Background & methods:
The Library’s student learning outcomes assessment for 2012-13 focused on the UW Bothell BCUSP135 “Research Writing” course and on the “conduct effective searches using appropriate tools” outcome. BCUSP135 was selected because it is a targeted course for information literacy instruction. The “conduct effective searches outcome” was selected because it is a key outcome for instruction for this course. The Campus Library student learning outcome assessed this year corresponds with the following BCUSP135 outcome, as articulated in the CUSP Composition Outcomes AY 2012-2013 document: “Use academic library resources to develop research strategies, including the ability to identify keywords and perform search queries, recognize relevant resources/tools, and collect and evaluate information”. It also corresponds to the UW Bothell Undergraduate Learning Goal of achieving proficiency in information literacy.

The rubric was drafted in summer 2012 and student work from multiple sections of this course was gathered in Fall, Winter, and Spring quarters during 2012-13.

- Total number of BCUSP 135 sections, Fall 2012 – Spring 2013: 25
- Number of sections from which we collected work: 12
- Total enrollment for BCUSP135, Fall 2012 – Spring 2013: 554
- Number of individual artifacts collected: 255
- Number of librarians involved: 7
- Number of faculty involved: 6
- Number of artifacts scored: 50

Artifacts collected from these sections were primarily worksheets completed by students either during a class instruction session or as homework after they had received instruction. Some worksheets were redesigned in light of the rubric criteria, in order to ensure that we were asking students to show evidence of their learning.

In July 2013, librarians, along with the Directors of the UWB Teaching and Learning Center and the Writing Center, and the Associate Vice Chancellor for Undergraduate Learning, participated in a norming process in which the rubric was modified slightly, and then scored the work using the revised rubric. At the end of a 2-hour scoring session, feedback was collected from the 12 raters about their observations about student learning, the assignments/worksheets, and about the assessment process. This resulted in a body of qualitative information that has been used in conjunction with the rubric scores to suggest ways librarians and faculty can improve student learning, instruction, and the assessment process.

Student learning and BCUSP135 outcomes
Over 80% of students are reaching a benchmark level of 2 or 3 (Developing/Accomplished) for all criteria associated with the learning outcome “Conduct effective searches using appropriate tools”. This is
where we would hope that students would be after receiving instruction for BCUSP135, and indicates that students taking BCUSP135 are learning the necessary skills and concepts that enable them to search for and access information for their research needs. A copy of the rubric with percentage breakdown of student scores is included at the end of this report.

Students performed best on the criteria for “locates and accesses needed information”: 43% of students reached the performance level 3 Accomplished category. This category speaks to the ability to locate either a book using the library catalog or (more commonly), the full text of an article. There were, however, a higher number of N/A responses for this category, meaning that many of the students were not asked by their assignment to demonstrate that they were able to find the full-text. Given that the ability to find the full-text of an article is a critical step that enables students to engage fully with another’s research, it is recommended that faculty and librarians ask students to provide evidence of their ability to find full-text or use the catalog to locate books. The rubric scores corroborate the observations made by librarians that if students are given the opportunity to practice and demonstrate their skills for this outcome, they are able to achieve a high level of success.

Students achieved the highest overall percentages for levels 2 and 3 on those assignments (artifacts 1-16 and 39-42) which were more detailed and asked for concrete evidence of the performance of certain skills, such as the first page of a full-text article.
In student self-reports of what they learned that was new or most valuable (across multiple sections of BCUSP135), students consistently noted:

- Citation tracking (mining the bibliography of one source to find additional sources)
- Boolean and search strategies (truncation, use of quotes, keywords)

Raters observed that students, in general, seemed to find it challenging to identify source types from a citation. However, 52% of students scored 2s on the rubric, indicating that they were able to use information from one source to find additional information, with some limitations. 37% of students scored a 3, indicating that they successfully use information from one source to identify additional sources. It may be that students are not able to correctly read a citation to understand if the citation is for a book, journal article, etc. However, students may be able to find that source, although they are not (at first) sure of the format. A number of students noted strategies for figuring out what they were looking at (search on Google to discover that the source was a book, for example, and then searching for the book in WorldCat). Librarians and faculty might wish to consider if this is “good enough” at BCUSP135 level, and if this is a skill that can further developed in upper-division instruction.

