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Off the Shelf and Out of the Box: Saving Time, Meeting Outcomes and Reaching Students with Information Literacy Modules

Jennifer Kelley
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As institutions of higher learning rapidly expand their offerings of online, hybrid and other distance learning opportunities for their students, librarians must adapt, adopt and improve information literacy instruction methods to accommodate instructors they may never meet and classes they may never see. Many responses to these challenges, such as embedded librarians and tutorial development, however, can be time consuming, expensive and resource-draining. This article discusses the process of creating a low-maintenance, wide-reaching solution to providing generic information literacy instruction to students in online, hybrid, distance and face-to-face courses.

Background

The College of DuPage (COD), located in Glen Ellyn, Illinois, is a single campus comprehensive community college with a FY 2009 total annual unduplicated headcount of 59,444. In addition to classes offered on the main campus, the college offers classes online and off-campus at 90 off-site locations and six regional centers. As a course management system (CMS), the college uses the Blackboard Learning System, providing all class sections—regardless of mode of delivery—a course shell in which instructors can share course materials, issue assignments and assessments and record grades.

Distance learning, whether online or off-campus, represents a rapidly growing mode of delivery at the College of DuPage. In the 2009-2010 academic year, the college offered 186 unique online courses, with 725 individual classes or sections available to students. Seat count for online classes during the year totaled 18,989, an exponential increase over the 307 online sections and 5,972 enrolled students in 2005-2006. In that same year, the college's nine instruction librarians provided instruction in 1,009 classes, reaching 17,679 students. All of these 1,009 classes were traditional, face-to-face classes. There were no information literacy (IL) instruction sessions for online courses.

As another distance learning option, the College of DuPage offers between 300 and 400 Flexible Learning (Flex) classes each semester in 16 disciplines and in a range of delivery formats, including appointment-based courses, telecourses, and group instruction. These self-directed classes offer an alternative to face-to-face and online instruction for students who may be limited by time or place. While support for Flex classes—including instructor appointments and group meetings—is available on campus, a significant proportion of students select Flex classes which are supported by one of the college's four learning commons locations in the regional centers. As with online classes, Flex classes do not receive formal, integrated or systematic information literacy instruction from the library.

Rationale

Despite librarians' efforts, online classes are not taking full advantage of library instruction opportunities. Librarians from divisions with a significant number of online course offerings have developed and promoted a range of information literacy instruction options, including synchronous webinar-style sessions using Adobe Connect; pre-recorded and embeddable lectures; as well as on-campus and off-campus face-to-face sessions for online students. While some instructors have indicated interest in working with librarians to provide instruction in their online classes, very few have followed through and taken up offerings.

Until recently, the avenues for reaching online students were quite limited. In 2007, the library was able to garner real estate in Blackboard classes by requesting the placement of a *Library Resources*

button in the course menu of all Blackboard course shells. The button, which provides a link to a page developed specifically for online students and faculty, gives the library some visibility in online classes, but does not provide immediate access to resources and can be removed from a class' course menu by the instructor.

In order to provide online classes with more customized access to library resources, librarians agreed to develop and implement an in-house program called *The Embedded Librarian: Levels of Involvement* (see Appendix A). The program, developed in 2008, outlined three options for a librarian to “embed” him or herself in a Blackboard class. Level one, *Liaison Link*, recommended contacting teaching faculty and encouraging them to redirect the *Library Resources* link in their course menus to a librarian's personal homepage or to a research guide designed for the course. Level two, *Export & Copy*, suggested that the librarian create embeddable content that could be made available to online teaching faculty. This content could include assessments, tutorials, or information literacy assignments. Level three, *The Embedded Librarian*, advocated the inclusion of the librarian in a *Course Builder* role in the online class, allowing the librarian to create content, send announcements, and access student assignments and additional course content.

Following the creation of this program, many librarians adopted level one and level two strategies for involving themselves in online classes, but true embedding was rare. Librarians cited time commitment and non-responsive online faculty as reasons why they did not embed in online classes. Given the challenges of involving instructors and the sheer numbers of online classes offered every semester, making an impact with embedded librarians was simply not possible.

