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Failing Upwards: Implementing an Embedded Librarian Program for First-Year Writing Students

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FAILING UPWARDS: IMPLEMENTING AN EMBEDDED LIBRARIAN PROGRAM FOR FIRST-YEAR WRITING STUDENTS

DELANEY BULLINGER

INTRODUCTION

Auburn University has worked for many years to teach information literacy instruction to first-year writing students. Beginning in Fall 2019, we decided to try a different approach: an embedded librarian model. This program served a dual purpose: to highlight our existing online LMS instructional content, and to get student feedback on the content to address any knowledge gaps and improve the content for the future. This article will discuss why we chose an embedded approach, the program specifics, and how implementation has gone so far.

BACKGROUND: THE "WHY" OF AN EMBEDDED APPROACH

Auburn University is an R1 research university, with about 30,000 students, and 5,000 incoming freshmen each year. We have seventeen subject librarians, including one Instruction Coordinator and one Instruction Librarian (myself). Auburn University Libraries has taught in-person one-shot library instruction to first-year writing students in the English composition course (ENGL1120) for many years. Over time, the instruction became more complex as course instructors began having students utilize web sources, complete assignments with multi-faceted topics, and as enrollment itself increased. This led to librarians having to create many different lesson plans, confusion around the specific goals of the instruction they were trying to teach, and general fatigue over the sheer number of one-shots being taught in a semester. So, shortly before I joined Auburn University, the decision was made to move English composition instruction from one-shots to online instruction through Canvas, the campus Learning Management System (LMS). When I began my position in Fall 2018, I created a suite of online instructional content from scratch and began reaching out to instructors. The advantages were clear to us: students could take and re-take modules on specific information literacy skills, depending on need, throughout the semester and learn foundational skills without having a librarian physically present. Over time though, we still weren't seeing as many instructors utilizing the modules as we wished. Some instructors would say that they imported the modules but didn't know how to use them, or when they would be appropriate to assign. Thus, the embedded librarian program was born.

THE PROGRAM: HIGH EXPECTATIONS, UNEXPECTED RESULTS

In January 2019, Auburn University Libraries' Instruction Coordinator and myself received a grant to expand our online instructional curriculum and promote it through an embedded librarian program. This was a wonderful opportunity to promote our existing online instructional content and to highlight its strengths to English course instructors. The program consisted of seven online Canvas modules, two online tutorials, module quizzes, and in-person student consultations.

The Details

The embedded librarian program included six parts:

- Syllabus review
- Pre-Test & Post-Test

- Canvas Modules
- Canvas Quizzes
- Student Consultations
- Final Paper Analysis

Syllabus Review

The syllabus review was a time for the course instructor and the librarian to meet and discuss when students would complete the Canvas modules, and in what order the modules fit based on the course readings, lectures, and assignments. It was also when the librarian would schedule the student consultations, which ideally would happen during the students' second assignment, an annotated bibliography, where students would be expected to find sources and use library databases for the first time.

Pre-Test and Post-Test

The information literacy pre-test was a quiz of ten essay questions to gauge students' existing information literacy knowledge and skills. They would complete this quiz at the beginning of the semester and complete the post-test at the end of the semester. This was our main way to assess the program's effectiveness and find knowledge gaps present in the online modules that needed to be addressed. You can see the information literacy pre- and post-test questions in Appendix A.

Canvas Modules & Canvas Quizzes

The bulk of our online instructional content were seven Canvas modules on foundational information literacy skills. These included Google and Wikipedia, Source Types and the Information Cycle, Developing a Topic, Keywords & Database Searching, Finding Books, Evaluating Sources, and Plagiarism. I tried to make the module as interactive as possible by including Piktochart infographics and videos—library instruction can be dry, so engaging students with multiple learning models was important. At the end of each module was a quiz to assess students' understanding of the module content. This quiz would be graded by the course librarian, allowing us to provide formative feedback throughout the semester.

Figure 1: Picture of Evaluating Sources Canvas Module
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Figure 2: Canvas Quiz – Example of Matching Quiz Question
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Figure 3: Canvas Quiz – Example of Fill-in-the-Blank Question
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Student Consultations

Students in the ENGL1120 course complete three main assignments throughout the semester: a source analysis, an annotated bibliography, and a research paper. For papers II and III, they find their own sources for their unique research topic. Since this is the first time many students are interacting with library databases, this is when they meet with their course librarian for in-person consultations. This consultation is a chance for students to ask any questions they have about searching for sources, and where the librarian can address common misconceptions or points of confusion. For Auburn, the main points of confusion were appropriate keywords, what type of sources constituted "peer-reviewed scholarly articles," and how to use the Full Text Finder to cross-check multiple databases to find article full-text.

