Information Literacy: Developed

Define and Operationalize the Information Literacy Core Competency at BYU-Hawaii

Attributes of Information Literacy are introduced and reviewed in the ILOs and in GE courses. The librarian faculty of the Joseph F. Smith Library has long offered and supplemented instruction and training on information literacy. From 2008 to 2016, specific instruction occurred in BYU-Hawaii's HIST 201 world civilization to 1500 course in conjunction with a five-part online tutorial consisting of short videos and worksheets used to help students develop a research project in pre-modern world history. Aspects of information literacy are also introduced in ENGL 101 communication in writing, speaking, and reading and are reviewed in ENGL 201 literacy analysis and research and ENGL 315 advanced writing and analysis for most students. The BIOL 491–494 series and the CHEM 491–494 series, and HIST 490, for biology, chemistry, and history majors, respectively review information literacy in written senior research projects. Some IDS (interdisciplinary studies) capstone GE courses also reviewed information literacy material at the junior and senior level. In the University's newly revised GE policy/program, specific instruction and practice occurs in the new GE 110 critical thinking course, which replaces ENGL 201, HIST 201, and the IDS course, as well as in ENGL 101 and ENGL 315 courses.

Marketing 2006 to 2012

The Information Literacy Core Competency Group (hereafter IL Group) was organized in fall 2015 and defined and operationalized the evaluation of the information literacy core competency by developing a rubric in September and October 2015. The rubric consists of the following four criteria:

      1. Knows when information is needed

      2. Locates information

      3. Evaluates information

      4. Uses information effectively and responsibly

      The skills levels of information literacy mirror those encouraged by WSCUC: (1) initial, (2) emerging, (3) developed, and (4) highly developed.

In the initial designs of the rubric, the issue of plagiarism

Plagiarism. Although plagiarism is not assessed specifically in the information literacy rubric, plagiarism, poor paraphrasing, and other forms of academic dishonesty are a concern of the university. The types of plagiarism are typically defined and introduced in ENGL 101, HIST 201, and GE 110. Although many faculty members have seen a decrease in plagiarism on assignments uploaded to Canvas by activating the Turnitin function, plagiarism continues to be a significant concern to faculty and administrators. The faculty in the School of Business, Computing and Government developed a task force to deal with several forms of academic dishonesty, including plagiarism. Special meetings were held by faculty in the school in the fall 2015 semester to discuss ways of addressing this issue. Faculty in the school were encouraged to utilize Turnitin more regularly as well as to report such behavior to the Office of Honor so that more accurate records of plagiarism and other forms of academic dishonesty can be tracked and to look for patterns of behavior.

Direct Evidence of Student Learning

Direct evidence of student ability in the core competency of information literacy come from evaluation of student-generated artifacts and the iSkills text. A ground-breaking study of student-generated artifacts was conducted in the winter 2015–16 semester, using artifacts collected from 2013 to 2015. The Results Summary and evaluation by the IL Group are attached. The results establish a baseline for future assessments of information literacy among students of BYU-Hawaii. The study attempted to assess student performance in information literacy at two graduation points: the associate's degree (two-year) and the bachelor's degree (four-year). This pilot suggests that most students tend to do well with the criterion "Locates information," but general improvement of all the criteria in the information literacy core competency will not be achieved by assuming that introduction to the principles of information literacy in a few lower-division courses is sufficient. Data supports generally expected improvement between an associate's degree and a bachelor's degree because the artifacts at the bachelor's level have a higher proportion at the developed and highly developed stages than those at the associate's level. The data for the criterion "Uses information effectively and responsibly" suggests the necessity for further reflection and study. For the associate's level,

44% are at the emerging stage, and another 44% are at the developed and highly developed stages. This is very similar to what is seen at the bachelor's level, 49% at the emerging level and 46% at the developed and highly developed stages. Also, the Mean differences between EIL and non-EIL students at the bachelor's level portrays what one would expect: non-EIL students (native English speakers) are significantly higher in the criteria of "Evaluates information" and "Uses information effectively and responsibly." However, the IL Group does not assume that these differences may be accounted for simply by English-language ability. Differences in cultural and educational background probably also play a significant and/or substantial role in explaining the discrepancy. More research needs to be done to ascertain the reasons why EIL students are not as prepared or do not perform as well as non-EIL students (native English speakers).

iSkills. In Winter 2013 and Summer 2013, IR at BYU-Hawaii selected and invited students at the roughly junior or senior level who had taken at least 60 credit hours including ENGL 101, ENGL 201, HIST 201, HIST 202, BIOL 100 or 112, MATH 106 or greater, and any IDS course to take the test as a stratified random sample. Of these, 58 reported. The iSkills test focuses on the areas of information and critical thinking skills.