Although the librarians acknowledged the many missed opportunities for library instruction for online and distance students, an opportunity arose to address this omission with the college-wide adoption of revised General Education (Gen Ed) Outcomes in 2009. The first of eight outcomes addressed by the college was information literacy. The five skills associated with the Information Literacy Outcome (see Appendix B) aligned with the library's own Student Learning Outcomes for the Information Literacy Instruction Program (see Appendix C) and provided much needed institutional support to address the lack of information literacy instruction provided to an ever growing population of online and distance students. With the attention of each academic division turned to information literacy, the library took advantage of this opportunity by developing a tool by which the library could provide basic information literacy instruction to the online, hybrid, off-campus and even face-to-face classes that were currently not receiving IL instruction.

Literature Review

Librarians have long-used online tutorials as a method of enhancing, supplementing and even replacing face-to-face IL instruction, making them a “standard component of academic library systems across the country” (Befus & Byrne, 2011, para. 5). Recent literature illustrates two trends in providing enhanced IL instruction via tutorials: The adaptation of open-license or Creative Commons licensed tutorials and the integration of tutorials into course management systems such as Blackboard, WebCT, D2L and others.

In the early and mid-2000s, a number of libraries adopted and adapted two popular tutorials: the Texas Information Literacy Tutorial (TILT) and Searchpath, a Western Michigan University adaptation of TILT, both of which were published under open publication licenses (Flatley & Jefferson, 2006). Both tutorials have been described as “clearly appeal[ing] to a college-level audience” with their “JavaScript, Flash animations and popular culture references” (Roberts, 2003, p. 11). Despite the time, effort and skill needed to customize, brand and otherwise edit these tutorials, many libraries invest resources in the adaptation process (Roberts, 2003). Another popular, adaptable tutorial, University of Washington's Research 101, is available via a Creative Commons license and has been downloaded by over 100 institutions (Waltz, 2007). Like TILT and Searchpath, Research 101 includes interactive Flash and Shockwave elements and is easily downloaded.

One challenge presented by using online web-based tutorials is gathering data on usage and assessing student success. Faced with “the daunting task of evaluating established online information literacy tutorials for the first time” (Befus & Byrne, 2011, para. 7) many libraries are realizing that continuous assessment is required in order to maintain the quality and relevance of materials. In response, a number of libraries are moving their customized TILT, Searchpath, and Research 101 tutorials into course management systems. As Roberts (2003) points out, “most nontechnical librarians are aware of the complexity and the skill level required to implement and maintain a Web-based registration and testing system” (p. 11). Incorporating tutorials into a CMS alleviates this challenge.

In addition to score-able assessments available from within the CMS, integration into a system universally used by the institution provides access to large populations and “a seamless program of literacy instruction may be developed.... [offering] a structured, user-friendly point of entry for students who want to access the library resources any time they have Internet access” (Karplus, 2006, p. 7). At its most basic level, the CMS functions “as electronic ‘containers’ to store, link and retrieve documents as well as provide telecommunication tools” (Karplus, 2006, p. 5) such as email, chat and blogs.

An early adopter of the tutorial-CMS pairing, Alfred University’s Gary Roberts identified the clear advantages of marrying a customized tutorial—in this case, TILT—with an institution’s course management system. Roberts (2003) summarizes these advantages as:

1. The content of TILT is leveraged against the registration and testing features of course management systems.
2. Information literacy can be incorporated into course-specific work without reducing classroom time.
3. Student information literacy can be measured and documented with CMS-based evaluations
4. Small institutions can leverage their investment in available course management systems without having to implement technology-intensive and expensive testing and registration systems (p. 12).

Adebonojo (2011) describes the experience of librarians at East Tennessee State University who adapted a successful LibGuides program for use in the institution’s course management system, Desire2Learn (D2L). Integration of content into D2L represented “a better [way to] market library resources while teaching students search techniques” while allowing the library to “decrease the teaching burden on all librarians” (Adebonojo, 2011, p. 106). Tutorial units included library-specific topics (e.g., navigating the university’s library, finding course reserves) as well as basic information literacy skills and concepts (e.g., scholarly vs. popular articles, Website evaluation, internet searching).

Henderson Community College (HCC) librarians were able to take advantage Blackboard’s eCommunity Blackboard feature, a component which had been adopted by the Kentucky Community and Technical Colleges System to which HCC belongs. Alongside the assessment and communication tools already present in Blackboard, the eCommunity component provides additional flexibility and “is more permanent than a regular eCourse because it is not removed from the Blackboard home page.... each semester” (Knecht & Reid, 2009, p. 2) with individual eCommunities existing independently of the credit-bearing courses which might use them. While each student is “required to enroll individually, the Information Literacy eCommunity was made available to any students enrolled at HCC,” allowing librarians to reach targeted populations with tutorials that had been “modularized into units that would be easier for at-risk students to understand and use effectively” (Knecht & Reid, 2009, p. 4).

