

Show Me the Learning:

Navigating Information Literacy through Multiple Life Perspectives

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Introduction

As the concept of information literacy has expanded, there is growing agreement among librarians and other educators that it is an essential competency in the information age. Despite all their assumed technological expertise, students continue to experience difficulties in locating, critically evaluating, and using accurate information. The General Education Committee at the University of Central Missouri (UCM) recognized this as they began a review of the General Education Program in 2008. Librarians who served on the committee were strong advocates for the inclusion of an information literacy competency. Five years later, the campus implemented a new set of core competencies including *Competency 5: Acquiring and managing information through research and technology*. In fall 2014, five courses were offered to meet the competency, including the James C. Kirkpatrick Library's course, "Truth, Lies and Information Management."

ACRL identified a broad set of skills in their standards and framework, but these principles have generally been interpreted in academia as finding scholarly sources for the ubiquitous research paper. In 2011, a newly created Instructional Design Librarian position at the James C. Kirkpatrick Library (JCKL) provided a new initiative to engage students and faculty in developing information management skills. Working with Freshman Experience, Communication, and English Composition courses, it became clear students needed guidance in finding information for much more than their research papers. Students also dealt with personal and professional as well as academic information needs.¹

Bill Badke has lamented that the "foundational goal of information literacy—to foster the ability to handle information intuitively in whatever sphere a student (or a graduate) occupies" is not being met.² The information literacy skills needed in the classroom may not match the information literacy skills required in the workplace or in our personal lives, but all involve being able to manage the information needs encountered whether answered by a book, a Google search, or peers. Recognizing the multifaceted information needs of our students, the JCKL Information Literacy Committee developed the information literacy course focused on lower level undergraduates (freshman, sophomores) and designed around three modules: personal, professional and academic roles.

Information literacy is frequently discussed in library circles with emphasis on teaching students how to successfully find and use appropriate resources for coursework. The focus of the "Truth, Lies & Information Management" course was broader as the structure and content of the course was developed around teaching critical thinking. Langan cautions the "tendency to teach specific information literacy skills rather than concepts" is detrimental to critical thinking in higher education.³ Information literacy is more than just discrete skills learned out of context. It is the ability to think critically in multiple situations and is a "process of problem solving."⁴

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The “Truth, Lies & Information Management” course sections were taught by several librarians. Scenario-based assignments were adopted for each module (personal, professional & academic) and every section had an annotated bibliography as the major assignment for the course. Within that structure, each instructor had freedom to create assignments, utilizing several key tools and strategies repeatedly throughout the course: the CRAAP Test Rubric, identifying and creating strong arguments, and scenario-based learning. This approach taught students critical problem solving and decision-making skills that included resources outside of the classroom and beyond the library to meet information needs in all aspects of their lives.

Literature Review

In our personal lives, we are confronted with a myriad of information needs from the mundane (I wonder how good that new restaurant is?) to the serious (I have pancreatitis, what should I do?). In 2007, The Pew Internet Research Center conducted a survey to see how people found information when solving a problem. The focus was on types of queries which might relate to government agencies and programs such as health issues, enrolling in and financing school, employment, and federal programs like Social Security, Medicaid, and Medicare. Almost 60% of the respondents indicated the internet was their first choice to seek information. Professionals (53%) and friends and family (45%) were the next most common sources.⁵ In a 2010 Pew survey, the top internet search topic across all age groups was health information. Millennials (18–33 years) were the most avid searchers with 80–89% indicating they used the internet for health information, social network sites, and watching videos; 70–79% used it for news, and 60–69% also purchased products, instant messaged, listened to music, made travel plans, checked online classifieds, banked online and accessed government websites.⁶

In 2011, Head and Eisenberg published their report “How College Students Use the Web to Conduct Everyday Life Research.” These students were most interested in searching for the news/current events (79%), purchasing a service or product (74%), health information (74%), career information (67%), travel (61%), social contacts (51%), and domestic life (46%).⁷ Their top sources of information were search engines (95%), family and friends (85%), Wikipedia (84%), classmates (81%), personal collections (75%), and social networks (70%).⁸