Assessment process observations (including rubric criteria):

- Not all raters were able to get through all the artifacts.
- The rubric we used for 2012-13 was designed to apply to students in upper- and lower-division, and even to Master’s level. The decision to use this approach arose out of the initial plan to use a core set of rubrics for all assessment. However, this means that the more general rubric isn’t necessarily as applicable (and therefore useful) to specific courses. In the case of 135, for example, few students scored a 4 (‘Exemplary’) for any of the criteria. This essentially meant that we were working with a 3-column rubric, which RAILS raters noted was problematic. As we wouldn’t expect 100-level students necessarily to reach ‘Exemplary’ level, it would have made more sense to use a rubric more tailored to our expectations for this specific course.

Instruction, teaching & learning observations:

Prior to the scoring of student work in July 2013, improvements to instruction had already resulted from observations made during the course of the 2012-13 process. As a result of collecting and examining student work, a number of librarians modified their worksheets and/or in-class instruction in order to improve student learning.

- Raters noted that it would be useful to plan in more time for assessment with our own classes and show students rubrics and their actual scores
- The format and prompts in the worksheets/assignments varied widely. A number of raters thought that it would be useful to have a larger group discussion on worksheet design and
best practices in order to ensure that we are asking students to demonstrate evidence of their learning (see below for more detail)

- Notes on artifacts/assignments:
  i. In many cases, we are asking students to record information twice (e.g. copy and paste citation, then write down individual components of reference). The pedagogical purpose of this is clear to us – we want to students to be able to use the citation tools within databases, but also to recognize the different elements of a citation, such as the title of the journal, title of article – but this might not always be clear to students. A few students seemed to be frustrated by what they saw as repetition on the worksheets. This reinforces the perception of worksheets as ‘busy work’.

‘There seems to be a gap between what students know/can do and what is captured in the worksheet. There is a sense from students that the worksheet is “busywork”, so they don’t take the time on it – this means that we aren’t seeing a representative picture of their learning. Some responses were general and cursory, and seem to indicate that students weren’t really taking a lot of time. The worksheets where students had to provide more evidence (e.g. print off of first page of journal article, etc.) seemed to prompt students to put in more effort.”

Recommendations

1. Hold a larger group discussion to examine our worksheet/assignment design to make sure we are:
   a) Asking students for evidence of the learning we actually want to see
   b) Being clear about the purpose and learning outcomes of the worksheet as a whole and the purpose/outcomes of each of the elements of the worksheet. It may be that some of the elements we currently include are not central to our learning outcomes.

We should critically examine our worksheets (or whatever ‘deliverable’ or product we’re asking from the students) to make sure that they are aligned with the learning outcomes of the class, course, and library outcomes.

2. If faculty and librarians identify a particular learning outcome as important, they should strongly consider asking students to provide evidence of their activities (e.g., in the form of the first page of a journal article), wherever possible.

Students will often self-report that they feel confident in performing certain activities, but student learning can be better supported and reinforced by asking them:

   a. to provide evidence of these skills and
b. to repeat some of these activities more than once (find a journal article, identify a reference from that article, see if they can find that additional source)

However, we should also be careful not to ask students to incur printing expenses for these assignments (e.g. printing off the first page of an article): “A lot of students complained about having to attach a page of an article (b/c they didn't want to pay for printing.)”. Recommendation is to work with faculty to enable students to submit electronically.

3. Faculty and librarians working with upper-division courses such as BIS300 should consider how their teaching can target more advanced levels for identified outcomes.
Given that students leaving BCUSP135 have generally demonstrated competence in basic skills connected to finding and accessing information, we can consider how to build in homework/online opportunities for students to practice/refresh basic skills, using in-person class instruction to target advanced or discipline-specific resources and abilities. Librarians are encouraged to share this assessment information with faculty working with upper-division classes in order to begin conversations about the skills students bring with them and the skills they need to develop in upper-division courses.

4. Rubric/process recommendations:
   a. Develop a rubric specific to a course and map that to library outcomes, rather than use a general rubric that could be applied to multiple courses/levels.
   b. Ensure that all librarians score all artifacts – data analysis was difficult when numbers of scores varied.
   c. Examine fewer artifacts and ensure that the number of artifacts from each section is equal
   d. Provide the rubric in advance of the scoring activities
   e. If possible, be consistent in use of print/electronic formats for norming and rating activities. Moving from norming using print documents to working with electronic documents in the actual scoring process was difficult.
   f. Norm as a group, then score individually over a couple of days, then come together and discuss. Librarians noted that this was a long day and that it was difficult to get through all the artifacts.