Development

The COD Library’s Instruction Committee had made efforts to provide online information literacy instruction before. Early attempts included the development of a Web-based, self-directed, comprehensive information literacy course which was later developed into a credit-bearing information literacy course. In 2009, the Instruction Committee began working in earnest to create information literacy “pods,” a series of

learning objects designed to introduce students to library services as well as information literacy skills, concepts and tools.

Creating the content for the information literacy tutorials presented the largest challenge. In order to provide COD Library-specific tutorials, the Committee could not rely on existing tutorials, such as those available through the tutorial databases PRIMO (Peer-Reviewed Instructional Materials Online) and MERLOT (Multimedia Educational Resource for Learning and Online Teaching). Librarians debated (1) the merits of using various content-builder tools such as ViewletBuilder or Camtasia; (2) the drawbacks of producing videos using images from subscription resources with interfaces that would likely change in the future; (3) whether the scope of the learning objects should be comprehensive or introductory; and (4) whether the information literacy pods should be designed as a supplement to information literacy instruction or a stand-in for the same.

Ultimately, the comprehensive scope, effort, time and skill needed to create the pods and delivery challenges persuaded the Committee to abandon the concept-pod idea for a more modest, Blackboard-based series of basic information literacy skills modules using content from an existing online tutorial. In addition to the models provided in the literature, we also looked at IL module examples from Old Dominion University Libraries, Northwest Vista College Libraries, and Delaware Technical and Community College.

Content

The Library's Information Literacy Modules—initially developed during the fall semester of 2010—had the goal of providing basic information literacy instruction and meeting General Education information literacy outcomes via Blackboard. The content of the modules would introduce students to information literacy concepts, reinforce information literacy skills and stand as an orientation to basic competencies, creating a platform on which more advanced instruction could be built.

Rather than design a series of modules from the ground up, the Committee agreed to use the University of Washington's Research 101 tutorial as a primary content source and outline for organizing the modules. The winner of a PRIMO award in 2006, Research 101 has been recommended by several publications and reviewers as well as being adopted and adapted by a number of college and university libraries. The COD Library had downloaded and customized Research 101 in 2009 and had been using it sporadically. Several librarians used elements of the tutorial in face-to-face instruction; others recommended it to teaching faculty who used the tutorial in both face-to-face and online classes.

Research 101 is comprised of six units: Basics, Information Cycles, Topics, Searching, Finding and Evaluating. Each unit has its own set of objectives, information, and exercises, and is organized into chapters. Students move at their own pace through text, interactive elements, worksheets, and review quizzes. Additionally, units outline learning outcomes which correspond to the College's Gen Ed outcomes and the library's own IL instruction standards. A student who has completed each of the six Research 101 tutorials has been introduced to sixteen of the library's twenty-nine outcomes and had reinforcement of three.

While Research 101 provided short, multiple-choice review quizzes, the Committee believed that in order to adequately meet the college's General Education Outcomes for Information Literacy; the modules would require a more robust assessment component. Initially, we looked at using SoftChalk Lesson Builder, course content-building software, for which the college had licenses available. SoftChalk provides templates for interactive assessments, learning objects and other tools which seemed a good match for a Blackboard module. However, the SCORM (Sharable Content Object Reference Model) format in which SoftChalk exported its content posed problems when uploaded into Blackboard. Ultimately, Blackboard's own test-making tools proved the best match for our assessment needs.

Brief multiple choice quizzes assess a student's understanding of the concepts covered in the Research 101 tutorial as well as the student's ability to apply those concepts to new situations. Quizzes are

tied directly to the Blackboard Grade Center and results automatically included in Grade Center score calculations.

In addition to providing assessment tools, the Committee created and made available supplementary materials to instructors who wished to create assignments, establish scaffolding for learning information literacy concepts or provide students with additional learning tools. Three of the six Research 101 units have accompanying worksheets, designed to help students through the appropriate steps of their research. Although the worksheets are available directly from within the Web-based Research 101 tutorial, we have included PDF versions with editable forms in the modules, making it easier for students to submit completed worksheets via Blackboard's assignment tool or by email.

