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Getting to work: Information literacy instruction, career courses, and digitally proficient students

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Abstract

This article discusses how following graduation, students often enter the job market unprepared to find, evaluate, and use information in the digital environment effectively. Essentially, there is a disparity between the skills students attain in college coursework, including information literacy (IL) skills, and those required in the workplace, which impacts graduates' success as new members of the labour market. The article highlights how collaboration between a librarian and an instructor of a career centered course influenced instructional design for IL instruction in their courses. Librarians and instructors will benefit from practical examples from Guttman Community College's innovative IL Program and the professional courses, get creative ideas for instructional design, and learn new and exciting ways to deliver IL instruction.

Keywords

career focused instruction; community colleges; employability; teaching staff-librarian collaboration; information literacy; information literacy education; search strategies; USA

1. Introduction

As students navigate their way through their first years of college, they are often grappling with decisions related to career paths or entering the workforce. Accordingly, many higher education institutions offer courses centred on career development and provide resources at career centres and libraries to better prepare students to enter the job market. Unfortunately, studies have shown that students are not equipped with the information seeking skills that employers desire (Head et al., 2013; Abel, Deitz, & Su, 2014). Following graduation, students often enter the job market unprepared to find, evaluate, and use information in the digital environment effectively. Essentially, there is a disparity between the skills students attain in college coursework, including information literacy (IL) skills, and those required in the workplace, which impacts their success as new members of the labour market.

At a public university, students in the First-Year Experience (FYE) are enrolled in a series of mandatory Ethnographies of Work (EOW) courses. During these courses, students learn about workplaces, occupations, and career paths. Additionally, students learn ethnographic research methods and complete field work using this methodology. In this course, students study work culture by gathering data in specific work environments, get hands-on experience by interviewing members of the workforce, and gain insight into career culture by examining career related case studies. During multiple semesters, a librarian has collaborated with EOW teaching staff in planning how to best integrate essential information literacy (IL) skills pertaining to career development and success in the workforce. Instructional sessions include activities and interactive exercises to help students navigate the information environment so they better understand the choices available to

them in the labour market, understand how to find the necessary sources to make educated career choices, and can better evaluate the overwhelming information available as they navigate the career landscape.

This paper will discuss how a librarian collaborated with EOW instructors to integrate IL skills into the EOW curriculum. It will discuss applications of student-centred pedagogy for librarians from a practical lens and focus on strategies to integrate essential informational skills that students may not transfer from their college experience as they enter the workforce. The paper will provide examples of innovative lesson plans, suggest collaboration techniques, and present methods to assess the effectiveness of teaching and learning. Practitioners will identify ways to apply these lessons at their own institutions and discover new ways to infuse teaching sessions with student-centred learning aimed at creating information problem solvers in the real world.

2. Institutional background

Guttman Community College is a community college in the City University of New York (CUNY) system. The community college in the United States is a two-year programme where students can attain an Associate's degree. Often students transfer to a four-year college in pursuit of a Bachelor's degree. CUNY is one of the largest public university systems in the US consisting of 24 campuses. It includes 11 senior colleges, 7 community colleges, and 6 graduate, honors, and professional schools. Guttman was conceptualised as an institution offering a non-traditional experiential education model with the vision that it would generate better graduation rates and more successful students going on to senior colleges and entering the workforce.

At Guttman, all first-year students are required to attend full time. During the 2018 fall semester, approximately 1000 students were enrolled. Of these students, 53% were female and 47% male. Most of the students are traditional college-aged, with 94% of students 21 years old or younger.

Most of the students' backgrounds align with that of community college students around the United States. A majority of the students are first generation college students, come from low-income households, with 67% receiving financial aid, and most identify as minorities, with over half as racially or ethnically Hispanic (58%) and the institution is designated as a Hispanic Service Institution (HIS).

