10-3-2018

Taking Care of Business (Before Class): Information Literacy in a Flipped Classroom

Natalia Tingle
natalia.tingle@Colorado.EDU

Follow this and additional works at: https://scholar.colorado.edu/libr_facpapers

Part of the Information Literacy Commons

Recommended Citation

This Article is brought to you for free and open access by University Libraries at CU Scholar. It has been accepted for inclusion in University Libraries Faculty & Staff Contributions by an authorized administrator of CU Scholar. For more information, please contact cuscholaradmin@colorado.edu.
Taking Care of Business (Before Class): Information Literacy in a Flipped Classroom

Running Head: Taking Care of Business (Before Class)
Abstract

This case study presents the revision of an upper-division one-shot instruction session to include an online tutorial that introduces students to business information sources prior to the library session. In order to complete the assignment and prepare for the library session, students are prompted to find specific information using the given resource, and then consider questions regarding the information retrieved. Students in a 3000-level business writing class responded positively to the activity while providing a good amount of material to inform further iterations of the assignment.

*Keywords:* business information literacy, flipped classroom, one-shot instruction
Developing a successful advanced search in *Reference USA* or similar specialized business information source is a complicated task. Even experienced searchers often need several search iterations in order to retrieve the necessary results. It is also less-than-riveting to observe someone else do so, and hard to mimic in real time. However, once students see what information is available through that platform and recognize what can be done with it, they typically show genuine interest in learning how to harness it for their own purposes. In an environment with increasing constraints on the time of both students and librarians, it is challenging to justify using classroom time for a database demonstration. It follows that the demonstration may be better used as a jumping-off for a discussion, following which class time can be spent as a workshop. This article describes a modified flipped classroom approach that provides an opportunity for students to see and then perform an advanced search at their own pace prior to the library session, freeing up class time for discussion and individual attention. A critical component of the lesson plan was an online self-paced active learning object which allows students to familiarize themselves with an unfamiliar resource outside of the classroom environment. The insights gained from the comments entered in this online object were helpful and informative, and heavily inform this article.

Another motivating factor for exploring this approach is the ACRL *Framework for Information Literacy for Higher Education*. Among its other impacts, the introduction of the *Framework* provided a structure for discussing our students’ relationships with the information they create, encounter, and use, as well as their behavior in making sense of it. I was eager to hear students’ perspectives about some of the frames, namely “Searching as Strategic Exploration” and “Information Creation as a Process,” but I struggled to incorporate a discussion into the one-shot sessions I was planning. It seemed that the students would probably be
TAKING CARE OF BUSINESS (BEFORE CLASS)

amenable to a discussion about the concepts of the Framework, but lacked the context required for the discussions I hoped to lead. If, in the class, I was providing their first introduction to an information source such as Euromonitor’s Passport, it would not be reasonable to expect them to have thought critically about Euromonitor—such as whether it is an authoritative source, how the information is sourced, and when it might be useful—without having had some time for reflection. I hypothesized that a homework assignment to introduce this resource beforehand would give the class time to prepare and reflect, leading to an engaging discussion in class.

Background

The Library is a busy branch library located within the School of Business at the [University]. The business librarians are active collaborators in undergraduate course-integrated information literacy instruction at several points in our students’ academic careers. One of the Library’s longest running programs is our engagement in a required upper-division writing course, Writing on Business and Society.

Although each of the librarians who provide instruction for these classes may craft their own lesson plans, many of the sessions follow the same general structure: an introduction to the library’s website, a demonstration of one or more databases, and time for the students to explore the resources and work on their projects with assistance from the librarian. We also discuss off-campus access, and sometimes include bibliographic management software such as zotero.

In Spring 2017, two sections of this regular course provided the library with an opportunity to rework the session. Since they were scheduled several weeks later in the semester than the other sections of the same course, students in these sections already had final assignment topics and had received feedback about their first drafts. The final assignment required the
students to assume the role of a businessperson in any business situation and create a document associated with that role and situation. Topics included a food truck business plan, a strategy recommendation for a multi-national clothing company, an accounting white paper, and a due diligence report for to an investor for a real estate development. The students had already done significant research, and had a good grasp on their topics. Their progress and the diversity of topics provided a catalyst for me to experiment with a new approach.

