# Library Instruction Assessment Synopsis (2006 – 2014) & Future Directions

This report reviews what the Buxton Library has accomplished in terms of our library instruction program over the last eight years. It outlines which practices were most effective and how we intend to shape our instruction program over the next 2-5 years to build and expand on those outcomes.

Brief descriptions of each semester follow. To read the complete division or assessment report, please, follow the links.

## Spring 2006
We designed an activity entitled "Finding an Article". The outcomes identified were:
1. Use the PVCC Library web site to locate & access article databases
2. Locate appropriate databases for finding an article
3.  Use relevant search terms to find articles on a research topic
4. Critically evaluate results to select articles that support the topic or issue
5. Identify elements from an article and/or the article record in a database…MLA

With the in-class activity, there were several problems. It was not graded; so many students did not complete the activity or did so minimally. We were unable to determine if they did not understand the concept or simply didn't care. Also, as students were completing the activity as we explained concepts, we are unsure if they were copying our instructions or if they truly understood the lesson. Finally, there was no way to give feedback to students in a timely manner to help them improve or further focus on the areas that we had identified as problematic.

## Fall 2006 – Spring 2007
Students completed a one-sheet exercise intended to measure how well they grasped concepts such as defining a research question, utilizing correct keywords and evaluating information.

Also initiated pilot program with English Division, in which ENG 101 students would receive one session of library instruction and ENG 102 would receive two sessions. Students were evaluated on a 0-1-2 scale to assess their proficiency with the following outcomes:
•The student will be able to *determine* the nature and extent of the information needed.
•The student will be able to *access* needed information effectively and efficiently.
•The student will be able to *evaluate* information and its sources critically and incorporate selected information into his or her knowledge base and value system.

Students generally did well with determining and accessing information. The evaluation piece was the muddiest point for students. For the most part, if they found something in a database they said it was credible regardless of the information the resource actually contained.

Based on the outcomes for this year, we planned to add more face-to-face one or multiple sessions (based on activities from the English Division Pilot of Spring 2007). We also planned for a librarian assist students with research and/or cover very specific concepts instead of going over all the steps of the research process. We decided to create an online research support center: pre and post test of research skills in BlackBoard that would allow for customized library instruction. And we intended to add online video modules for students who miss library instruction or need further assistance.

## Fall 2007 - Spring 2008
We used a 12-question, problem-based assessment which combined all of the outcomes from last year, namely: determine, access, evaluate.

While the results indicated that most students showed a competent or highly competent level of information literacy skills in all three of the areas, there were still four issues that we needed to address.

1) As the assessment was completed on a voluntary basis, there was no way to tell whether or not the student had a difficult time answering the questions, or simply did not take the activity seriously.

2) Due to the discrepancy in the total numbers of students who took the test, it is difficult to tell how much, if any, true improvement occurred compared with the results of Spring 07.

3) The tool itself may not be valid and therefore will not provide reliable data

4) The rubric may also not match or support the tool in a way that conveys meaningful data

Based on our results, we planned to use the Research Readiness Self Assessment as a pilot in Fall 2008 to retrieve data from a source other than our own tool. We also planned to work with individual faculty to incorporate the assessment as part of their existing grade structure as opposed to extra credit.

## Fall 2008
We used a Survey Monkey assessment which was scored manually. Although faculty was supportive in administering the assessment as part of their classes, not all of the students in each class completed the assessment. Timing was also an issue. We could not determine how much students had forgotten between the time of the library session and the time they completed the survey. Sometimes the survey was distributed right after the library session, which would address the students' short-term retention, but was not ideal for assessing general education concepts and skills. Many students did not take the assessment seriously, resulting in incomplete or badly filled out surveys. Finally, we were not able to determine the validity or

reliability of the questions we used which were essentially created as a "home-grown" type of assessment.

We expanded our ILab model to include not only English classes, but all PSY101 classes as well, allowing us to systematically introduce library instruction over a period of time as opposed to a one time session. ILab scores consistently showed improvement between the pre and post test scores strengthening our position to embed Information Literacy into the curriculum.

Our analysis of the results was impaired by inter-rater reliability, unfocused introduction of the assessment into course content, questionable validity and reliability of the tool itself and our inability to extract meaningful data from the existing score arrangement. We refined data examination by assigning benchmark figures to measure student success based on a concrete percentage. We planned to disaggregate data for number of credits taken, ENG 101/102 classes taken, library instruction and academic goals. We ultimately believed that moving to a credit-based model would allow us to create a best practice strategy to integrate Information Literacy into any curriculum in a methodical, grounded manner not unlike the structure present in the Science courses at PVCC.

### Spring 2009
We utilized the Research Readiness Self-Assessment multiple choice questions in two formats. This assessment was designed to create a baseline snapshot of where students were at the beginning of the semester, before library instruction and at the end of the semester after some library instruction. Based on these results, we believed that the pre/post assessment model with focused and systematic infusion of Information Literacy concepts as part of the course curriculum was the better model to improve scores and bring students closer to the set level of proficiency.