Final Paper Analysis

At the end of the semester, the course instructors sent the course librarian students' final papers. The librarian could then analyze them to see if students are choosing appropriate sources for their research question, whether they are integrating and citing sources correctly, etc. While students wouldn't receive librarian feedback on their final papers, it was an additional way for course librarians to assess whether the module content was effective in teaching students first-year information literacy skills.

FIRST SEMESTER'S APPROACH AND RESULTS

When we piloted the embedded librarian program in Fall 2019, there were five ENGL1120 instructors participating, and one librarian (myself). While the program was undeniably successful and reached almost 200 first-year students, there were several pitfalls I ran into that impacted the program's success. The first was undervaluing the work and not submitting an IRB. Even though I had data showing improvement from the pre- to the post-test, I couldn't share any of it! Additionally, once the semester ended, I

tallied the numbers and ended up grading about 1400 Canvas quizzes and met with 179 students for consultations. How did this huge workload happen? One simple factor I didn't consider: each course instructor teaches two sections of the same course. While all this work was meaningful and student consultations were valuable for both parties, it was exhausting both mentally and emotionally, and extremely time-consuming. But there was a glimmer of hope. One student left an unsolicited comment at the end of the post-test, stating:

> …Also, I found that meeting with you was indeed very helpful. I would not have known about Auburn's lib.edu website otherwise, and I really appreciate your help during my research. Even though I didn't get 100% on this quiz, I think that what you're doing really makes a difference. Thank you.

LET'S TRY THIS AGAIN: CHANGES MADE AND PROGRESS SO FAR

Armed with the belief that this program could work if a few key changes were made, I soldiered on. There were several changes in approach heading into the second semester of the program. The first, and most important, was to form a team to split the work more evenly and bring the 9:1 ratio of course to instructor closer to a 1:1 ratio. We formed the Undergraduate Student Success Committee, and then worked to strengthen the content. We wrote and submitted an IRB, created a rubric to fairly score the pre- and post-test (see Appendix B), and changed the point value of a few Canvas quiz questions to equalize the grading. We also decided to limit the student consultations to only group consultations, because in the first semester, students peer-to-peer taught and showed more willingness to collaborate in the learning process during group consultations. Since I didn't have time to analyze students' final papers in the first semester, this element was dropped. We headed into the second semester with three librarians, four course instructors, and four course sections (none of the interested instructors had two ENGL1120 sections this semester). All was going well, and then our university transitioned into remote instruction as the COVID-19 pandemic hit. Luckily, the online content was accessible during remote learning and we had already completed student consultations, so the impact was minimal. One section did drop out of the program, though, and I believe there may be an impact in all course sections' post-test scores due to the stress and unexpected learning model everyone had to adapt to.

Figure 4: Beginning Data Analysis of the 2nd Semester Pre- and Post-Test

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We are still analyzing the data, but Figure 4 shows one course section's improvement from the pre-test to the post-test. The pie charts show the most-improved question:

> Your professor asks you to find a peer-reviewed article on the effect of oil pipeline drilling on Native American tribal lands. How would you search for this article? (Think about the words you would use to search, where you would look first, etc.)

In the pre-test, 60% of students scored a 1 on the rubric, the lowest possible score, while on the post-test 65% scored a 4, the highest possible score. The median score of the entire test went from 50% to 78%. Interestingly, the worst-scored question changed from the pre- to the post-, though both these questions scored consistently low on both tests, illustrating that we need to improve the Canvas content on those two areas.

FUTURE IMPROVEMENTS AND DIRECTIONS

In running this program again, there are a few key areas of improvement. The first is strengthening the areas of the Canvas modules where students scored lowest—citing sources, understanding peer review, and evaluating web sources. Additionally, some students confused the term "food desert" with "food dessert" in the pre- and post-test, so we need to change the example used in that question to eliminate unnecessary confusion. There is a larger question of scalability surrounding the embedded librarian program— there are simply not enough librarians to cover all sections of ENGL1120. Therefore, our goal is to move toward a "train the trainer" model, where we run the program with full-time lecturers and instructors who can then reuse the program elements without a librarian embedded. Our focus could then shift to the Graduate Teaching Assistant (GTA) instructors, who usually only teach for one or two semesters before graduating.

TAKEAWAYS

Piloting an embedded librarian program has been challenging, rewarding, and undoubtedly a learning experience. There are a few key takeaways I learned from the program that I will share with you.

