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Meeting Students Where They Are: Using Assessment Data to Inform One-Shot Curriculum

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LOEX 2017

Presentation Notes

[Slide 1] Good morning, thank you all for coming. My name is Brianne Markowski. I'm an Information Literacy Librarian at the University of Northern Colorado and today I'll be talking about Meeting Students Where They Are: Using Assessment Data to Inform One-Shot Curriculum.

Unlike with credit courses, when we are teaching one-shots, we don't often see the final product of the students' research process and we are often left wondering what happens after the session. How do students apply the information literacy skills we teach? My colleagues, Lyda McCartin and Stephanie Evers, and I decided we wanted to look at research papers written by first-year students to better understand where our students are at after attending a library session.

How many have assessed student papers for evidence of information literacy skills?

How many are considering assessing student papers?

[Slide 2] Walk you through our assessment process, share what we found, and how that influenced changes to our one-shot curriculum. End with preliminary assessment of the curriculum changes.

[Slide 3] Before we get in to that, I just want to say a word about the University of Northern Colorado to give you some context. We're a mid-sized state school with just under 10,000 undergraduate students. And like many university, we offer a first year experience course, University 101, that aims to help students with the transition from high school to college. Our UNIV 101 is an elective course with a broad focus on reading, writing, critical thinking, and communication skills. The course is coordinated by a faculty member and taught by a number of graduate teaching assistants. When we started this project in Fall 2015, there were 18 sections of UNIV 101.

The library has worked with this course for a number of years teaching a one-shot library instruction session that supports the research paper assignment. The library session is a required component of

the UNIV 101 curriculum and we use a standard lesson so that all students receive the same instruction.

The summer before we started this project, Summer of 2015, the coordinator of the program expressed some concern that students weren't finding/using peer reviewed sources in their papers—particularly concerned about book reviews and trade publications. Based on this anecdotal feedback, we decided to change the session in the Fall 2015 to focus heavily on finding and identifying peer reviewed articles.

[Slide 4] We started the session talking about the peer reviewed process and some of the common characteristics of a peer reviewed article. Then we gave students a packet of three articles – one peer reviewed article, one book review from a journal, and a trade publication summarizing research – and asked them to work with a partner to determine if the articles were peer reviewed.

After that discussion, we gave a brief introduction to our discovery tool

 [Slide 5] Then students spent the rest of the session working through an online worksheet that asked them to use the discovery tool to find a peer reviewed article on their topic and then use the bibliography of that article to find an additional peer reviewed article.

[Slide 6] Because we wanted to make sure students were finding peer reviewed articles, we (the librarians) worked with the course instructor to go around to every student to confirm the article they found was in fact a peer reviewed article.

Based on what we were seeing in the session, students were finding peer reviewed articles on their topics. And when we later looked at the data from the online worksheet, we saw that most students were also findings a second peer reviewed article on their topic.

[Slide 7] This made us wonder—what was going on. How were students use the sources we helped them find during library instruction sessions?

[Slide 8] To answer this question, we decided to analyze students' final research papers.

[Slide 9] First we worked with the program coordinator to obtain a random sample of 125 papers written by students in the fall 2015. We were fortunate that the coordinator was already collecting

student papers into a dataset for her own assessment purposes so it was easy for her to share those with us and the students had already given permission to include their papers in the dataset.

[Slide 10] Once we had the papers, we started developing the rubric we would apply to the papers. We knew we wanted to go beyond bibliography analysis to see how students were actually using the sources. In particular, we wanted to know:

- Are students citing relevant research studies in their final papers?
- Are students able to communicate evidence effectively?
- Are student properly attributing sources in their final papers

 [Slide 11] We looked at a number of rubrics for information literacy and ultimately decided to put together a rubric that drew from the AAC&U VALUE rubrics. The AAC&U VALUE rubrics, if you aren't familiar with them, are 16 rubrics that were developed by faculty that are used to assess student learning across the country. They focus on broad outcomes of Liberal Arts Education like Written Communication and Critical Thinking.

We decided that the Sources category from Written Communication rubric, the Evidence category from the Critical Thinking rubric, and the access and use information ethically category from the Information Literacy rubric most closely aligned with what we were interested in evaluating in student papers.