We saw that students did far better within the assessment for this model than for the other model. We inferred that because students were exposed to a structured, systematic set of Information Literacy sessions coupled with homework and additional information online in between the face-to-face sessions, students were able to retain and transfer the concepts in a more effective way. It is also important to note that the overall scores went up 14% between the pre and post tests for the students who were participating in our ILab Program. Based on these results, we implemented a structured Information Literacy sequence for all Nursing majors that moves them from Block 1 to Block 4. We expanded our ILab program to include various disciplines. We offered two sections of the IFS 101.

### Spring 2009 - Fall 2009
We used the Research Readiness Self-Assessment (RRSA) multiple choice. The greatest challenge occurred when weighting the test in the content area; for example, giving only completion points for both the pre- and post-test resulted in a lowering of student concern for the test instrument, especially in the post-test.  The results of the RRSA were transcribed into the 0, 1, 2 system for each domain (Determining, Evaluating and Accessing).  Our department equated 50%-70% success as a 1 or minimum level of proficiency, leaving less than 50% as a 0

and 80% and above as a 2.  Completion of both the pre and post test equated to a viable test for statistical use. Further, each class was analyzed based on the numbers of 0, 1 and 2 received within each domain.

Students performed better in their core classes through the Ilab experience—both qualitative and quantitative scores from both students and instructors showed that research skills are improved as the learning objectives are met and exceeded.  The Ilab instruction continued to evolve so that objectives precisely addressed the core concepts of each lesson using hands-on activities that are reinforced with homework, ticket-out-the-door, and portfolio components.

**Fall 2009 – Spring 2010**
Program Assessment where multiple instructors assessed learning in two or more courses. Specifically, Ilab pre/post test and the Information Literacy Rubric were used in 26 Sections consisting of 651 students.

The competencies that most needed improvement were accessing and evaluating information. We discovered that the number of instruction sessions seems to play a factor in students' ability to evaluate effectively.  With regard to accessing information, we determined that more time was needed for instruction as this domain requires the highest level of critical thinking (choosing the correct database, searching effectively, selecting the best source and citing it correctly.)

The pre/post test (with modifications) continued to form the foundation for information literacy instruction in 2010/2011. We determined that each domain must have a minimum of 10 questions to present a clear picture of each percentage. It was our instructional goal to frame a mini pre-session questionnaire that culminates with a student product at the end of each session for a total of two information literacy instructional sessions.  The questionnaire and student product will map to all three domains located on the Information Literacy Rubric.

**[Fall 2010 – Spring 2011](#)**
In addition to the multiple Information Literacy one-shot sessions we taught, along with the English and Psychology ILabs, one section of IFS 101 was taught each semester of the academic year.  Fall 2010 was an online course, whereas Spring 2011 was a learning community paired with an English 102 class.  Assessment components were included in all the ILabs, as well as both sections of IFS 101.

Students were provided an opportunity to determine an information need, access appropriate information to meet that need, and evaluate the information for use based on authority, accuracy and relevancy in a two-shot Ilab.  Assessment changed from a quantitative pre/post test to a qualitative rubric, based on activities mastered during class time; in addition, a group (class) quantitative survey was implemented and scored pre/post based on movement along the scale of 0, 1 and 2 for the entire class.

**Fall 2011 – Spring 2012**

No data available.

During the academic year of 2012-2013, Li (Lili) Kang worked extensively with Reading faculty embedding information literacy instruction throughout all RED and CRE classes of both academic semesters. Constructive feedback received was that the pace of instruction was too fast and that there was not enough time in class to ask questions. The above concerns are understandable since there are considerably different levels of comfort dealing with accessing and using library resources among the students.

**Spring 2013**
Building on the previous semester's experience, we redesigned the assessment into pre and post surveys and also revised the learning outcomes assessed according to the PVCC's GEA Information Literacy assessment rubric. 49 students from three RDG091 sections took the Pre-survey. Many responses are worth noticing. For example,

- 71% of the participants do NOT seek out the help of a librarian for research assistance.
- 51% of the participants do NOT know how to find a print book or an ebook in the library.
- 20 students (close to ½ of the participants) answered "I don't know OR I am not sure" to the question: *How would you identify the appropriate library databases for your research topic?*
- 16 students (over 1/3 of the participants) answered "I don't know OR I am not sure" to the question: *What are the differences between a basic search and an advanced search?*
- More than ½ of the participants answered *No* or *Not sure* to the question: *Do you know how to limit your Web search to a certain domain (such as .edu, .gov)?*
- Over 90% of participants have a basic understanding of plagiarism and are aware of the academic consequences.

There would have been a very solid comparison between the Pre-survey and the Post-survey data if the Post-Survey had been carried out. Timing the Post-Survey to the last week of April and early May outside class periods and without some concrete incentives failed to garner any responses, since the survey was competing with all the finals in the students' schedule. The hindsight would have been to make the Post-survey an integral part of the regular class with assigned points.

