THOUGHT PIECE

Increasing Research Quality in Entrepreneurial Students: Best Practices in Faculty-Librarian Partnerships

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Abstract

Faculty who adopt best practices in supporting student research in entrepreneurship classes not only receive better student projects; they model the kind of information behavior that is crucial to business success. Requiring students to use the best and most authoritative research sources introduces them to these resources and equips them to evaluate the quality of future resources they may encounter in the business world. Three librarians who support entrepreneurship courses highlight best practices in creating faculty-librarian partnerships that lead directly to better outcomes by improving resources used, providing targeted instruction, and designing good assignments and rubrics for assessing.

Introduction

Most experiential entrepreneurship classes require students to conduct considerable secondary research. Because a standard assignment is the creation of a business plan, students might need to analyze the industry, benchmark the financials of startups, identify and examine competitors, evaluate the size and nature of consumer markets and/or business-to-business markets, etc. This assignment or project gives students who learn these research skills a competitive advantage in the business world over those whose research skills are limited to simple Google searches. Research savvy students will also be able to make decisions about business opportunities based on data and authoritative research, reducing the risk of failure. How can faculty help their students learn these entrepreneurship research skills? In this article, three librarians who conduct research workshops in core entrepreneurship classes and teach for-credit classes on entrepreneurship research, discuss what they think constitute best practices. While the focus in this article is primarily on entrepreneurship, the principles can easily be applied to any business assignment or project that requires secondary research. It has been our experience that many graduate students struggle with business research as much as undergraduates since their previous experience can be limited depending on the courses they've taken. Doctoral candidates are generally performing a different category of research, but Master's level students and undergraduates are frequently indistinguishable in their business research capabilities. In this

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context, 'students' refers to both undergraduates and Master's level students.

Partnering to better support student research

One key to student success in entrepreneurship research is the partnership between the business librarian and the business professor. The more integrated the partnership, the more synergy that can be created. The entrepreneurship faculty member gains a colleague with a new perspective; the librarian is able to develop research resources and design workshops that are closely aligned with course needs; and the student gains a deeper understanding of business research through a more realistic process.

The partnership should begin with the writing of the syllabus. The librarian's experience working with many different courses, syllabi, and professors will be useful to any professor creating student learning objectives and other elements of the syllabus.

Every effort should be made to ensure that the learning objectives are supported by the correct tools and resources. If that partnership between professor and librarian can begin at the time of syllabus creation, the process of resource identification is much easier. Early communication is especially important when the time frame for acquiring new databases or materials is limited by budgeting deadlines or constraints.

One example of this kind of effective partnership between professor and librarian is at Rider University. In the introductory entrepreneurial studies class, the semester project is to create a marketing plan for a business. The plan includes industry trends, demographics, and competitive intelligence. Ten years ago, the students were brought to the library for an overview workshop covering a semester's worth of research needs. More recently, other workshops were added to allow discussion of resources appropriate to each section of the plan and giving adequate time for hands-on practice. Since business information is frequently published in type-specific silos, it helps to have only one broad topic area per class period such as industry analysis or demographics. The students are introduced to concepts in the classroom; in the next class session, the librarian introduces the research tools and research strategies while also allowing students time for hands-on practice. Hands-on practice with the librarian and faculty member attending, increases the chances of student success in finding the needed information and provides opportunities to address confusion about platforms and search strategies. Resources have been updated and topics rearranged as a result of the feedback loop created by the collaboration between the professor and the librarian.

This kind of partnership isn't restricted to face-to-face instruction. Librarians can be added to most course management software. In the Canvas classroom management system, for example, the 'librarian' role allows access to all course content except the gradebook. This kind of access can be useful in all types of classes but is particularly valuable in online classes where students may never physically connect with the library services.

Collaboration between faculty and librarians also creates an opportunity for librarians to form relationships with students and student teams because they are in the classroom more often. In a capstone course, this leads to team consultations after the newest resources are introduced. Sometimes these are also conducted outside the class time.