The 2016 report by Alison Head confirmed recent college graduates continued to look to similar sources to find information as they figured out life after graduation and developed new life skills.⁹ Recent grads most frequently turned to search engines (88%), followed by friends (79%), social networking (79%) and family (77%).¹⁰ Head’s research indicated the top need of recent graduates, many of whom were living on their own for the first time, was how-to information (75%), followed by hobbies (70%), managing finances (69%), making purchases (63%), travel (60%), housing (59%), and mobile devices (56%). Interviews indicated how-to needs consisted of domestic survival skills which included handling finances, quick fixes, and health and wellness needs.¹¹ Some of the information literacy skills learned in college may have transferred to life after college but recent college graduates did not usually need (or have access to) the specialized materials and databases they could find at their college library for their personal needs.

The need to be critical users of information is also applicable on the job, although occupational information needs can vary greatly from one profession to another. That said, there are broad behaviors found to cut across various professions. In the U.S., 97% of professionals state they read professional literature of their fields to stay current, often accessing this information from professional organizations.¹² In Head’s survey of college and university graduates, eighty-four percent turned to coworkers for information at work.¹³ These coworkers helped them learn skills that they lacked, but that their supervisors expected them to already know.¹⁴ Search engines (83%) and supervisors/bosses (79%) were the next two most common learning sources at work.¹⁵

Employers have been asked about their expectations for their employees' information literacy. Sixty percent of employers expect recent college grad hires to have both specialized knowledge and broader skills and knowledge.¹⁶ Sixty-eight percent of surveyed employers and seventy-three percent of surveyed students rated the ability to locate, organize and evaluate information from multiple sources as important learning outcomes for potential employees.¹⁷

Interviews with employers done through the Project Information Literacy Project (PILP) delved into information usage behaviors of recent college graduate hires. Employers noted many college hires showed excessive dependency on computers to find answers to problems.¹⁸ Employers were struck that college hires were slow to use alternative, more "traditional" forms of information, including co-workers knowledge or using resources internal to the organization like annual reports.¹⁹ Employers also expressed a desire to see their college hires go "deeper" in their research. Alison Head sums up employers' feedback thusly:

"For employers...searching online was a means, not an end, to solving information problems in the workplace. They told us that college hires needed to 'move off the script,' 'be resourceful and look in every place,' and 'fact-check across multiple sources.'"²⁰

Employers want college graduates they hire to perform more than a simple Google search. They need employees who can find answers after careful investigation of multiple resources to find "useful patterns that [hold] meaning."²¹ The PILP interviews uncovered employers' preference for employees who exhibited information literacy and critical thinking abilities.

The focus of this literature review is information literacy as it relates to personal and professional needs rather than academic applications. The study of information literacy in academia is thorough and we chose not to cover it in-depth as it is already well developed in the literature and good bibliographies are available.²²

Approaches That Work Across Personal, Professional & Academic Arenas

Many of the one-shot opportunities librarians had with students were limited by time and instructor-driven point-of-need. With such limiting parameters, it was difficult to teach critical thinking. The for-credit course opened up more options for deeper learning. The "Truth, Lies & Information Management" course was divided into three modules: personal, professional and academic. Although some traditional skills were covered, the focus in each module was on critical thinking. An important part of the course was for students to grasp the concept that evaluation should go beyond whether or not the source was "good" or "bad" but to determine if it satisfied a specific need. As students first applied the evaluative criteria, their interpretation tended to be very black and white, but as the semester progressed, student began to understand that it isn't always so simple.

The "Truth, Lies & Information Management" course focused on developing critical thinking and problem solving skills. We developed a CRAAP Test rubric to use throughout the course, examined the identification and creation of strong arguments, and used scenario-based module assignments to increase problem solving abilities. The CRAAP Test rubric and Strength of Argument chart were used multiple times throughout the semester to reinforce concepts. Scenario-based assignments were also used repeatedly in the course, with at least one real life scenario assignment per module.