Start with Small Impact

The ENGL1120 course has over 80 sections in the spring semester—there is no way we could feasibly reach that number of sections while still figuring out how an embedded librarian program could work at Auburn. Even though the program has only reached around 300 students so far, those are still 300 students who received detailed, individualized instruction. It's a win.

See your Value

It can be difficult to recognize that you are as important as the course instructor in delivering library instruction. Don't be afraid to have firm guidelines on how to structure a program, while still being respectful of the course instructor's organization.

Prepare, but be Flexible

No matter how much preparation you do in advance, there will always be new hurdles to face when piloting a new program. If you keep an open mind and flexibility, you will be much more successful and able to weather any challenges as they appear. And if you are able, find colleagues that can help take the pressure off you.

Define Ways to Demonstrate Impact, Not Just to Assess

This goes along with seeing the value of your work. Assessment is wonderful and necessary, but ultimately not worthwhile if you don't have a way to demonstrate its impact. Apply for an IRB, submit to conferences, and get the word out there so your success can be shared not only with your colleagues, but with University administration and the larger library community.

Remember, an embedded librarian program can offer valuable insight into how a student interacts with their learning environment. Being embedded in a Canvas course meant that students were more honest in their interactions with me and I got to see them grow and become more skilled in information literacy as the semester progressed. An embedded librarian program is difficult and time-consuming but will be worth everything you put into it.

RESOURCES

See the resources list below to view Auburn University Libraries' Canvas module content (in LibGuides format for shareability) and the online tutorials.

Auburn University Libraries. (2020). Library Tutorials. https://www.lib.auburn.edu/tutorials

Bullinger, D. (2020). ENGL 1120. https://libguides.auburn.edu/ENGL1120

Information Literacy Pre- and Post-Test Questions

1. Your professor asks you to find a peer-reviewed article on the effect of oil pipeline drilling on Native American tribal lands. How would you search for this article? (Think about the words you would use to search, where you would look first, etc.)

2. When/How would you use Wikipedia to aid in your research?

3. What are some differences between Google Scholar and a library database?

4. Is a newspaper article a scholarly source? Why or why not?

5. What are the most important words (keywords) from the following research question? "What effects do food deserts have on public health in Alabama's black belt?"

6. What are some synonyms for the keywords you identified in the research question above?

7. What would you do if you wanted the full text of an article but couldn't find it through a library database?

8. How would you determine if a journal article is peer-reviewed?

9. How would you determine a website's credibility?

10. Your professor asks you to write an MLA-style bibliography as part of your final research paper. Explain the process you would use to create or generate a citation.

Pre/Post Test Rubric

Rubric adapted from the Center for University Teaching, Learning, & Assessment ; uwf.edu/cutla

Exemplary (4)	Mature (3)	Developing (2)	Beginner (1)	Score
Student clearly and correctly explains a process for searching a library database, including keywords used and type of source.	Student provides a partial or simplified process for searching that includes breaking the research question down into keywords and providing a place to search, like "the Auburn Library site"	Student provides a process for searching that includes breaking the research question down into keywords	Student provides a partial process for searching, such as "I would google [research question]" or "I searched the library database with [research question]	
Student provides a thorough response of when Wikipedia can be used as a tool and the type of information it can provide.	Student provides a thorough response of why or why not to use Wikipedia including a reason/type of information it provides that would influence whether or not to use.	Student provides a simple response like "I wouldn't" with some explanation, such as "I wouldn't because anyone can edit."	Student provides a simple response, like "I wouldn't" with no other explanation.	
Student correctly articulates more than one difference between Google Scholar and a database and includes specific examples of features in one or the other.	Student correctly articulates one difference between Google Scholar and a database.	Student recognizes that there is a difference between Google Scholar and a database but it is incorrect, like "google scholar contains only academic writing and the library has fiction" or "google scholar has only peer reviewed articles"	Student does not recognize there is a difference, they might say something like "google scholar is a database" or "google scholar has everything a library database has"	
Student correctly identifies a newspaper as a non-scholarly source and provides an accurate explanation for why it is non-scholarly.	Student correctly identifies a newspaper as a non-scholarly source but does not provide an explanation or it is inaccurate.	Student identifies a newspaper (incorrectly) as a scholarly source and provides explanation for why it is scholarly.	Student identifies a newspaper (incorrectly) as a scholarly source but provides no explanation.	