The results of the iSkills test need to be qualified for two reasons. First, although the students who were invited to participate were supposed to be at the junior or senior level, having taken at least 60 credit hours, the selection process did not take into account credits earned in the EIL program. So, many students participating in the test were actually at the sophomore or associate's level in their academic ability. Second, because students who took the iSkills test self-selected and had no reason or vested interest in performing well on the test, student engagement with the material and scores might not be a true representation of ability. The recruitment policy or approach to recruiting students to take the exam needs to be revisited. Furthermore, in faculty meetings many faculty members have repeatedly voiced skepticism of using standardized tests to evaluate student performance because the student population at BYU-Hawaii is very diverse for its small size and because they do not think such tests show a balanced view of students' abilities.

Despite these qualifications and concerns, the data suggests that general faculty reluctance toward using national tests to evaluate BYU-Hawaii student performance is probably unfounded. Even if student performance on the exam was low because of the lack of incentive to perform well, the scores suggest that BYU-Hawaii students were generally on par with other students in the United States and, although they performed worse than the reference group in some skill areas, they performed better in other skill areas.

The best way to look at the data is to compare the performance of the middle 50% of the score distribution of BYU-Hawaii students with that of the reference group. BYU-Hawaii students demonstrate performance beneath the reference group on such skills areas as define, access, manage, and integrate. The ability to define is the most significant shortcoming, being about 8 points lower than the reference group, suggesting that students struggle to clarify a research project and to choose a research project that follows specific criteria. The skills of manage and integrate are only two points and one point below the reference group, respectively, suggesting that students can find and place information well for the most part. BYU-Hawaii students are on par with the reference group in the evaluate skill, suggesting that a good portion of students are able to determine the usefulness of information for a particular project or outcome, but it also suggests that the ability to evaluate is fairly poor everywhere. BYU-Hawaii student scores for create and communicate are not very impressive when the raw scores are looked at by themselves, but compared to the reference group their abilities are slightly superior. BYU-Hawaii students scored higher than the reference group in the create (2 points) and communication (5 points) skill categories.

Indirect Evidence of Student Learning

In addition to direct assessment of student information literacy skills, BYU-Hawaii uses the National Survey of Student Engagement (NSSE), the Graduating Student Survey (GSS), and the Alumni Questionnaire (AQ), which are self-reported tools, to accumulate data on perceived student capabilities.

The results of the NSSE 2013 (drawn from students enrolled in fall 2012 semester) related to information literacy suggest that seniors graduating in the College of Language, Culture, and

Arts feel much more confident in their ability to evaluate a point of view, decision, or information source and form a new idea or understanding from various pieces of information than their cohort in the College of Math and Sciences. In all other matters, although BYU-Hawaii students report higher scores in their abilities to apply facts, theories, or methods to practical problems, analyze an idea, and evaluate a point of view, there are no statistical relevant differences between BYU-Hawaii students and other students in other private schools in the far western United States or students at institutions in the same Carnegie class.

The results of the 2014 GSS (Graduating Student Survey) indicate that a little more than half of the graduating seniors, 56%, feel that they are able to select appropriate types of information at a good or very good level; 56% think they are able to access information effectively at a good or very good level; 53% deem they are able to identify and correctly cite trustworthy sources; and 67% imagine they are able to demonstrate information literacy and critical thinking at a good or very good level.

The AQ (Alumni Questionnaire) is taken three to four years after graduation. The most recent results are from the graduating class of 2011–2012; the information was collected in 2014–2015. Alumni report on a six-point scale. The average score reported by most students was approximately 5.0, which corresponds to the "very good" level. Regarding information literacy, although students who had served two-year volunteer missions for the Church of Jesus Christ of Latter-day Saints reported higher scores in their abilities to "use knowledge, reasoning, and research to solve problems and serve others" and "demonstrate information literacy and critical thinking to understand, use, and evaluate evidence and sources," they were not statistically different than those who did not report having served a mission. Another interesting issue is that students who participated in the iWork program (as differentiated from other international students) reported the highest scores: 5.29 for "use knowledge, reasoning, and research to solve problems and serve others" and 5.16 for "demonstrate information literacy and critical thinking to understand, use, and evaluate evidence and sources." This data suggests that students who bear one of the heaviest burdens of working and going to school at the same time feel relatively confident in the development of their abilities several years after graduation. A qualification might be a lingering sense of gratitude to BYU-Hawaii for providing the students with the

opportunity to go to school, nevertheless the scores are not statistically different than other types of BYU-Hawaii students.