CRAAP Test Rubric

CRAAP is an acronym which stands for *Currency, Relevance, Authority, Accuracy, and Purpose/Point of View*.²³ Librarians at JCKL built a special CRAAP Test rubric for students to use throughout the semester to systematically evaluate information. This rubric was intentionally designed to support information needs across the personal, professional, and academic roles. In each category, there was a definition and a series of questions

students needed to answer to determine the rating for that category. Students evaluated the information in the five categories (currency, relevance, authority, accuracy and purpose) on a scale of 0 to 3 for each category as a subscore and gave an explanation for how they determined each subscore. Students added the subscores for a total score and determined if the information source was very poor (0–3 total), poor (4–7 total), good (8–11) or very good (12–15). The students then had to answer whether they would use the resource based on that score. (A PDF version of the CRAAP Test rubric designed for this course is available at: <http://guides.library.ucmo.edu/InstructorsGuideInfoLit>.)

Instructors taught this systematic approach throughout the semester enabling students to repeatedly practice and to sharpen their evaluation abilities. The use of one system allowed students to gain deep familiarity with evaluating any information they came across. They learned that a source that worked well for a personal need may not be inadequate for an academic need; another resource for a research paper may be useless for a professional need. Using the CRAAP Test rubric throughout the course taught students how to systematically evaluate information as well as learn the contextual nature of information needs.

For example, in a personal role assignment that used the CRAAP Test rubric, students listened to an NPR discussion on worker's compensation that used an injured mother of four as an example of why opt-out plans may be ineffective in providing workers the medical coverage they need.²⁴ The assignment involved listening to the woman's situation, and providing advice based on information they located on the web. Their comments initially focused on using the legal system or addressing worker's compensation issues rather than her immediate needs for money for food, rent, and medical care. Revisiting this issue after a discussion of personal information revealed a significant change in focus on issues that would affect her quality of life. The CRAAP Test rubric enabled students to evaluate information on the web systematically and within the context of her needs.

Strength of Argument

When teaching the CRAAP Test approach to evaluating information, it became clear students readily understood some components, while they needed more practice on other areas of the evaluation system. In particular, students struggled with the concepts of Authority, Accuracy and Purpose. Instructors discovered students tended to give authority to any resource that implied it was an authority, regardless of the kind of need the student was fulfilling (personal, professional, or academic). Students generally did not know how to apply a strategy for verifying whether the information was accurate or if the source was truly knowledgeable. Students readily acknowledged their weakness in determining accuracy because they often didn't know enough about the topic from the onset. Interestingly, students felt topical knowledge was the only way to verify accuracy prior to learning other methods of verification. They also struggled with determining the purpose of most resources—to inform, persuade, etc. Students in the course could identify an extremely outlandish opinion in social media, but any information source with more subtlety in voice was usually considered authoritative.

To overcome this struggle, the Strength of Argument lessons and assignment were developed to give students specific practice to identify when a source was making a strong or weak argument. Once students were taught how to critique a source's argument, the next step was creating strong arguments in their own work. This approach ensured students practiced clear justification for why they made the decisions they did and why they choose the information used in the decision.

Initially, students were taught to tell the difference between opinion and argumentation. An argument is a claim statement using evidence to support the claim and they practiced turning an opinion into a claim as an in-class assignment. Next, students learned the difference between a strong argument versus a weak one by iden-

tifying the attributes of a strong argument and reviewed and rated a resource with the strong/weak argument criteria. The criteria for identifying a strong argument was as follows:

- Uses multiple sources of evidence to support the claim
- Uses different kinds of information (witness accounts, statistics, studies, etc.)
- Provides full citations/links to the original resources so the reader can verify the evidence
- Acknowledges other points of view with respect, yet shows ability to explain why their argument is better/best
- Accurately reflects the information from sources (no cherry-picking)

If a resource rated a low score in the argument's strength that translated as low scores for the authority, accuracy and the purpose of the information. A low rating in these three areas usually lead to students abandoning that information for another resource. After this unit was taught, a chart of the strong/weak argument criteria was included in all assignments in order to grade students on the strength of their arguments. Explaining why they came to their decisions in each scenario assignment required students to demonstrate the ability to make a strong argument.

