on developing a framework for teaching and assessing 21st century skills, however, they too began their work by defining and categorizing 21st century skills. The four major groups they developed include: "Ways of Thinking," "Ways of Working," "Tools for Working," and "Skills for Living in the World" (*What are 21st Century Skills*, 2011). Again, there is a great deal of overlap between these categories and ACRL's information literacy standards. "Ways of Thinking," for example, includes critical thinking and problem solving, while "Tools for Working" specifically lists information literacy. Finally, "Skills for Living in the World" relates to developing a responsible, engaged citizenry as well as a commitment to life-long learning.

The Center for Public Education – 21st Century Education

The Center for Public Education is a research organization sponsored by the National School Boards Association that investigates and analyzes trends and issues in education. A significant portion of its website is dedicated to 21st century education and includes a discussion of the larger forces shaping the changing skills demands as well as a description of 21st century skills. There is an emphasis on traditional academic knowledge, as well as the broader competencies of critical thinking, creativity and life-long learning (Jerald, 2009). Again, the similarities with the overarching aims of librarianship in general and the ACRL IL standards, specifically, are numerous.

Information Literacy Instruction for the 21st Century Workforce: A Case Study

Given employers' heightened concern about college graduates' critical thinking skills and overall workforce preparedness, the author attempted to introduce information literacy principles through instruction in a graduate level organizational behavior class. This was in part a response to specific concerns raised by employers who had recruited students from campus in the past. These concerns mirrored those listed in the studies cited earlier, and focused on students' ability to find, organize, analyze and present quality information in a timely and professional manner. Through close collaboration with the professor, an assignment was developed that required a fair amount of research as well as the abilities to analyze and present the information in a meaningful way. The semester-long project required students to conduct a strategic analysis of a company and present their findings to the entire class as well as a panel of alumni. This assignment was also designed to help the students prepare for job interviews by outlining the steps involved in both company and industry research. It was hoped that this practical application, as well as the immediate need for assistance (interviews for internships were underway), would serve to bolster the students' overall motivation.

In addition to a discussion of the value of library resources, the complex nature of the business information landscape and a review of specific resources that the students were to use, an online course guide was created for the class and was available for the students' use throughout the semester. The students were also required to practice their presentations at various times throughout the semester, and the librarian/author was not only present at them but also served on the panel that evaluated the final presentations. Feedback on sources selected as well as how data was presented and cited was provided at each of these sessions. Students also met with the librarian individually and were required to write short papers reflecting on the research process. It is important to note that the emphasis of the library instruction was not solely on source selection and data usage. In fact, the emphasis was on the analysis and presentation of the data. For example, students were pushed to not only list financial ratios for a particular company as a reflection of financial performance, but to explain why they selected the particular ratios they did to indicate strong performance. It was through this type of close communication with the students and professor that the students' struggle to think critically became apparent. Finding the data was hard enough for most of the students, but once found, what to make of it was even more difficult.

At the conclusion of the course, the students, professor and final alumni panel felt that the presentations were good and that the research skills of the students had improved. However, it was also felt that improvement was still needed before most students would truly be ready for the complex and fast-paced environments of the corporate world. Valuable information was gathered, however, and informs instruction moving forward. For example, some faculty and librarians have argued that graduate students do not need basic information literacy instruction, as they are more sophisticated users of information. Graduate students, many argue, have either received information literacy instruction as undergraduates or have obtained the skills on their own over time. In this case, however, very basic library instruction would have helped a large number of the students who had difficulty finding quality information in the first place. Furthermore, as was previously mentioned, the students struggled with analyzing and synthesizing the data in a meaningful way. The tendency to list facts rather than explain their importance was strong. It was also interesting to note that the students with significant previous work experience had an easier time with this particular assignment. Perhaps they were more comfortable with the complexity and ambiguity of the assignment, or perhaps they had a better sense of what employers actually might expect in the "real world". Either way, this observation definitely begs the question of the appropriate timing for this type of instruction. It seems the students may be more ready for this type of assignment in their second year of graduate education…after their summer internships.

Conclusion

The aims of the current 21st century workforce initiatives are highly consistent with the overall goals of instruction librarians …namely, to enhance patrons' ability to learn, to think critically, to communicate effectively and to skillfully leverage technology. While there are several promising library initiatives in this area (most notable among them being the Institute of Museum and Library Services' *Museums, Libraries and 21st Century Skills* initiative and the American Association of School Librarians' *Learning for Life* program), the librarian perspective is often missing from the larger discussions. Opportunities to become involved and inform these initiatives with our expertise and research are many and represent exciting avenues to demonstrate value outside of our traditional professional boundaries. These initiatives also provide librarians with the opportunity to re-evaluate their own practices, to re-examine current information literacy standards and to attempt new ways of teaching that encourages critical thinking and independent thought. The author's experiences were informed by employer feedback and perspectives, and she continues to explore and study the relationships between information literacy, library instruction and the 21st Century worker.

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