Student correctly identifies all keywords from the research question provided.	Student correctly identifies most keywords from the research question.	Student provides some keywords from the research question, but they are incorrect or incomplete.	Student does not pull correct keywords, they may pull a phrase like "effects of food deserts"	
Student shows understanding of how to identify keyword synonyms by providing correct synonyms for each keyword.	Student shows understanding of how to identify keyword synonyms by providing at least one synonym for each keyword (though synonym may be flawed).	Student shows some understanding of how to identify keyword synonyms by providing synonyms for some keywords (though synonym may be flawed).	Student does not show understanding of how to identify keyword synonyms, does not provide synonyms. They may restate the research question or provide a sentence of how they would search.	
Student clearly articulates process for finding article full text and uses appropriate terminology for library full-text finding service (InterLibrary Loan, Full Text Finder, etc.)	Student articulates a library process for finding full text like "request it from the library" but lacks specific terminology or information about the process	Student mentions a tool that could be used to find full text like Google or Google Scholar and provides a process, like "I would buy it"	Student mentions a tool that could be used to find full text like Google or Google Scholar but provides no information on process.	
Student correctly articulates a strategy for determining journal article peer review, or may list evaluation criteria from module content)	Student articulate a strategy for determining a specific article peer review (but may be inaccurate or flawed)	Student show an understanding of peer review by explaining what peer review means, or may include a basic strategy for determining a specific article peer review (like a database limiter, etc.)	Cannot determine if a student understands peer review, may give one or two examples of article evaluation criteria (like author, editors, etc.)	
Student describes all major aspects of website evaluation from the module, including author experience, website information, and bias.	Student lists most major aspects of website evaluation, may also include other, minor aspects.	Student lists one major aspect or more than one minor aspect of website evaluation (citations, ads, etc.)	Student lists only one minor aspect, such as domain endings, citations, ads, etc.	
Student explains type of information they would need for a citation, provides a detailed description of the process of generating a citation or bibliography.	Student explains type of information they would need for a citation, may mention a tool or website to help them generate a citation.	Student mentions a website or tool that is style-specific but doesn't include information they would specifically gather.	Cannot determine if a student understands citation information, may only provide something like "I use Chegg"	
			TOTAL	

<u>Images for Tables and Figures (Editor will put in body of the text later)</u>

Figure 1

Figure 2

Question 2   5 pts

Match the source type below to its corresponding place in the information cycle. For example, for television reports, you would choose the dropdown for "The Day of an Event" because they are released the same day an event occurs.

Social Media   [Choose]   ▾

Newspaper Articles   [Choose]   ▾

Popular Magazines   [Choose]   ▾

Academic Journal Articles   [Choose]   ▾

Books   [Choose]   ▾

Figure 3

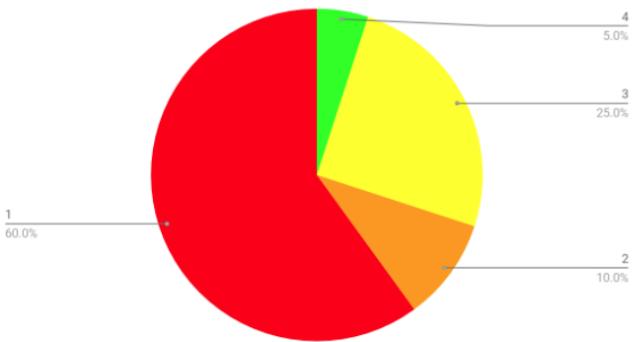**Question 3**   1 pts

When considering using a newspaper article as a source for your assignment, you would watch for or consider that authors of newspaper articles _____.

Figure 4

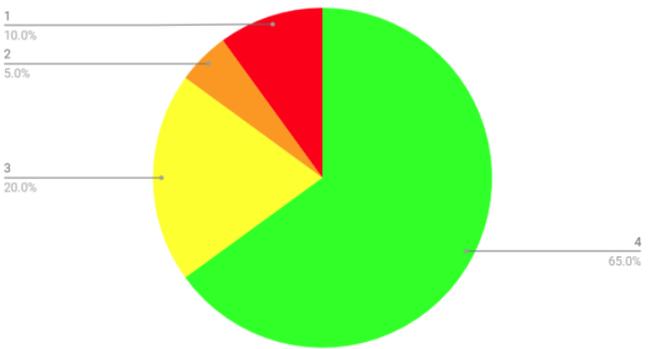Most-Improved Question (Pre-Test)

4
5.0%

3
25.0%

1
60.0%

2
10.0%

Most-Improved Question (Post-Test)

1
10.0%

2
5.0%

3
20.0%

4
65.0%

Median Score: 50%

Worst Question: How would you determine if a journal article is peer-reviewed?

Median Score: 78%

Worst Question: How would you determine a website's credibility?