[Slide 12] We then began the process of norming the rubric to ensure we would all apply it consistently to students' papers. Everyone on our 3 person research team read and independently scored 20 papers and then we met to discuss our scores.

This was harder than we thought! Our first norming meeting was 2 hours and we only managed to discuss and come to agreement on 5 papers. We added some clarifying notes to the rubric and then went away to re-score the remaining papers with the revised rubric. At the second norming meeting – which was also 2 hours – we discussed the remaining 15 papers and came to agreement on the scores.

[Slide 13-14] We also finalized rubric as you see here and also on the handout. The big change here was that we added references in rubric to example papers which was helpful.

Our research team agreed that we hoped to see first-year students who had attended a library session and who were in a class that was supposed to help improve their research writing abilities would be at the 2 milestone.

[Slide 15] Now we got started scoring papers. Each paper was read by 2 researchers—which means that over the summer each one of us read and scored 70 papers using the final rubric.

[Slide 16] When we were finished individually scoring the papers, we then met with our scoring partner and in cases where we had assigned different scores, we discussed the paper and reached an agreement on the final scores for the paper.

 [Slide 17] Findings

[Slide 18] We calculated the mean and mode for each category of the rubric. From this, we see that students are meeting our benchmark for sources—they are able to find relevant and appropriate sources for their research papers. But students are not incorporating and citing those sources at the level we hoped to see in first-year students.

To give you an idea of what this looked like, I've got a few student examples to show you.

 [Slide 19-22] This first example of a student reference list was scored a 2 in sources. It looks pretty good.

- All sources relevant
- Credible -- in this case all peer reviewed
- Some errors in APA citation but minor – surprised how good this piece was

[Slide 23-28] But when we look at how the same student is using these sources, we start to see some problems.

- Shows an attempt at using sources
- Information is taken from sources without interpretation/evaluation
  - "The astonishing ability of GMOs to shape to their environment offers promising results in meeting some of the greatest goals set forth in this century"
- Does not support all ideas

- o   This bit about how advances with GMOs can eliminate genes that cause allergic reactions…going on to how gluten specifically can be removed
- One problem that stood out to us in many of the papers was that students appeared to be using information found in the introduction or literature review of research studies rather than the results of the research
  - o   "A study indicated that the number of people suffering from fatal food related allergic reactions is increasing"
  - o   If we match this citation to the reference, we see this article is a study of consumers with allergic reactions perceptions of genetically modified food—not a study on fatal food related allergic reactions. This is a citation error on our rubric – an example of using information in ways that aren't true to context – since the student doesn't indicate that this author is citing someone else. But we felt it also represented a fundamental misunderstanding on that part of the student about what matters in peer reviewed research articles and how we use them as evidence.

[Slide 29-32] For comparison, here's another, much better, example of using evidence to support a conclusion—this paper scored a 3 in that category.

- Start with evidence that links violence, suicidal thoughts, and substance abuse with fewer than 2 family meals a week
- Then additional evidence—from a different source – that the frequency of family meals is related to avoiding substance abuse
- Finally, the student ties the evidence back to their conclusion that decrease family dining has negative effects on adolescents

[Slide 33] Based on what we learned about where students were with their information literacy skills, we make a number of changes to the library session curriculum for UNIV 101.

[Slide 34] Though the coordinator had been concerned students weren't finding/using peer reviewed sources, our results didn't show that. Since they were now finding appropriate sources we left the peer review activity unchanged.

[Slide 35] Because students were struggling to use evidence from their sources to investigate a conclusion, we develop a new activity focused on how to read research studies. Our thought here was that if students were struggling to select appropriate research evidence—and they were struggling, shifting the focus of the session to identifying an article's conclusions might help students select the evidence they needed to form and support an argument in their papers.

So we developed an activity that gave students tips for reading a research study – emphasizing that the findings are the most important part of a research study. We started with something we expected students to be familiar with – that in news articles the most important information is at the beginning – and then contrasted that with peer reviewed articles where the most important information is at the end. We then suggested this meant when they read a peer reviewed article, they should read the abstract first and then skip down to read the discussion to figure out the researcher's conclusions. We then asked students to try this and gave them an article to read and discuss with their neighbor.