Finally, each set of modules contains an additional student feedback element, directing students to an online evaluation form soliciting their opinions about the modules. The Committee uses student feedback to further develop and refine Research 101 content and the organization and delivery of the modules.

Program Assessment

In the middle of the spring 2011 semester, the Library Instruction Committee launched the pilot program wherein volunteers from the teaching faculty would add the information literacy modules to their summer Blackboard courses and provide us with feedback.

The Committee was given center stage to present the IL modules during the All-College Spring In-Service Day. As part of a panel presentation detailing individual and divisional efforts to address the recently adopted General Education Outcomes, the library introduced full-time faculty to the newly-created Information Literacy Modules and encouraged instructors to volunteer for the summer pilot program. With no additional information other than a brief presentation and an invitation to contact any of the three librarians on the Instruction Committee, no fewer than five instructors emailed that same day, expressing their interest in participating in the pilot program.

In mid-March, we sent an email to all full-time and part-time faculty members, asking three questions: "Are you using Blackboard in an online, hybrid or face-to-face class this summer?", "Would you like to incorporate or promote information literacy in your curriculum?", and "Are you willing to provide feedback to a librarian at the end of the semester?" The email went on to describe the purpose of the modules, who created them, and how instructors could benefit from adding them to their Blackboard courses. One week later, we offered a one-hour informational webinar wherein we demonstrated the live modules inside a Blackboard shell and answered questions from faculty members.

Interest in the IL modules was immediate, garnering dozens of emails in response. In just eleven days after our initial email, we received fifteen messages of intent or interest. By mid-April, we had met our goal of twenty-five volunteers willing to pilot the IL modules over the summer and directed them to a *Getting Started Webpage* which would provide them with instructions for downloading the modules and importing them into their Blackboard courses, suggestions for customizing the Modules, information on providing feedback, and contact information for troubleshooting or any other questions.

Within days of the summer semester beginning, we began receiving feedback from faculty. While initial comments concerned simple troubleshooting issues, other emails concerned more substantive issues. Between the critical eyes that the instructors had turned to the module content and their students' hands-on use, we were able to identify and remedy a number of glitches, typographical errors and other issues that had gone unnoticed by the Instruction Committee in our months of creating and reviewing.

While many instructors offered on-going feedback during the summer pilot, we waited until the end of the semester to send faculty a thorough evaluation form seeking their impressions on the following areas:

1. Technical Aspects
2. Organization of the Modules
3. Module Content
4. Research 101 Tutorials
5. Quizzes
6. Supplementary Material
7. Outcomes

Feedback from faculty was overwhelmingly positive. Faculty reported having very few issues downloading the IL modules zip file or importing the file into their Blackboard courses. While few instructors added their own materials to the modules, most indicated that in the future they would certainly consider customizing the content by adding their own discipline-specific test questions, activities and supplementary materials. Most responding faculty found the content of the tutorials and modules more or less at the appropriate level for their students and relevant to their coursework.

Given the beta-nature of the modules, we were not surprised to find that all responding instructors either found errors in the content themselves or had errors reported to them by their students. As we were able to address and remedy many of the errors within the Web-based Research 101 tutorial immediately or provide steps wherein faculty could remedy errors uploaded into individual Blackboard courses with the modules, instructors did not seem to see the errors as an impediment to student use of the modules.

Comments shared via the evaluation form and in conversations with faculty using the modules indicated a primarily positive reception to the modules with some reservations. For several instructors, the interactive elements built-into the Research 101 tutorial did little to alleviate the otherwise text-heavy content in each unit. As one instructor wrote, the “formatting [of the Modules] was a sleeper. Jazz it up a bit!” Others indicated that customization of the modules seemed key to making the content relevant to student coursework.

Student feedback following the pilot program was largely positive. Thank yous and comments such as “Great tutorials, very helpful when researching topics or looking up basic information” and “I think the tutorials did a good job covering a lot of useful information” were certainly encouraging. Students’ critical comments generally echoed those of their instructors, with requests for more “fleshed-out” content in some areas. With over 70% of responding students indicating that they were only moderately familiar, somewhat familiar or not familiar at all with the concepts covered in the tutorials, we had fair indication that the IL modules are indeed providing students with information that they don’t already have and can use in their coursework.