Scenario-Based Assignments

In the course's first year, librarians worked with Dr. Carl Grigsby to learn more about the Understanding by Design (UbD) Framework developed by Grant Wiggins and Jay McTighe.²⁵ UbD focused on "backward" design in which the instructors first identified what the student should understand and be able to demonstrate, then how to assess the learning, and the last step was planning the lessons and assignments. By working with Dr. Grigsby, we determined a scenario-based assignment for each module would be a good summative assessment.

Students were given a realistic situation with a problem to solve and the scenario required them to research the topic and develop a strong argument for a solution. Each module had scenarios relevant to that area. In the personal module students were instructed to write a letter to their sister who is ambivalent about having her son vaccinated because she is concerned about the possible ill effects, in particular, the child contracting autism. The students researched the topic, evaluated information with the CRAAP Test rubric, and gave their sister a definite yes or no recommendation supported with evidence. Students wrote the recommendation in the form of a letter, not a research paper, and cited their sources informally. Some students did well in writing in the "voice" of a sibling and expressed that it was fun to play the role of concerned aunt/uncle.

For the professional module, students chose a specific profession they were interested in learning more about. The instructors then created a real life scenario for each profession. In this assignment, each scenario required students to "solve" a problem that a particular profession faced. They had to describe the researched-based solution as well as how to implement the solution. This assignment enabled students to use professional/trade publication information they evaluated using CRAAP and cited using APA. Students utilized PowerPoint presentations for their work because it is a common practice to use this technology in work environments.

An academic scenario involved the use of a NOVA episode that examined the authenticity of a portrait thought by some to be by Leonardo Da Vinci.²⁶ Students were asked to consider the evidence presented by experts to see how various academic disciplines integrated granular bits of specialized information to answer a seemingly simple question: Did Da Vinci paint this? The scholars looked at the same evidence and came to different conclusions. Students explored the arguments of the physical scientists, historians, and art scholars and developed questions for further research in order to draw their own conclusions on the authenticity of the painting. From this model, students can see how scholars may disagree and they build a strong argument in answering a particular question.

We have more scenario examples for personal, professional and academic assignments at: <http://guides.library.ucmo.edu/InstructorsGuideInfoLit>.

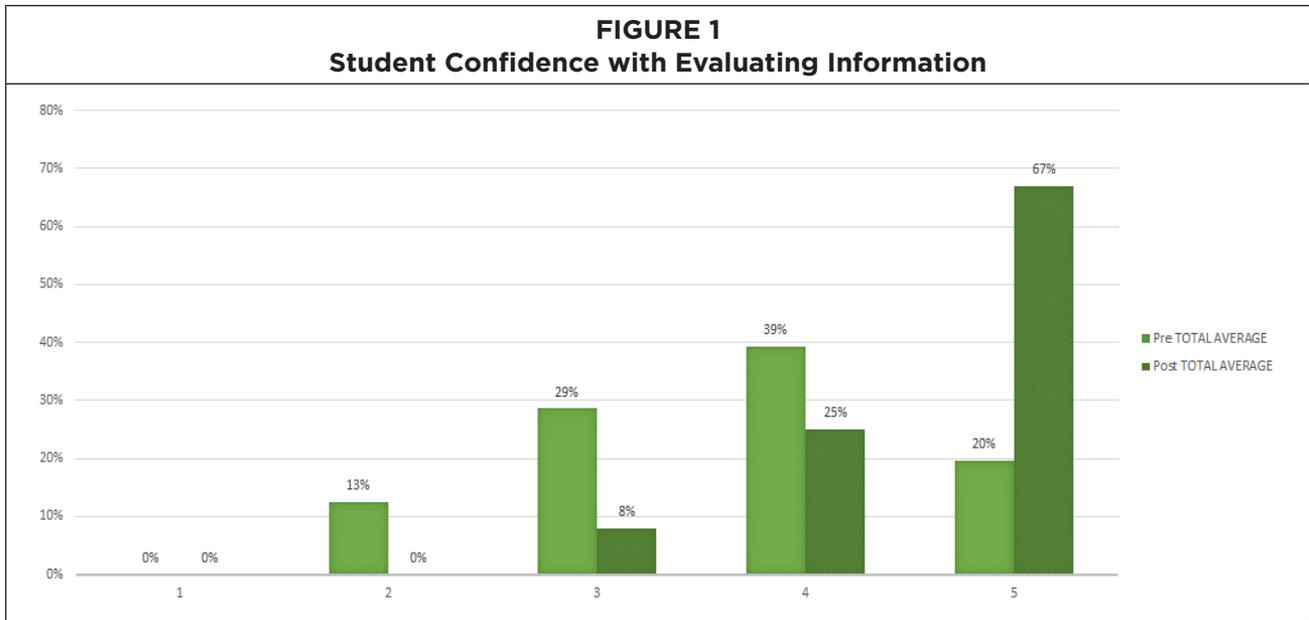
Student Learning Outcomes Using these Approaches