Responses to Assessment Findings and Evaluation of Process

Although the BYU-Hawaii faculty community is still digesting the results of the IL Group study, two key issues associated with the measurement of the information literacy competency at or near graduation can be highlighted. First is that quantitative and qualitative improvements must be made to the research methodology. Not only is more data necessary, but data found in samples needs to be disaggregated further. For example, although the university categorizes students in the following "home areas": Asia, Pacific, Hawaii, US Mainland, and Other International, this taxonomy is not helpful because it does not take into account the differences in the quality of education in different Asian countries. A more helpful breakdown might be: (1) Northeast Asia [Korea and Japan], (2) China [Hong Kong, Taiwan, Mainland China], (4) Philippines, and (5) Malaysia and Indonesia, (6) Other [Mongolia, India, Cambodia, Vietnam, etc.].

Also, the current model of curriculum does not lend itself well to students building on core competencies. In other words, instructional scaffolding needs to be employed to move students toward a more robust understanding of basic academic principles and core competencies so that they can achieve independence in the learning process at or near graduation. In terms of the IL core competency, this will probably entail faculty greater modeling, advice, and coaching of how to develop an appropriate research objective, more practice on evaluating sources and identifying one's own assumptions and the assumptions of others, and improving skills in paraphrasing to integrate the work of others into one's own work.

Faculty in colleges and departments should review the criteria described on the rubric and the data and decide what they want to do about it. In other words, is the core competency of information literacy of significant importance that colleges will seek ways to improve student performance in both requirements and base-level or grading expectations?

A general finding suggests limitations regarding the reliability of our corpus of artifacts. This concerns the issue of collaborative assignments and group projects. Much of the upper-division written work done by students in the School of Business, Computing, & Government (particularly the large majors of Business and Accounting) are assignments completed as group projects. If the university considers student performance in upper-division major classes as a better indicator of actual information literacy skills than performance in ENG 315—for measuring student performance at the bachelor's level, or "at or near graduation"—a procedure needs to be devised to evaluate multi-author artifacts.

Another finding related to the effectiveness of the assessment is selection of GE 110 as sources of student artifacts. Artifacts from GE 110 might not be the best indicator of student information literacy abilities for the associate's level because many students take the course in their first semester at the university.

Most students tend to do well with the criterion "Locates information," but general improvement of all the criteria in the information literacy core competency will not be achieved by assuming that introduction to the principles of information literacy in a few lower-division courses (viz., ENGL 101, GE 110) is sufficient. In other words, IL skills cannot just be taught in one or two classes and expect that to be sufficient. Instructors of upper-division courses in majors across the university are encouraged to review the criteria and to identify places in their courses and curriculum where criteria may be reviewed and incorporated into assignments.

A baseline for student performance in the information literacy has been achieved. The IL Group recommends that the university continue to conduct formal assessment of information literacy on a biannual basis. It recommends that reviews be carried out biannually instead of annual because gathering information on a biannual basis will allow for a larger number of artifacts to be gathered so as to ensure a more significant sample size.

A final recommendation for the future evaluations of artifacts using the information literacy rubric is that the evaluation process should incorporate calibration (two readers evaluating the same artifact). Doing this would create greater precision with respect to the data.

Measurement of Information Literacy Competency at or near Graduation

When the IEAC team reviewed the University under the standards in May and June 2015, prior to direct assessment of information literacy using the rubric developed by the IL group, it conservatively indicated that the information literacy core competency was at an **initial** level. The foregoing evaluation of the results of the direct assessment and indirect assessment of the information literacy competency places BYU-Hawaii firmly in the **developed** stage for students at or near graduation. Although a baseline was established, regular evaluation of BYU-Hawaii students using the rubric, as well as other means of assessment, such as the iSkills test, are necessary.

Changes We Have Made in Response to These Data

The University Assessment Committee will assume a larger role in evaluating student performance of the core competencies in order to help infuse the university with a culture of assessment. The IL Group has made a recommendation to the AAVP over accreditation and assessment to consider ways to strengthen the sample, revisit the research methodology, and negotiate a greater role for the IL Group in promoting IL at the university.

The University Assessment Committee will hold forums to communicate the findings of the IL Group to the greater university community. Although courses such as ENGL 101, GE 110, and ENGL 315 introduce the concept of evaluating sources to students, students need more modeling of how to evaluate sources for specific purposes. Instructors of upper-division courses in majors across the university are encouraged to review the criteria and to identify places in their courses and curriculum where criteria may be reviewed and incorporated into assignments.

In order to generate more fruitful and representative data from the iSkills test, the methodology associated with the selection of students is being reexamined. Furthermore, the incentive for student performance is being revisited so that more accurate data might be acquired. This may include linking the exam to an upper-division GE course.

The Information Literacy Core Competency Group will be proactively engaged in assessing aspects of information literacy, particularly among the EIL student population. The IL Group needs to find out why students from Asia and the Pacific, who comprise the most significant groups of EIL students on the BYU-Hawaii campus, are not as prepared as non-EIL students regarding their performance in "Evaluates information" and "Uses information effectively and responsibly."