Lessons Learned

Since the initial summer pilot program, the information literacy modules have been made widely available to the college, and as they reach more students in more classes, we are beginning to recognize the areas in which we have succeeded and the areas which will require additional attention. Areas for revision have been categorized into three stages based on the complexity level of the revision required and to better help the Committee triage areas that need work.

Awareness and adoption of the information literacy modules has benefitted greatly from partnerships forged between the library and academic administration, as well as the library’s placement in the college’s Learning Resources division, an area which includes both COD Online and Flexible Learning. Access to supervisors in both the online instruction and Flex programs allowed us to tailor the content to the needs of the students taking those classes. Additionally, we were able to reach out to the academic

deans of divisions, such as Liberal Arts, which make up the majority of online and Flex classes. With academic deans on board, and the Learning Resources dean also responsible for college in-service day programming, we had unique opportunities to promote the IL modules to both target-groups of faculty and faculty at-large.

Although we had access to a broad spectrum of faculty and fielded queries and heard interest from an impressive number of instructors, we never had a clear picture of exactly how many instructors were using the IL modules in their classes, how many times the modules had been downloaded or how many students were seeing the modules. During the summer pilot program, only four faculty members responded to the end-of-semester questionnaire, though we had heard of anecdotal use from more than that number. It was not until after the fall semester had already started that we began to track visits to the IL modules *Getting Started* page and downloads of the Blackboard files using Google Analytics.

Feedback we received from faculty during the summer pilot program revealed a number of problems with both the Blackboard content and the Research 101 tutorials. While we were able to quickly fix many of the mistakes, typographical errors and other oversights, several issues remain and reveal the limitations of using Research 101 as the primary instructional content of the IL modules. One significant challenge to continued use of Research 101 is the amount of Flash content in the tutorials. Although many of the tutorials available on library websites, and incorporated in CMS, use Flash content to provide the interactive features that appeal to college students, Flash content presents problems in that it cannot easily be edited and has significant accessibility issues for users viewing the tutorials on iPads or other Apple devices which do not support Flash. Libraries adapting tutorials such as TILT and Searchpath have cited the challenge of editing Flash elements as the one significant stumbling block encountered in an otherwise smooth adoption and adaptation process (Roberts, 2003; Flatley & Jefferson, 2006). Ultimately, we plan to investigate AJAX (asynchronous JavaScript and XML) solutions for creating interactive elements on the site.

Additionally, while Research 101 introduces students to the basic concepts of information literacy, the scope is nevertheless limited and does not fully address topics that both instructors and students have identified as important parts of information literacy instruction. In feedback surveys collected during the summer pilot and during the following fall semester, students were asked, “What topics, if any, would you like to see covered in an information literacy tutorial?” Of those who responded with a recommendation, half indicated that they would like to see a unit dedicated to citing sources. Other suggestions included: expanding the Finding unit, making the units more relevant to their course work, and providing more information on searching library databases. While the Instruction Committee does plan to add examples and activities to existing modules and to create a citing sources module, the practical challenges of creating original content brings us back to our initial hurdles of time commitment, availability of resources and skills.

Finally, as we see more faculty members adopting the information literacy modules in their online, Flex, and face-to-face classes—as well as more students responding to the feedback surveys indicating their familiarity with the concepts covered in the modules—we face the problem of saturation. During the fall 2011 semester, the first semester in which the modules were available for download into any course, 25% of students responded “Yes” to the question “Have you used these tutorials in classes other than this one?” With the modules available in a wide variety of classes across the disciplines, we can expect that percentage to grow and students to become all-too-familiar with the basic concepts in the tutorials. While we hope that instructors will customize the module assessments and provide course-relevant assignments, student comments indicate that this is not happening and that students will encounter the exact same modules in each class that incorporates them.

Conclusion

One solution to this problem of saturation would be to focus our attention on marketing the IL modules to a very specific audience: Flexible Learning classes. In Fall 2011, 1,415 students enrolled in 92 Flex classes. Instructors of English Flex classes—which are offered as self-paced, appointment based courses wherein students work independently and meet with instructors in short, regularly scheduled

meetings—were early adopters of the IL modules. Currently, the English Flex course curriculum does not provide for any formal information literacy instruction. Students do not receive assignment-related library instruction, nor do they meet with the library liaison to English. The single concession to information literacy instruction is a requirement that each student attend one of the library's free research workshops. While the workshops do provide basic introductions to information literacy concepts such as evaluating resources, searching skills and citation formats, the attendance requirement runs counter to the promise of truly flexible learning, especially considering the number of students who take these courses through the college's off-campus centers. Additionally, attendance in a single 90 minute or two-hour research skills workshop does not result in exposure to the broad information literacy skills outlined in the college's General Education Outcomes.