The decision to have the “Truth, Lies & Information Management” course teach information literacy for personal, professional and academic needs was bold, but effective. Instructors of the course cultivated students’ ability to effectively locate, evaluate and incorporate information to meet the needs of their daily lives, prepare for professional work, and assist them in completing academic assignments. Instructors intentionally placed emphasis on practicing information evaluation, making informed decisions and creating strong arguments in different contexts. Through regular practice, instructors saw students improve on the more complex aspects of information usage, in particular evaluation, argumentation and citing sources.

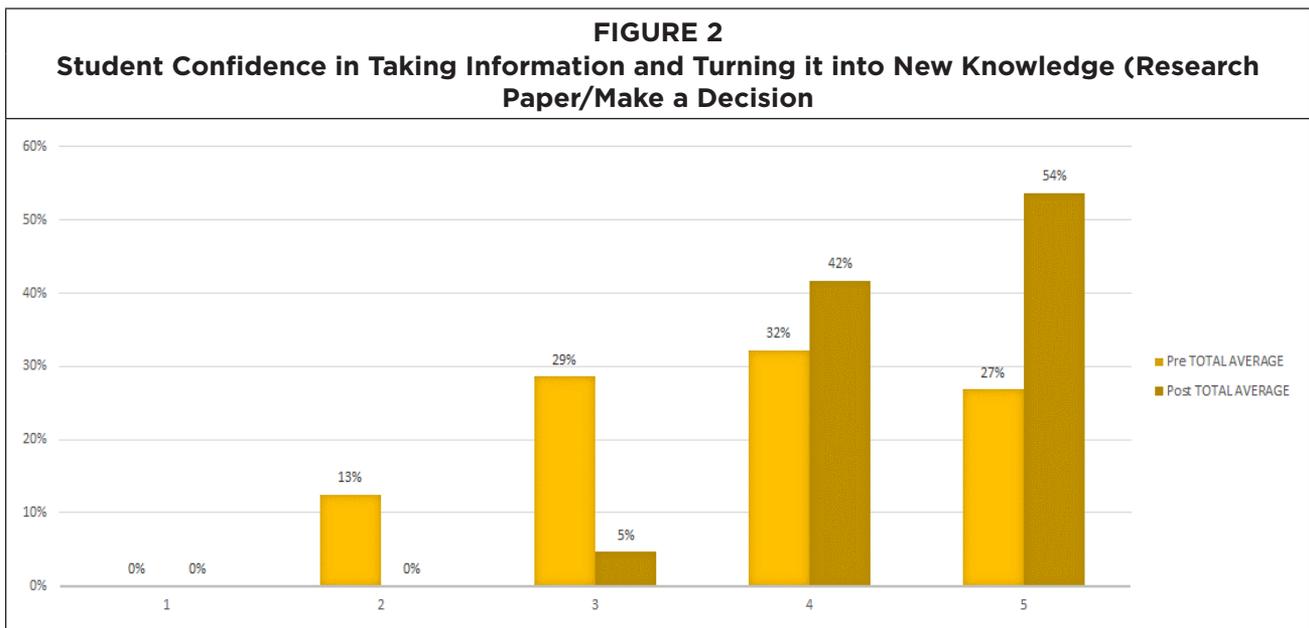
Students also saw the effectiveness of the course. At the end of the semester, students provided feedback on the course for instructors. Generally, students recognized it helped them in different aspects of their lives, and several students commented they saw lasting benefits from the class. One student noted “with social media and [the] Internet becoming a major component of the information system, we need to be extra careful and analyze the information carefully.” Most of the students made clear connections between the “Truth, Lies & Information Management” academic module and other courses they took. Lessons taught within the course on how to use books and databases as well as citing sources were immediately used by the students in their other classes. Two students even used a personal module course assignment on buying a car using *cars.com* and *Consumer Reports* to actually buy new vehicles for themselves while in the course. One student voiced her appreciation that the “Truth, Lies & Information Management” course covered different information needs: “all of [the three modules] were helpful. We all experience them all so it’s important to study all three [roles].”