[Slide 36] We wrapped up this discussion by showing students these conflicting newspaper headlines about the relationship between coffee and cancer and asked what they could conclude from them. What can we conclude from this? Nothing—we need more information. In the session, we then drew a connection between the newspaper headline and the one line in a literature review about another research study and encouraged students to use the reference list to find the full study so that they'd have all of the information.

We ended the session with a brief demo of our discovery tool and about 15 minutes for students to start searching for peer reviewed articles on their topics.

[Slide 37] We also decided to offer 2 optional drop-in APA workshops. Based on what we saw in the students papers, most seemed to be doing an o.k. job with the reference list but some really needed help with in-text citations. We offered the workshops hoping that some students who hadn't used the style previously might attend and find it useful. The course instructors ended up offering extra credit to attend so we ended up with 76 students at the workshops.

[Slide 38] **How did the new curriculum go?** We taught the new lesson in Fall 2016. Between Fall 2015 and Fall 2016, enrollment in UNIV 101 increased to the point where there were too many sections for our librarians and space to accommodate during their scheduled class times. So this past year we

taught the one-shot as a workshop that students had to sign up for on their own time. We were able to schedule the workshops for 75 minutes which gave us more time with the students. Previously we'd be working with a mix of 50 and 75 minutes classes and often times the course instructors used 10 minutes for announcements. Because the students lost 50 points from their final project grade if they didn't attend the library workshop, we didn't really have a problem with attendance. We ended up teaching 31 workshops for 775 students.

From our perspective the new lesson seemed to go well and we were curious if we would notice any improvement in the students' paper but didn't want to dedicate the time to review 125 papers again this summer—so we decided to review a smaller batch of 30 papers from the Fall 2016 students which we just finished.

[Slide 39] We did not see an improvement in the mean score. As you can see we saw a slight decrease but we aren't too concerned about that since the sample size was so much smaller and we think that half of papers may have been drafts rather than final papers—we noticed that some were dated early in the semester.

[Slide 40] Our big assessment of the changes this was to collect qualitative data. We surveyed students a few days after the library workshops and again after they submitted their papers to see how they perceived the session content and if they felt it helped them with their paper.

We are still working on analyzing the data because we got a lot of responses— 386 for the post-session survey for a 49% response rate and 267 for the post-paper survey for a still respectable 34% response rate but I've got some preliminary results to share with you.

As you'd expect if you've ever surveyed students after a library workshop, some thought it was great and some thought it was boring/useless. It seems like the number who found it useful is greater than those who didn't.

[Slide 41] Like this student who talked about applying what they had learned from the library workshop in UNIV 101 and also in their English class.

[Slide 42] And this student who specifically mentioned learning how to read a journal article because they had no prior knowledge on the topic. Comments like this confirm what we were seeing in the

papers and make me believe that we are meeting a need with the revised lesson for at least some of our students.

[Slide 43] Two themes that are emerging from the responses in terms of how we can improve the session to better meet students' needs are that students want more one on one time with the librarian

[Slide 44] and they want to have topics selected before attending the workshop.

Based on what we're seeing in the qualitative data, we are hoping to shift when the workshops are scheduled next Fall by half a week which we think will make it so that more students have a topic when they attend the library workshop. We then plan to have students practice reading a source that is relevant to their topic rather than our example. We hope this will help with engagement and might encourage students to make better use of the search time and one-on-one time with the librarian.

[Slide 45] To wrap up, I'd say we learned a lot about where are students are through this assessment process. Though it is a lot of work, I would recommend analyzing student papers to others. It helped us see what changes we could make to our one-shot curriculum to better meet students where they are—and that made the time worth it.

As far as next steps for us, we are planning to analyze a larger sample of Fall 2016 papers to see if that decrease in mean scores persists. And we are hoping to undertake a longitudinal assessment project and collect research papers written by these students during their sophomore, junior and senior years to see how students information literacy skills changes over the course of their academic careers.

[Slide 46] Questions