By marketing the information literacy modules to Flex Learning classes, specifically English 1101 and English 1102, we would greatly reduce the possibility of campus-wide over-exposure, while providing basic, comprehensive information literacy instruction in classes which would not otherwise include it in the curriculum. Librarians will continue to revise the content of the modules, seeking feedback and usage data from instructors and students in order to improve the effectiveness of these instructional tools.

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Appendix A

College of DuPage Library

The Embedded Librarian: Levels of Involvement

- Level 1 Liaison Link: Ask your online teaching faculty to change the link for the Library button on their course menus. They can redirect the link to your personal homepage or to a research guide applicable to the course.
- Level 2 Export & Copy: Create embeddable content in your own Blackboard shell, export that content and make it available to your online teaching faculty to copy into their course.
- Level 3 The Embedded Librarian: Get added to your online teaching faculty's course as an instructor, allowing you to create content and send announcements and giving you access to student assignments and additional course content.

Appendix B

College of DuPage General Education Outcomes for Information Literacy

- a. Explain the need for information
- b. Develop a plan for finding the needed information
- c. Locate information effectively and efficiently
- d. Evaluate information and its sources critically
- e. Use information effectively, ethically, and legally to accomplish a specific purpose

Appendix C

College of DuPage Library Student Learning Outcomes for the Information Literacy Instruction Program

Information literacy comprises the abilities to find, select, and use information sources to satisfy an information need. Below is a list of learning outcomes for the College of DuPage Library Information Literacy Instruction Program. An information literate student is a master of these research skills. These are skills that a community college student should possess upon graduation.

1. Develop a Research Plan

An information literate student is able to:

- a. Determine a focused, clear, and manageable topic.
- b. Develop a realistic overall plan and timeline to complete the research project.
- c. Identify key concepts and terms that describe the topic.
- d. Explore general information resources to become familiar with the topic.
- e. Narrow or broaden the scope of the topic based on preliminary research.

2. Find Resources

An information literate student is able to:

- a. Determine available resources and services at the College of DuPage Library
- b. Understand the characteristics and value of different types of resources (books, periodicals, Web sites) and their different formats (print, electronic).
- c. Understand the characteristics and value of primary, secondary, and tertiary sources.
- d. Select information resources (catalog, databases, search engines) appropriate for the research topic.
- e. Use various search techniques such as keywords, controlled vocabulary, limiters, Boolean operators, and truncation to find relevant items.

3. Analyze the Search Results

An information literate student is able to:

- a. Understand that search results may be presented according to various ordering principles (e.g. relevance ranking, author, title, or date).
- b. Identify the components of a citation and differentiate between types of sources, such as book or periodical.
- c. Use the components of a citation to choose those sources most suitable for the research project.
- d. Analyze the search results and determine whether the search should be refined.

4. Retrieve Sources

An information literate student is able to:

- a. Determine whether sources are in the Library, online, or available by alternate means.
- b. Understand the different ways that resources are organized.
- c. Retrieve locally owned resources in a variety of formats such as books, articles, microform, and full-text.
- d. Understand the various methods for locating and obtaining resources not held locally such as Interlibrary Loan.

5. Evaluate Sources

An information literate student is able to:

- a. Use the components of a citation to choose those sources most suitable for the research project.

- b. Evaluate among various information sources using established evaluation criteria to determine reliability, validity, authority, currency, and accuracy).
- c. Evaluate information sources with an understanding of context, intention, and audience (bias, opinion, satire, inflammatory, balanced).

6. Organize and Use the Retrieved Sources

An information literate student is able to:

- a. Extract the details and concepts from the retrieved sources.
- b. Organize the gathered information in a logical and useful manner.
- c. Synthesize the ideas and concepts from the information sources collected.
- d. Integrate the new information with previous information or knowledge.
- e. Communicate the new knowledge to others by using various formats such as writing, speaking, or multimedia presentations.

7. Understand the Ethics of Information Use

An information literate student is able to:

- a. Understand what constitutes plagiarism and does not represent work attributable to others as his or her own.
- b. Understand the concepts of intellectual property and fair use of copyrighted material.
- c. Select a documentation style and use it consistently to cite sources.