3. Literature review

As more and more students enter the workforce, it has become abundantly clear that some of the skills that they are learning during their college experience are not transferring to the workplace as the skills that employers desire. These skills, often referred to as 21st century or soft skills, include: critical thinking, real-world problem solving, collaboration and teamwork, self-management, communication, synthesising information, and information and digital literacy (Geisinger, 2016).

In a study by Rainie and Anderson (2017), published by the Pew Research Center, researchers found that employers are looking for a variety of skills not necessarily taught in higher education institutions.

Among the many other skills mentioned were: process-oriented and system-oriented thinking; journalistic skills, including research, evaluation of multiple sources, writing and speaking; understanding algorithms, computational thinking, networking and programming; grasping law and policy; an evidence-based way of looking at the world; time management;

conflict resolution; decision-making; locating information in the flood of data; storytelling using data; and influencing and consensus building (p. 11).

It is clear that academic institutions need to do a better job providing students enough opportunities to hone these essential workplace skills. From a librarian's perspective, it is important to note that many of the skills that employers desire intersect with IL skills: understanding informational needs, effectively evaluating multiple source types, synthesising information, and digital and IL.

A number of studies corroborate the finding that employers are not satisfied with the skill set that students bring to the workplace following graduation. Many studies found that students may struggle with the ability to effectively synthesise multiple sources of information to meet the demands of their job (performance) (Hart Research Associates, 2015; Head et al., 2013; Rainie & Anderson, 2017). Hart Research Associates (2015) noted that the learning outcomes that employers value in their employees 'include capacities to problem solve, locate and evaluate information from multiple sources, innovate, and stay current on changing technologies' (p. 5). Similarly, the ability to solve real-world problems was a prevalent theme in much of the literature (Hart Research Associates, 2015; Head et al., 2013; Rainie & Anderson, 2017). Many of the studies noted that curriculum integrating problem-based learning in college could address some of the challenges that students encounter when they enter the job market. Additionally, the type of research that students perform in university differs from the research questions that they face in the workplace and real life, so students have academic research skills, but falter when they attempt to apply these research skills in the workplace (Hart Research Associates, 2015; Head et al., 2013; Hoffman, 2016; Rainie & Anderson, 2017).

In addition to being unprepared to solve real-world problems and synthesise multiple source types, many of the studies found that students had little practice with workplace collaboration skills and often did not recognise colleagues as a source of information (Hart Research Associates, 2015; Head et al., 2013; Hoffman, 2016). 'Employers also expected new recruits to reach out and enlist more experienced colleagues to help them synthesize and contextualize the information they had found and to guide them with further research' (Head et al., p. 94). Students have difficulty identifying how different source types might satisfy their information need. Because professors tend to emphasise scholarly sources, students may fail to recognise or seek other legitimate sources in the workplace – including their colleagues. In addition, students may struggle to distinguish between genres of information. For many students, anything online is simply 'a website'.

It was noted in multiple studies that the disparity between the research skills that are necessary in college and those valued in the workforce could be amended by career courses (Ferer, 2017; Hoffman, 2016; Love & Edwards, 2009; Miller et al., 2018) and library partnerships with career centres (Dugan et al., 2009; Ferer, 2017; Love & Edwards, 2009). In these courses and workshops, students would better learn the business and digital skills necessary to succeed in the workplace. For example, Miller states, 'The results of this study suggest that this career course, as representative of career courses in general, is an effective approach in helping students acquire readiness to navigate the career decision-making process' (p. 374). These courses could help students navigate their career trajectory in a more informed manner, understand specific qualifications of specific careers, and develop research skills and 21st century skills that are hard to transfer to the workplace in many recent graduates.