**Review of the Literature**

In order to position this case study in the larger conversation, I refer to business information literacy instruction, flipped classroom models for information literacy instruction, and library anxiety.

Information literacy instruction for business students often stems from the perspective that business students need to know how to locate, extract, and synthesize valuable information to inform their future business decisions, and that these skills are valued by employers (Gilbert, 2017; Conley & Gil, 2011). This practical application drives the instructional goals of awareness of resources and search and retrieval (Detlor, Julien, Willson, Serenko, & Lavallee, 2011). Business information is complicated, thanks to its interdisciplinary nature and wide range of dissemination formats (Guth & Sachs, 2018; Spahr, 2015; Gunn & Miree, 2012; Hanson, 1985). Because the sources of business information are so varied and the means for extracting that information are so diverse, it is not unusual for library instruction to prioritize demonstrations over the deeper information literacy concepts (Guth & Sachs, 2018).

The most-used method for providing information literacy instruction for business students is the one-shot instruction session (Cooney, 2005; Guth & Sachs, 2018), although
TAKING CARE OF BUSINESS (BEFORE CLASS)

introducing students to business information sources is a challenge in a single classroom session (Jacobson, 1993). Resource discovery and critical evaluation of sources are frequently used business information literacy instruction techniques (Detlor, Julien, Willson, Serenko, & Lavallee, 2011; Fiegen, 2011). The adoption of the ACRL Framework has inspired some new business information literacy instructional activities. Librarians at NYU collaborated to develop workshops around “Searching as Strategic Exploration” for their students at global campuses (Solis & Perkins, 2017). Charissa Jefferson designed a credit-bearing course at California State University, Northridge, employing different lesson plans for each frame (Jefferson, 2017). At the University of Maine, Grace Liu drew inspiration from “Searching as Strategic Exploration” to develop visual research guides (Liu, 2017). A recent push for critical information literacy for the business disciplines (Stonebraker, Maxwell, Garcia, & Jerrit, 2017) is likely to facilitate still more innovative examples of encouraging critical thought around business information, its creation and use.

The flipped classroom model has drawn a good deal of praise both anecdotally and in the recent library literature. The flipped classroom has proven itself to be an effective approach to teaching a multi-week business information literacy course (Stonebraker, 2015) as well as one-shot sessions (Cohen, 2016). A cited benefit of the flipped approach for information literacy instruction is that there is more time in the class session for active learning (Castello & Pfundt, 2017). Active learning may be critical to achieving desired information literacy outcomes such as reduced library anxiety and improved perception of the library, librarian, and library resources (Detlor, Booker, Serenko, & Julien, 2012).

Library anxiety, first identified in Mellon’s seminal 1986 work, stems from a sense of overwhelm or feeling lost when undertaking library research. Students experiencing library
anxiety report a sense of incompetence around using the library as compared with their classmates or peers. In an effort to keep this lack of competence to themselves, students may not ask for help when they need it. Considering that most students experience some degree of library anxiety (Mellon, 1986), it is possible that library anxiety may play a role in classroom engagement, particularly around scenarios that require close attention to detail such as database demonstrations. Students experiencing library anxiety think they are the only ones who do not know how to use the library. They perceive this shortcoming as a source of embarrassment, and therefore seek to hide this vulnerability (Mellon, 1986). Students who are unsure about their abilities are not likely to speak up or ask questions for fear of exposing a lack of knowledge.

In their study on adoption of online library resources (OLR) by undergraduate business students, Booker, Detlor, and Serenko link aspects of library anxiety to that of computer anxiety, a related state, to identify a specific form of anxiety around using the library-provided information sources: OLR anxiety (Booker, Detlor, & Serenko, 2012). In the study, researchers observed a link between information literacy instruction (ILI) and increased self-efficacy and reduced anxiety around using online library resources. The researchers also noted that “many students mentioned not only ILI, but also their actual hands-on experience with OLR as a source for reduced anxiety and improved self-efficacy” (p. 2513). Business students’ experiences of library instruction reducing library anxiety was also noted by Prince, Helms, and Haynes (1993). There is much more to be learned about our students’ anxiety around library-provided information sources, but the salient point is that the anxiety exists, interferes with research when unaddressed, and can potentially be mitigated with instruction and practice.
Lesson Plan Revision

Student and instructor feedback about our librarian-led sessions has been generally positive over the years. However, though the workshop-heavy sessions receive especially positive comments, strong engagement in other formats is lower than is desired. In the past, each session involving this course focuses around instructing on sources that are relevant to the assignment.