Based on our 2012-13 assessment process, we can also make recommendations to share with BCUSP135 instructors:

- Artifacts that were more detailed and asked for concrete evidence often yielded better results in terms of demonstrated student learning. Giving students point credit for this work can increase motivation and provide incentive for completion, especially when students are being asked to undertake slightly longer assignments. This also helps to mitigate the student perception of worksheets as “busy work”.
- Consider providing students with rubric (developed collaboratively by faculty and librarians) for how work will be assessed.
• Enable students to submit materials electronically so that they do not incur additional printing costs to complete this work
• Work closely with librarians to ensure that follow-up assignments enable students to practice, use, and build upon skills learned in instruction.
<table>
<thead>
<tr>
<th>Conduct effective searches using appropriate tools</th>
<th>Performance level</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria</strong></td>
<td><strong>Beginning 1</strong></td>
<td><strong>Developing 2</strong></td>
<td><strong>Accomplished 3</strong></td>
<td><strong>Exemplary 4</strong></td>
</tr>
<tr>
<td>Selects tools and resources that lead to needed information</td>
<td>Does not select appropriate tools or resources to find needed information</td>
<td>Selects appropriate tools or resources to find needed information, with some limitations.</td>
<td>Selects appropriate tools and resources to find needed information</td>
<td>Selects the most appropriate tools and resources to find needed information</td>
</tr>
<tr>
<td></td>
<td>Does not match tool/resource to information need and/or articulate why specific tool/resources has been selected</td>
<td>Is not consistently able to match tool/resource to information need and/or to articulate why specific tool or resource has been selected</td>
<td>Demonstrates ability to articulate why specific tools or resources have been selected and correctly identifies how those tools and resources lead to needed information</td>
<td>Demonstrates ability to articulate why specific tools or resources have been selected and correctly identifies how those tools and resources lead to needed information</td>
</tr>
<tr>
<td></td>
<td>11%</td>
<td>57%</td>
<td>31%</td>
<td>1%</td>
</tr>
<tr>
<td>Develops and revises search strategies</td>
<td>Uses limited or inadequate keywords/search strategies (e.g. searches using whole phrases)</td>
<td>Uses basic keywords and search strategies (e.g. AND, OR)</td>
<td>Conducts multiple searches using a variety of strategies (e.g. different keyword combinations including synonyms and related terms, Boolean, truncation, etc.)</td>
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<td></td>
<td>Does not recognize the need to refine a search, and does not refine search strategy effectively</td>
<td>Recognizes the need to refine a search, but is not consistently able to determine the best ways to revise search strategies</td>
<td>Refines search by broadening and narrowing based on results of previous search, and/or by using information in results (such as keywords and subject headings) to improve subsequent searches</td>
<td>Refines search as needed by broadening and narrowing based on results of previous search, and/or by using information in results (such as keywords and subject headings) to improve subsequent searches</td>
</tr>
<tr>
<td></td>
<td>N/A = 1</td>
<td>15%</td>
<td>15%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Locates and accesses needed information</strong></td>
<td>Unable to determine availability and locate needed information (electronic full-text or print)</td>
<td>Determines availability and locates needed information (electronic full-text or print), with some limitations or difficulties</td>
<td>Determines availability and locates needed information (electronic full-text or print)</td>
<td>Utilizes interlibrary loan or other methods to access materials not held by home library, where needed</td>
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<tr>
<td>N/A = 17%</td>
<td>3%</td>
<td>37%</td>
<td>43%</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Uses a variety of methods to facilitate the discovery of sources</strong></th>
<th>Does not utilize information from one source (e.g. reference lists/ bibliographies) in order to identify additional research sources</th>
<th>Utilizes information from one source (e.g. reference lists/ bibliographies) in order to identify additional research sources, with some limitations</th>
<th>Utilizes information from one source (e.g. reference lists/ bibliographies) in order to identify additional research sources</th>
<th>Demonstrates ability to correctly read, record, and understand citation information, and to use that information to access additional sources</th>
<th>Demonstrates ability to correctly read, record, and understand citation information, and to use information to access additional sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA=1%</td>
<td>10%</td>
<td>52%</td>
<td>37%</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
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Uses other methods/strategies to facilitate discovery of sources, including RSS feeds, search and/or table of contents alerts, and citation searching/linking.