A credit-bearing course provided several advantages when compared to other forms of library instruction. The multiple month timeline allowed instructors to provide in-depth discussion with students on why people need information, the contextuality of information needs, concepts of authority, and using critical thinking to solve problems. It also supported students’ need to practice various aspects of information literacy to improve their critical thinking. The multiple scenario-based assignments provided further practice through grounded situations for students to apply their information literacy and critical thinking abilities. Yet the scenarios were different enough that students learned the strategies taught in the course solved problems in all aspects of their lives. The semester long structure gave them more time to develop critical decision-making in a variety of situations.

Another benefit of the “Truth, Lies & Information Management” course was providing a reassuring environment where students learned to cast away self-doubts regarding their ability to think critically. Students received positive reinforcement through the class and were encouraged to use these information problem-solving strategies in their personal, professional and academic needs. Students filled out a pre-course and post-course survey in which they rated their individual confidence with information literacy approaches. These surveys allowed instructors to compare students’ sense of information literacy abilities prior to the class and their levels of confidence upon completing the course. In particular, course instructors focused on student feedback regarding their confidence with evaluating information, turning information into knowledge (writing an academic research paper or making a personal/professional decision), and ethically using information. In these three areas, students consistently stated their confidence had increased. Sixty-seven percent of students who took the course in Fall 2015 rated their confidence in evaluating information in the very confident range (5) compared to 20% of students who stated that level of confidence at the beginning of semester (see Fig. 1).