As noted in the literature, librarians may not set out to create a flipped classroom. Instead, as was the case for me, they may be exploring ways to increase engagement and “stumble upon it after working to build a more engaging learning experience that takes advantage of the technology currently available” (Arnold-Garza, 2014, p. 11). The flipped model made sense to me as a particularly learner-centered method, and one that could potentially mitigate the effects of library anxiety around participation by providing a means for learning about specific resources at their own pace before class.

In the flipped classroom paradigm, the introduction of new information takes place outside of the classroom and before the class session. This is often done with a video lecture that students are expected to watch as preparation for the session. In these particular classes, the new material that the students were introduced to was one of five business information sources via an online tutorial. They were prompted to think about and answer questions that were related to that resource and were designed to prime them for a discussion.

Tutorial Design

I am fortunate that my campus provides access to Qualtrics, Springshare’s LibGuides, and Google Apps for Education. Having created draft mockups in each Qualtrics, LibGuides, and
Google Forms, I selected Qualtrics because of the built-in web accessibility, robust skip logic, and metadata about each session’s activity.

Upon navigation to the online module, the first step was to capture the student’s name and topic. That information was necessary for assigning credit for completing the activity, and it was critical for preparing for the in-class session. It also proved useful in determining whether students repeated the module. The students were presented with information about business databases in general and how each one has a different focus. The module proceeded to a video about finding databases by topic or discipline, as well as an optional video about finding articles in Business Source Complete. Students were directed to familiarize themselves with the business library homepage, and especially to note where to find the list of databases in alphabetical order (Databases A-Z), where to book an appointment with a business librarian, and where to learn about off-campus remote access to the subscription resources.

Following the introductory material, four business scenarios were presented, with each leading to an activity involving one of five databases. Students may select only one scenario and thereby complete the activity for exploring only one of the databases. A scenario involving site selection led to one of two Reference USA databases: Consumers & Lifestyles or US Businesses. A different scenario option involving foreign market expansion led to Passport. The final two scenario options led to PrivCo or eMarketer, respectively. The hands-on activities were essentially the same for each of the scenarios: students were assigned to view an introductory one-to-two minute video (or, in one case, an embedded slideshow) about searching the database, navigate to the database and perform a search, then answer questions about the search results. The module finishes with a wrap-up slide, with a text box for comments for the librarian, and then a thank you message.
I chose to highlight databases that are interesting to many students but are not necessarily well-known, and especially sources that I hear consistently from students that they wish they had known about sooner. In this case, the resources I selected were: Reference USA, Passport, eMarketer, and PrivCo. It was my hope that distributing different databases to different students would result in conversations between classmates about which databases they explored and what they are like, in order to spark curiosity about learning about new sources and as well as peer instruction.

Classroom Activity

A classroom activity known as the jigsaw technique is an excellent fit for the flipped classes. This is an active learning approach wherein students collaborate in small groups to tackle one piece of a larger conceptual puzzle, and is a method I have found especially effective in my teaching. In an information literacy instruction session, the librarian may have students get into groups and assign each group one database or information source to explore. After exploring in small groups for several minutes, each group reports to the rest of the class. Drawing on insights from their classmates, each student should emerge with an awareness of each of the information sources (Ragains, 1995; Datig & Ruswick, 2013). In the pilot sessions, students explore the information source before class, allowing them to select their preferred learning environment and learn at their own pace. When they come to the session with the librarian, they have been primed for a discussion about the database they explored.