Simultaneously, many of the studies found that IL instruction could better prepare students for the job market (Ferer, 2017; Hart Research Associates, 2015; Head et al., 2013; Love & Edwards, 2009). 'At many colleges and universities links between information literacy and career research is

overlooked in favor of supporting academic endeavors. Aiding students at the end of their college career or midway as part of internship seeking can add to the value of information literacy skills for many students' (Ferer, p. 373). If teaching staff and librarians work together to teach students how to better find, evaluate, and use information within a workplace setting, they may be better equipped with the skills to navigate career choices and develop the skills that so many employers are seeking. This can be done by partnering with career centers or offering career specific courses where these skills are introduced to students.

4. Ethnographies of work (EOW)

Over multiple semesters, the author collaborated with Ethnography of Work (EOW) I and II instructors on instructional design to create lesson plans that would integrate IL skills across the EOW curriculum. The lesson plans included learning outcomes to help students better expand their IL skill set so they will more successfully navigate career paths and develop the skills that will help them arrive in the workforce armed with the skills that employers desire. Ethnographic methodology directly intersects with IL skills as it helps students garner an understanding how ethnographic studies can be a source of evidence for their projects and assignments during the course, and use this evidence in a problem-based learning context to synthesise multiple sources of information. Additionally, students explore occupations so that they can make more informed decisions about their career paths. As has been mentioned, students are arriving in the job market and finding that there is a mismatch between the skills that students are taught in college and the essential skills that employers desire. 'Workplace information competencies for today require the ability to locate information in multiple formats and synthesize diverse viewpoints, by taking a flexible, critical, and iterative approach to solving workplace information problems' (Head, p. 93). Essentially some of these skills fall under the purview of IL skills necessary for students not only in the workplace but also in their daily lives.

EOW was created in an effort to better prepare students with the knowledge necessary to explore careers, understand the labour market, and build the skills necessary to succeed in the job market. The founders of Guttman proposed in their Concept Paper (2008) a professional studies course where work-based learning is an essential part of the college's mission. As part of the curriculum, students would conduct fieldwork in worksites, learn about workplaces, and develop career goals so that they could be better prepared for real-world problems related to the workplace. EOW students go through a two-course sequence in their First Year Experience to help close the gap between the skills they develop in their academic career and the skills that they bring to a work environment. In EOW I, students explore multiple career options and gain a better sense of the sociological aspects of the workplace through interviews, mapping, and observation. Students study ethnographic methods during this course, so they get to study subjects from a first-hand perspective. This offers students the opportunity to better understand real-world events through a different lens and utilise informational sources from a different perspective, giving them the opportunity to gain a better understanding of the occupations and workplaces that they will enter after college. In EOW II, during the second semester, students explore workplaces with a critical sociological lens by analysing them from historical and anthropological perspectives and conduct their own ethnographic field work to connect their personal experience to economic, sociological, and cultural aspects of the workplace. By equipping students with various hands-on experiences and viewpoints pertaining to the world of work, they are better prepared to make informed decisions on their own career trajectory and have the skills to succeed in the workforce following college. In conjunction with attending to their EOW coursework, students are required to attend a 90-minute, advisement-centered course, Learning About Being a Successful Student (LaBBS). During these sessions, students learn many of the 21st century or soft skills that will serve them as they look for

internships, help them complete their EOW assignments, and allow them to succeed in transitioning to the workplace. In a recent article exploring Guttman's EOW course, Nancy Hoffman observed, 'The intention is to build a new awareness about the labor market, connect the readings to projects in the field, including service learning that students do, and stimulate an early start on an in depth assignment on a workplace of interest to them (including research, interviews, and observations)' (p.7). More specifically, the course introduces different perspectives on work to students so that they can garner a better understanding of the world of work.