**Fall 2013**
The same pre and post survey was implemented. As for the pre-survey, an equal number of students (22-23 from each RDG081, RDG091, and CRE101) took the survey. 18 students (13 from CRE101) did take the Post-survey, and offered some valuable feedback. See the Assessment Report for Academic Year 2013-2014.

We used the Research e-Skills Survey to evaluate student learning after library instruction. There was no pre-test component. Students were asked to complete the following three questions, as these are tied to our information literacy rubric:

1) Based on the library instruction, I was able to focus more clearly on my research topic. (Fall:50% strongly agree; Spring 55% strongly agree)
2) Based on the library instruction, I understand the importance of choosing the right keywords to narrow (or broaden) my search in library resources. (Fall:61% strongly agree; Spring 59% strongly agree)
3) Based on the library instruction, I am now better able to identify the different types of information sources in order to use the most relevant, authoritative, and credible sources. (Fall:56% strongly agree; Spring 58% strongly agree)

These results suggest that students feel that library instruction is generally helpful. However, not all classes receive the same type of instruction, (e.g.) Library Jeopardy does not cover narrowing topic, source evaluation, or much on in depth research, so these survey questions are not universally applicable, and are likely confusing to our respondents. Also, there was no pre or post-test component, so while this survey assesses students' subjective responses to the instruction, it does not measure how much was learned. For example, several students indicated that they had attended library instruction before and that the class was not useful to them. However, we have no way to gauge whether or not they are more information literate than their peers for whom these sessions were new.

**Fall 2014 – Spring 2015**
We created a three-question survey that addresses students' affective domain. We'd like for them to apply metacognition; reflect more on what they learned during our sessions and how they can apply those skills to other classes during their college career. As such, the new questions we will be asking this academic year (2014-2015) are:
1) What is the most important thing you learned today?
2) How will you use the skills you learned today for future college assignments?
3) List something that you wish the instructor had spent more time explaining.

We will apply a Likert scale to questions one and two to more efficiently score students' responses to these questions. For example:
Question 1: What is the most important thing you learned today?
0-1-2 scale for answers that are vague, some detail, and specific (e.g.) I learned how to use the library, I learned about library databases, I learned about how to use library databases and how to find credible sources for my paper.

Question 2: How will you use the skills you learned today for future college assignments?
Strongly agree, agree, disagree

The third question will provide the library faculty with guidance in terms of the "muddiest point" for students.

In addition to the 3-question survey that is administered to our one-shot library instruction sessions, we will also be conducting assessments on several specific ENG101 and EDU222

classes, using a smaller sample of course-integrated instruction/assessment to measure information literacy gains.

The Association of College and Research Libraries (ACRL) is in the process of revising the nationally adopted Information Literacy standards, so these edits will change our own GEA Information Literacy Rubric. It will likely also lead to changes in our learning outcomes for information literacy. Currently, ACRL is in the third draft stage revision of the standards, with the third draft due for review on Nov. 1, 2014.

**Future Directions for Library Instruction**

The years with the most objective and statistically accurate data are from 2009 to 2011. These were the semesters in which we offered our ILabs, which were more closely integrated into the course curriculum. The trends from those years suggest that when students are exposed to more than one information literacy session they have a better understanding, especially, of the access and evaluate domains of the Information Literacy rubric. The ILabs included pre and post-tests to assess learning outcomes, and homework/assignments in which students demonstrated their learning independently.

The efficacy of a one-shot information literacy session is elusive, as there are so many variables that impact assessment (inter-rater reliability of surveys/assignments, unfocused introduction of the assessment into course content, questionable validity and reliability of the tool itself, number of sessions previously attended by students, student aptitude and skill set.)

*Possible solutions:*

- Pair a one-credit, IFS201 with ENG101, so that students would receive information literacy instruction early in their academic career, eliminating the need for the majority of one-shot library instruction sessions. We could begin by piloting this pairing with interested faculty, and then expanding on this model once there is sufficient buy-in. In this way, we reach more students that otherwise would be possible, as many faculty do not seek out information literacy assistance. This pairing could be either offered in-person, or in hybrid or online formats. Once this model has been established, it could be taught by adjunct library faculty as well, allowing full-time faculty to focus on other curriculum-integrated instruction or division-wide priorities.
    - Classroom instructors can identify those students in need of additional help, (e.g. those whose references/citations demonstrate a lack of understanding and use of library resources) and require them to attend supplemental sessions (Research Boot Camps) or online tutorials, make an appointment with a librarian, etc.

- Offer students the chance to "test out" of information literacy, like how they test out of developmental reading or math. If they have a proven grasp of information literacy skills they would be exempted from one-shot library sessions.

- Aside from ENG 101/102 classes, other discipline-specific instruction will be paired with a library assignment that can be graded and assessed by library faculty. These are the kinds of assessments that would be submitted to the GEA online, or as part of our division-wide assessment initiative.