In the module, the database assigned to each student may not be an ideal source for information about their selected topic. Rather, it is selected solely based on its being an important business information source. This is an unusual strategy, but one that is necessary to
move beyond point-and-click instruction in favor of higher level analysis. By considering the database entirely independently of their immediate need, students are able to consider aspects of information value, authority, and the strategic searching process without being distracted by the availability of data about their topic. In other words, they can assess the source separately from its utility specific to their topic. Shifting the learning goal from “understand how to extract data from [database] in order to complete a research assignment” to “increase awareness of library-provided business information resources and understand that proprietary business databases vary in focus and content,” enables me to focus the students’ attention on critical evaluation of business information sources. Following the activity, the rest of the class time would be used as an extended workshop session, allowing me to meet briefly with each student and recommend information resources specifically tailored for each student’s topic.

The main goal of the attempted revision was to assess the feasibility of incorporating a flipped approach in other sections of the same course. In my opinion, assessment of student learning would be best attempted with larger groups or with a variety of instructors, so that type of assessment was not attempted for the pilot. For this case study, the proof of concept is assessed via participation, and valuable insights about technical and content aspects of the online module were gained in the process.

**Results**

**Pre-class Activity Participation**

The writing instructor sent out a link to the online module on a Friday morning. The students were directed to complete the activity before the next class sessions, which were to take place in the library computer lab the following Monday. Students were given participation credit
for completing the activity before the library session. There were 17 students in each section, so the total number of participating students was 34. The response rate for the Qualtrics module was very strong (Table 1). 33 students at least started the module, and 31 students completed the module. Of the two remaining students, one made it to 80% complete, stopping at the point where the database video and questions began, and one abandoned the module at 36% complete. Overall, 31 out 34, or 91% completed the module.

**Table 1: Completion**

<table>
<thead>
<tr>
<th>Completion</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>After removing the outliers (all incompletes and one 10 hour outlier), the average duration turned out to be 18:39 minutes (18 minutes, 39 seconds) (Table 2). More than half of the students (60.6%) indicated that they felt they needed or might need a refresher about searching for articles in an academic database, and students’ answer to that question had an impact on the duration, as might be expected. The “yes” or “maybe” responders, who therefore were directed to the <em>Business Source Complete</em> “using keywords” video, averaged 20:15 minutes to complete the module, while the “no” responders, who skipped the video, averaged 16:33 minutes.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2: Average duration by perceived need for instruction about finding scholarly articles**

---

1 2 of these students made it to 98% complete, which highlighted a problem with my design. In order for the results to be recorded as 100% complete, the students needed to click the last forward arrow on the last screen (underneath the “thank you” image). This was clearly my mistake and not the students‘, so those responses should be counted in the spirit of the 100% completion.
Scenario choice

Students selected one of four possible scenarios (Table 3). The most popular scenario (neighborhood) led to a second prompt, wherein the student must specify which aspect of the neighborhood they want to study: people or companies. Of the 18 students who selected the neighborhood scenario, 12 focused on the people who live there and 6 focused on the companies.

Table 3: Scenario Selection

The students who selected the neighborhood scenario were then introduced to one of two Reference USA databases: Consumers & Lifestyles or US Businesses. The students who selected the foreign market expansion scenario were introduced to Passport. The real estate investor scenario led to PrivCo, and the digital marketing scenario led to eMarketer. Each student explored one database, and each database was explored by at least one student from each of the two sections. This was fortunate and important to the success of the in-class discussion.

As indicated earlier, each activity was essentially the same regardless of which database was explored. Students were instructed to view introductory material about the database. In most cases, this was a 1-2 minute video, although one database was introduced with a Google Slides presentation. There was no perceptible difference in the students’ ability to complete the activity based on whether they viewed a video or static images presented as a slideshow. In tandem with the instructional content, students were asked to navigate to the database in question and perform a specific search. They were also presented with questions about the database. All of the questions had open text boxes and the module platform (Qualtrics) required a response to each question before the module could advance.
Classroom Discussion

Assigning specific searching activities with evaluative prompts was effective in driving an engaging discussion. Following a brief welcome to the business library computer lab, I shared a handout with images of the landing page for each of the 5 databases as well as prompts such as: “what’s in this database,” “why and when would I use this,” and “how easy/difficult is it to use?” These prompts aligned with the database questions in the online module.\(^2\)

I projected the results list for each database at the front of the room one at a time. Starting with eMarketer, I asked which students explored this database. Then, I invited those students to share their impressions with the rest of the class. Anecdotally, the priming experience was helpful in eliciting thoughtful comments in both sections of the class, and I heard a lot of the same sentiments as were captured in the text responses in the online module. A more in-depth discussion of those comments follows in the next section. Following the discussion, students worked independently to find information for their final project. Students who wanted to learn how to use the databases their classmates explored were encouraged to find the instructional videos via the Library’s YouTube channel. I wanted the students to make the connection that there is instructional content about library research tools and strategies available on YouTube, the same media platform as they would use to learn any other skill (Mogensen, 2015).