In EOW I, students are assigned a project in which they conduct secondary research and ethnographic research to study careers. For example, they are tasked with identifying possible career paths and employment positions that align with their personal interests, personal attributes, and life goals. In designing the lesson plan for the EOW I one-shot session, it was important to generate learning outcomes that would reinforce the course curriculum in addition to introducing concepts that would help students navigate the information environment more effectively. For this lesson, the learning outcomes involved learning how to better evaluate sources using particular criteria, explaining how Google works, and using a career-specific database, the Occupational Outlook Handbook (OOH), to locate information related to their final project. In the OOH, students are exposed to important information about a multitude of careers, including: necessary qualifications, education required, expected salary, job forecast, work environment, etc. After the session, students are asked to complete a handout (see Appendix A) prompting them to delve deeper into the OOH. This activity offers a means to find relevant information on a career path that might interest them, and a means to embed some of the information literacy skills that they will need to complete their assignment and synthesise information from multiple sources – skills that will prove beneficial for their daily lives and transition to the workplace. The session utilises active learning techniques that directly align to the concepts that they are learning in their EOW coursework, which reinforce the materials and concepts that can be challenging in the context of the course. These active learning techniques directly mirror challenges that they need to experience in the workplace, thereby helping to build student self-esteem and motivating students to be more accountable for the materials (peer-to-peer teaching), relates to the research projects they are creating, and opens their eyes to new sources of credible information.

In EOW II, students are tasked with a more traditional research project that requires them to delve into issues related to the workforce. For example, some students research work-life balance, women in the IT profession, social workers and stress, etc. In certain instances, students have been given a specific research question by the instructor, otherwise, students generate their own research questions. During the librarian led instructional session, the learning outcomes involve grasping a better understanding of authority and credibility, identifying different resource types, using an example research question to create relevant and effective key words, and learning more effective search strategies using the library's discovery tool.

The class discusses how authoritative information comes in different formats and no one single source of information is probably going to be enough evidence to answer the question(s) for their research project. The instructor explains that students will need to glean (synthesise) information from different sources to gather enough evidence and authoritative information to be persuasive in their projects. Students are shown an example research question followed by a discussion of keywords where they are asked to identify the main themes from the research question as a way to generate initial search terms. Then they are asked to generate synonyms and related terms. The instructor explains that no one single search will generate all of the relevant sources that they might need for evidence (again reiterating that one perfect source won't necessarily answer all of the aspects of their research question) and that they will need to run a number of searches utilising

different combinations of search terms. From here, the instructor gives a brief demonstration of the library's discovery tool so that students become familiar with how they can access a multitude of sources via the library's subscriptions and outside of Google. In the remainder of the session, students work on an activity where they generate search terms from their research question, create synonyms and related terms, and if time allows, look for sources in a library database using the created search terms (see Appendix B).

5. Discussion

Integrating IL skills in the context of courses and workshops focused on career skills and research offers students more opportunities to garner the necessary 21st century skills that employers are looking for in recent graduates.

From observations in the classroom setting, the author was able to get a good sense of where students were in their knowledge of the particular information skills that were part of the learning outcomes during the session. During the sessions for EOW I, many students were able to identify how Google functions. Some students pointed out that results are ranked by the number of users who click on a link and a few mentioned that advertisements are often pushed to the top of the results page. Fewer students understood the concept of the 'deep web', with a few able to identify web crawlers, pay-walls, and password-protected sites. Although students stated that they were mainly using Google, most students were under the impression that 'most' information was available on Google. It was useful during the session to use relevant examples to help them better understand that a very high percentage of information is not accessible from Google. Some of these examples included discussing password-protected sites (banks, subscription-based sites, etc.). Additionally, this offers the opportunity to discuss the ACRL Information has Value threshold concept. The ability to better understand how Google works can improve students' research and the critical thinking skills that students bring to the workplace. They may enter the workforce as more savvy information seekers, question informational sources, and employ search techniques that are necessary qualities for a good job candidate.