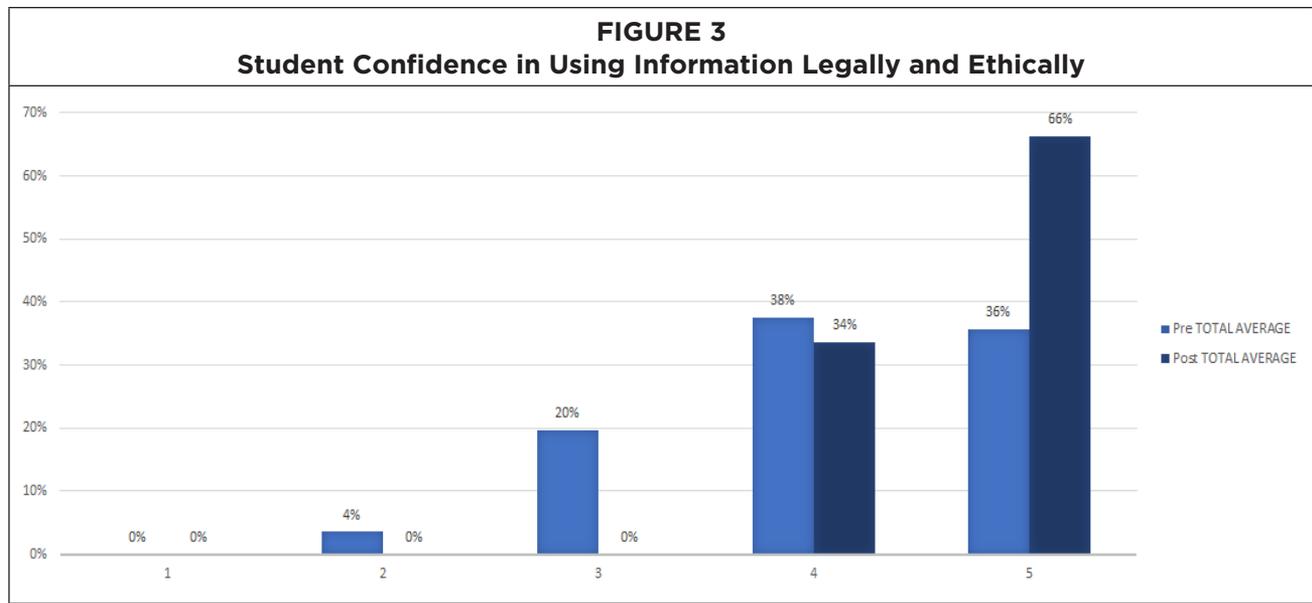


Fifty-four percent of students rated themselves as very confident (5) in their ability to turn information into new knowledge. That was double the percentage of students who claimed the same level of confidence with this aspect of information literacy prior to taking the course (see Fig. 2).



Students who took “Truth, Lies & Information Management” in Fall 2015 felt they made great strides in using information legally and ethically. One hundred percent of the students in those sections rated their confidence in this information literacy component as confident (4) or very confident (5) at the end of the course (see Fig. 3).

Librarians at JCKL have anecdotal evidence and grades demonstrating that students who have completed “Truth, Lies & Information Management” gained critical thinking abilities pertaining to information literacy. The course is currently under review by the UCM General Education Committee along with all courses falling in the university’s *Competency 5: Acquiring and managing information through research and technology to de-*



termine if the course teaches students mastery of information literacy. In the next year, the librarians will begin to gather in-depth data to determine quantitatively if the course impacts student academic success, retention, and graduation rates. The course has been taught for three years, now long enough to have data on upper level students and UCM graduates. Librarians will work with EAB (Education Advisory Board)²⁷ data to gather information on the course's impact on student success. UCM is also deploying TK20 (Value Rubrics)²⁸ including a rubric on students' information literacy proficiency. Assessment will be done within that tool to see how this course supports student learning, retention and graduation.

Conclusion

Librarians working in the James C. Kirkpatrick Library at the University of Central Missouri had a wonderful opportunity to teach an information literacy-oriented course as part of the general education curriculum. A credit-bearing course provided an opportunity to stretch beyond the traditional focus of college information literacy instruction on academic information needs. While librarians covered academic needs in the course, they were able to teach students how to use information to make important personal life and professional decisions as well.

The course went beyond teaching skills; instructors also taught students problem solving abilities that enhanced their critical thinking in all avenues of their lives. To achieve the ambitious scope of the course, the librarians also used approaches that would work across personal, professional and academic information needs. These strategies included utilizing the CRAAP Test rubric as a systematic evaluation process for all three modules, developing strong arguments, and assignments based on real world scenarios. This instructional design has been successful in helping students gain expertise and sophistication in judging and ethically using information to make important decisions.

The "Truth, Lies & Information Management" course also resonated with UCM students. One student summarized the benefit of the course this way: "I do feel like my experience was changed by this class. I learned new methods for researching, and in general became a better researcher and a better evaluator of good evidence."

Notes

1. Hallis, "Managing Information", 2012; Hallis, "Teaching to the Task", 2015.
2. Badke, "Teaching Research Processes," 69.

3. Langan, "Kill the Stigma," 373.
4. Ibid, 384.
5. Rainie, Estabrook, and Witt, "Information Searches," 2.
6. Zickuhr, "Generations 2010," 13.
7. Head and Eisenberg, "How College Students Use the Web," Fig. 1.
8. Ibid, Fig. 2.
9. Head, "Staying Smart," 3.
10. Ibid, 23.
11. Ibid. 11.
12. Tebbel and Zuckerman, *Magazine in America*, 384.
13. Head, "Staying Smart," 32.
14. Ibid, 35.
15. Ibid, 32.
16. Hart Research Associates, "Falling Short?" 2.
17. Ibid, 8.
18. Head, "Learning Curve," 13.
19. Ibid, 3.
20. Ibid, 13.
21. Ibid, 13.
22. Information Literacy Bibliographies; ILIG—Information Literacy; LIRT Top 20.
23. Evaluating Information.
24. Green, *Opt-Out Plans*.
25. Wiggins and McTighe, *Understanding by Design*.
26. Murdock, *Mystery of a Masterpiece*.
27. About Us, Education Advisory Board.
28. Value Rubric.

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