Student comments

Due the nature of what I hoped to learn about students’ perceptions of the information provided by the databases, all of the questions following the database demonstration video were

\(^2\) Among other strategies for facilitating a meaningful classroom discussion, Markgraf, Hinnant, Jennings, and Kishel recommend that we “Don’t blindside the students” (p. 97).
created as open text boxes with required responses. Responses varied in their length, depth, and accuracy. The responses were especially useful for steering the discussion in the classroom, helping me hone in on aspects of the sources or the search process that were unclear or hard to understand. Additionally, the responses are a goldmine of student insights, especially in terms of how students understand business information and its potential uses and usefulness.

The student responses to the database questions each indicates one student’s experience and perspective, and responses were combined for both sections. These limitations should be acknowledged in order to prevent attempting generalization. However, the responses offer a rich qualitative glimpse into the perspective of our undergraduates as they are asked to make sense of one business information source at a single point in time.

Taken as a whole, the responses indicate that these students are on the path to knowledge practices associated with the “Searching as Strategic Exploration” and “Information Creation as a Process” frames. Whether they were already on this path before our session or whether this exercise helped to get them there is not within the scope of this article.

The following section includes a selection of student responses to the questions following the database activity. The database being referenced is indicated in brackets unless it is specified in the comment itself. One question was phrased in one of two ways, depending on the database. “What kinds of content does [this database] provide?” was used for eMarketer and Passport. A similar “What can you find out about [these companies OR these people]?” was used for PrivCo, Reference USA – US Businesses, and Reference USA – Consumers & Lifestyles. Other than that introductory question, the rest of the open text questions are essentially identical.
What kinds of content does [this database] provide? Alternative: What can you find out about [these companies OR these people]?

In the classroom jigsaw activity, this question is phrased, “what is in this database?”

Sometimes, posing this question in the classroom exposes how challenging it can be to describe types of content beyond journal articles. Within the frames of “Searching as Strategic Exploration” and “Information Creation as a Process,” this challenge exposes where our students are in process of developing their information literate abilities as applicable to awareness of types of content and diversity of sources.

In the online module, I observed several different approaches to answering this question. One pointed to specific types of content, for example:

- “financial statements” [PrivCo]
- “interviews or study results in general” [eMarketer]

Another pointed to included data points:

- “When it was established, who owns it, where exactly it is, the number of employees” [Reference USA – US Businesses]
- “Market share, per brand” [Passport]

Another approach was more evaluative: “Most are wealthy. Majority are homeowners.” [Reference USA – Consumers & Lifestyles].

Finally, a good number of students summarized the content in a way that is similar to how we might describe it on a LibGuide or in the catalog; for example:
“eMarketer provides users with articles, documents, charts, interviews, and many other different forms of content related to the specific issue of interest. They have many different categories to further refine your research and provides many different sources to be cited”

Where does [this database] get this information?

Responses to this question provide insight into students’ information literate abilities, again as viewed through the frame of “Information Creation as a Process.” Among other dispositions, “Learners who are developing their information literate abilities… are inclined to seek out characteristics of information products that indicate the underlying creation process” (ACRL, p. 5). Some responses indicate that students are analytic in their approach to determining how the content came about; for example:

- “By and large, eMarketer gathers information from multiple reputable sources before aggregating them and presenting them under eMarketer. External documents and articles are referenced as well, including various authors and research facilities”
- “They use all the sources (newspaper, online news, …) and combined to get the most truth [sic] one, for my research they get information from Ministry of Information & Communications, Trade Associations, Vietnam Electronics Industries Association, Trade Press, DNA Branding, Entrepreneur Forum, PC World Vietnam, Saigon Times” [Passport].
Taking Care of Business (Before Class)

Others did not seem to understand the nuance of the question:

- “PrivCo gets information through their classification system – the PrivCo Industry Classification System (PICS). They also utilize other classification systems like SIC and NAICS” [PrivCo],
- “Reference USA uses Internet Explorer 11, Google Chrome, and several other search engines to get their information” [Reference USA – Consumers & Lifestyles].