During a discussion with students about evaluating the credibility and authority of information, the librarian observed that students were able to generate a good level of evaluation criteria. They usually pointed out it was important to consider the following quality about the information that they are using: Is the item current? Is the information biased? Is the source credible? At times, students had some difficulty in articulating what components gave a source credibility. It was useful for the instructor to point out that there are additional factors to consider when evaluating a source's quality. In this instance, students were less proficient in identifying that quality information should be relevant to the information need or that there are a multitude of source types that might be combined to help them satisfy the question that they are trying to answer or their informational need (specifically in this case, Professional Organization Websites or mentors). A conversation about needing to glean information from multiple sources can help students begin to understand the need to synthesise information from a combination of places/sources. This directly relates to the skills that they will need in the workplace to solve real-life problems and help to equip students with the skills to arrive on the job market as confident and effective information literate assets in the context of the occupation they are pursuing.

Students were adept at participating in a conversation about the Occupational Outlook Handbook website. During their EOW course, they are required to investigate multiple career paths, so the lesson on the OOH directly related to their coursework. In addition, students may have been more enthusiastic about the session as it pertains to employment opportunities or interests that they wish

to pursue. The OOH site is easy to navigate and students were actively engaged in the activity that followed the demonstration. The librarian and EOW instructor circulated around the room to ensure that students were completing the activity and could ask questions, and most of the students were diligent in completing the handout, however, some students failed to delve deeply into the information provided on the website. They had some difficulty answering the question about where they might find additional information for their career interests. From the OOH, the 'More Info' tab listed professional associations, providing an alternative avenue to delve deeper into particular occupations. The fact that students had difficulty finding this information could be attributed to the fact that some students were not familiar with professional associations and organisations. The EOW instructor required students to turn in a one-page essay on the OOH handout, so students may have been more motivated to complete the in-class activity because they would be receiving points towards their coursework. Providing the guidance to delve deeper into a website helps students critically evaluate the information they get from internet sources and provide them with the skills to impress employers with credible information discovery strategies. As a part of the activity, the handout requires students to reflect on the information that they have gathered and how the information sparks new curiosity about the career/profession that they are researching. This metacognitive activity prompts students to think about how they might continue the research process, which is a transferable skill that can be utilised in the workplace.

During the EOW II session, the learning outcomes covered a discussion on authority, identifying different resource types, exploring a research question, and generating search strategies to find relevant information. Some of the discussions with students on authority reinforced similar points that were discussed the previous semester in EOW I, and it was discernable that students had a better grasp whether a source was credible or not. This could also be attributed to the fact that students had had other conversations about credibility and authority in their other courses. In a discussion about what types of sources might serve their information needs, most students were able to come up with a number of different sources types that they could use. Often, students mentioned a scholarly article early in the discussion. This early mention of scholarly sources may have pertained to the academic setting in which the question was posed, or may have reflected that it is common for their instructors to require students to use a 'scholarly source' for evidence in their assignments. From librarian observation, students were able to come up with a number of different source types (newspapers, books, articles, magazines, etc.), but had some difficulty identifying sources that they might not usually think of as credible. These included YouTube videos, websites, datasets, interviews and blogs. Teaching librarians can take this opportunity to emphasise to students that authoritative information comes in multiple formats and locations and that simply utilising one 'unicorn' source for their information needs will not usually suffice. This discussion can touch on the fact that they will need to synthesise information from multiple sources to solve real-world problems in the workplace and as a means to find the information that they seek for themselves. Planting the seeds early on helps students to grasp the skills to synthesise information and use critical thinking skills that they will need as they transition into the workforce.

In order to help students better understand that they will need to generate search terms for their research, the librarian used a research question related to the content of the class to help them generate keywords and related terms. In this case, the research question was: What are the challenges and opportunities workers face when integrating work and family? After brainstorming and circling the main words from the research question, students were asked to come up with synonyms for the main themes. Students exhibited some difficulties understanding core words that would help them create good search terms. Many students cited 'challenges' and 'opportunities' as good words for their search process. Students may still be in the habit of typing an entire sentence into Google, so that may be one reason it was challenging to identify the main subject of the

research question. Additionally, students had some difficulty in generating terms like 'work-life balance' and 'work environment,' but this gave the librarian the opportunity to point out that it can often be a complicated process to create good search terms, and that it may take a number of attempts and searches to arrive at effective search terms.