Most of the responses were somewhere in between, with examples such as:

- “Census data, consumer credit card companies, perhaps?” [Reference USA – Consumers & Lifestyles]
- “In store sales data and tracking systems” [Passport],
- “website, taxes” [Reference USA – US Businesses].

When would you recommend that someone use this source? What kind of research, assignments, or classes would benefit from the content in this source?

An example knowledge practice from the Framework summarizes the purpose of these questions. From “Searching as Strategic Exploration”: “Learners who are developing their information literate abilities… match information needs and search strategies to appropriate search tools.” (ACRL, 2016, p. 9). When I have posed this question in a classroom-only jigsaw activity situation, I have framed it as “When and why would I use this?” and have had varying degrees of success in drawing out relevant examples beyond specific uses for completing the assignment in question. The responses entered in the online activity offer a very different experience, demonstrating that these students were quite adept at considering scenarios when this
information might be useful beyond the immediate class project. There were many excellent examples, including:

- “This source would be helpful if you are looking to open a business and want to figure out a good location. It would be helpful to gauge interest for your product. Marketing classes and entrepreneurial classes would benefit from this source.” [Reference USA – Consumers & Lifestyles]
- “I would recommend someone to use this source when they’re looking for some brief information about a company like very simple financial information and when they’re looking for some potential investors. They can acquire some useful information about which investments the companies do and how much they’re willing to invest.” [PrivCo]
- “I would recommend this resource to anybody who needs targeted statistical data about a business or industry. This database is geared towards research involving international trends and industry specific information.” [Passport]

**What did you like or dislike about this source? What should others know before using it?**

When I pose this question in a traditional one-shot session, responses often focus on technical oddities or troubleshooting. In the online activity, responses included testimonials and tips for effectively using the database, such as:

- “eMarketer can be overwhelming, but that is any database. eMarketer also has a nice tool that can create a chart with projected estimates of a lot of different things. The ‘create a custom chart’ tool can come in handy for any report and is quick and easy. And to check the estimated results, you can compare the chart to other charts similar to it done by other entities”
TAKING CARE OF BUSINESS (BEFORE CLASS)

• “Very complex, but useful once you get the hang of it” [Reference USA – US Businesses]

This final prompt also drew out one of the most salient comments about information used in consumer research:

• “I don’t feel comfortable with all the lifestyle indicators. I think it’s too much information that this person probably didn’t willingly give up. I think it important to respect people’s privacy and not use completely identifying information” [Reference USA – Consumers & Lifestyles]

Only one other respondent expressed a similar concern within the online activity. However, after I projected the search results on the screen, nearly all of the classroom time spent discussing this database was centered around data ethics and consumer privacy concerns. From the perspective of the Framework, this passionate interest demonstrates that students are receptive to developing some of the knowledge practices and dispositions associated with the frame “Information has Value.”

Future Iterations

The success of the pilot project opens the possibility of new iterations for additional sections of this course and for other classes. Since the initial two sections, I have tested slightly rearranged versions of the same module and similar lesson plan in other writing classes and two entrepreneurship classes. I believe that a key factor in this model’s success is the participation credit, so close collaboration with the course instructor is vital. In the long term, I plan to build a module shell that can be adapted to other disciplines as well as other campuses.
Conclusion

Modifying an established lesson plan to “flip” a one-shot information literacy instruction session is a significant undertaking. However, approaching business information literacy instruction from a learner-centered perspective requires a willingness to dramatically revise our established practices. We want our students to thoughtfully and critically examine a number of information sources. Interfaces will change, vendors will merge and rebrand, so the technical ability to carry out a search is not as critical as the awareness that there are unique and specialized sources for business information and that they are worth the effort of learning how to use. Flipping the one shot allows room to explore these more flexible practices and transferable skills.
References