Following the discussion on search terms, the librarian gave a brief demonstration of the library's discovery tool. This was a brief introductory explanation, where students were exposed to how they could use the filters to narrow down searches and choose specific search types. This allowed the instructor to reiterate that they would most likely need a combination of source types both to find evidence for their projects and in the workplace. During the activity session, students received a handout asking them to generate search terms from their research questions. The first part of the handout prompts them to create synonyms and related terms, followed by a section where they utilise the library's discovery tool to search for information related to their topic. During the activity, students struggled with both their research questions and creating keywords, probably due to the fact that the session was somewhat ill-timed and they were not required to turn in the handout for credit. Due to time constraints, students were not able to search for sources in the discovery tool.

6. Conclusion

This examination of teaching efficacies in career-based courses was subject to a number of limitations. The librarian did not conduct a pre and post survey of students to gauge their ability to find, evaluate, and use information effectively. Many of the learning outcomes during the sessions were not formally assessed using student work, rather the findings from this practical application of IL instruction were assessed by librarian observation and EOW Instructor feedback. Findings from this observation, however, can inform future library instruction to help students graduate from college with the skills that employers seek. A flipped-classroom approach in collaboration with the EOW II instructor might get a bit more buy-in from students and allow them to finish the searching portion of the assignment at home. In this way, teaching librarians can capitalise on the fact that students might not need extensive instruction in navigating the discovery tool. This gives the instructor the opportunity to focus more on skills like keyword formation, forming research questions, and evaluating authoritative sources for their assignments. Of course, this takes a degree of buy-in from the EOW instructors and shared ownership of IL instruction.

7. Information Literacy Toolkit

In an effort to help faculty across the disciplines better integrate IL skills across the college's curriculum, the Information Literacy Librarians have created the Guttman IL Faculty Toolkit, a collection of easy-to-adapt lessons and assignments to use in their instruction (see <https://guttman-cuny.libguides.com/facultytoolkit>).

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Appendices

Appendix A. Occupational outlook handbook activity

Go to the Occupational Outlook Handbook and answer the following questions.

What career are you researching?	
What education is required for this occupation?	
What is the median pay for this profession?	
What are some important personal qualities for your chosen occupation?	
List two other resources that you can consult to find info about this profession.	
What are other similar jobs?	
List some of the fastest growing occupations in the country.	
Do a search for jobs that require a Bachelor's Degree and Median pay between \$60,000-79,999. List three occupations that meet these parameters.	

What information above stands out as important to YOU??

Doing research should spark you to answer better questions. What are you most curious about knowing in terms of majors and/or careers?

What might be your next steps in the research process?

Appendix B. Creating keywords activity

Creating Keywords

1. Write your research question, and circle the 2-4 terms in your question that you will use as keywords.

2. What do you already know about your research question?

3. What questions do you have about your research topic? What else do you want to know?

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4. List the keywords you circled in question 1 and identify 2-4 synonyms and related terms for each one.

Keyword	Synonyms	Related Terms
<i>Example: women</i>	<i>females, ladies, girls</i>	<i>Gender, sex, sexism</i>

5. List four combinations of 2-4 terms you identified in question 3 that you plan to use in your search.

<i>Example Combination:</i>	<i>women AND sexism</i>
Combination 1:	
Combination 2:	
Combination 3:	
Combination 4:	

6. Go to _____ and try the combinations you identified in question 5. Explore some of the results that interest you and complete the chart below:

Combination	Number of Results	How relevant were the results? Very? Somewhat? Not at all?

7. Which terms or combinations of terms yielded the best results or yielded results that interested you the most?

8. Now that you have seen a little bit about what has been written on your topic, has your research question changed? Are you interested in a different aspect of your question? Explain.