The topics in the capstone include those in the introductory course but also include sessions on pricing and promotion resources, real estate and purchasing links, and wage information from multiple sources. There are weekly meetings in the library with the librarian for the first nine weeks of the course. For the remaining weeks of the semester, the teams know that they can still come in for help.

The benefits of "team teaching" for business research are many. When guided by a librarian, students can research in greater depth and will spend more time on analysis rather than floundering in a sea of information. The professor-librarian collaboration serves as a model for the kind of teamwork students may expect in the work world, and the resources give students the opportunity to experience information gathering typical of good business planning. This approach allows the professor to stay informed along with students without having to keep up with changes in the information world. The professor also benefits from the librarian partnership by learning new research tools and strategies while working together to make the course and its research assignments more valuable.

Promoting use of best sources

Librarians emphasize and provide access to the best sources for student research projects. However, teaching faculty are best positioned to make sure that students actually use those sources. Since both have the desire to increase the quality of student learning, this is a natural partnership. Entrepreneurship faculty can promote the value of using high-quality sources to students by using key messages in class as well as in syllabi. These messages should be aligned with students' needs, based on real-world business terminology, and reflected in the grading rubric.

For example, students tend to be very conscious of the time research can require. So a powerful message to students from faculty as well as librarians could be the following:

> Using these high-quality sources will save you time. These sources are designed for projects that collect relevant analysis, trends, and statistical data into one place, and you can usually download the information as PDF files, Word documents, or spreadsheets.

Faculty should also emphasize the need for customized data. Their message could be:

> Since you are required to define your local industry size, local market size, local competitors, etc., use these sources that allow you to customize the data you need. Remember that mapped data can be more illustrative, interesting, and convincing than data presented in a paragraph or a table.

Librarians can encourage faculty to use professional business terminology, not library-centered or academic terminology. For example, faculty could describe these high quality sources not as "library research tools" or "library databases" as is common, but instead as "big data analysis tools," "competitive intelligence databases," or "proprietary subscription tools." Those business-centered phrases are accurate descriptions of library databases and help students connect these sources to real world of business analysis. Faculty can remind students that most library business databases are used by corporations for their own research needs.

Similarly, while most business librarians proudly call themselves librarians, students may better understand the services provided by those professionals when they are also referred to as "research consultants." We encourage

librarians to consider using the same real-world business terminology in the classroom.

Another possible selling point to encourage use of the best sources is to emphasize

their monetary value. Students know that high-value products can be expensive, so entrepreneurship faculty could share the high cost of individual reports from business databases when sold to a corporate customer. The website MarketResearch.com allows sells content from many of the databases that students use via their libraries at a comparatively high price. Reports from IBISWorld, Mintel, and Euromonitor, for example, range in price from $1,000 to $4,000 for single reports. Most students are impressed (and sometimes shocked) to hear that resources provided to them via the library are priced at such a high level to corporate customers.

Entrepreneurship faculty should show students examples of useful content that high-quality resources provide. Pointing to effective use by past students, provides a form of peer testimony. Sources with infographics and maps, such as IBISWorld, Mintel, or SimplyMap, can look particularly interesting. The local business librarian can also provide examples.

Finally, librarians can reinforce to faculty that the use of best resources can be strengthened by direct inclusion in the grading rubric along with the assignment description. We elaborate on this strategy below.

Entrepreneurship faculty also need to discuss the limitations of secondary research with students. Providing a case study from a past student project can facilitate this discussion. For example, one student project included the question:

> Where can I look up the market size or sales demand of rugby cleats in the Greensboro/Winston-Salem [North Carolina] urban area?

Entrepreneurship faculty (or the librarian) could explain that the psychographic data available does cover interest in playing and watching football and soccer, but that rugby isn't covered. The student team that pursued the selling of rugby cleats could perhaps use the football data as a proxy for rugby. But another research strategy is to interview rugby players in this urban area, asking them for an estimate of the number of players in their informal league. Social media might also be a useful, if there are online groups for local rugby teams and leagues. Through such discussions, faculty can compare use of primary and secondary research and demonstrate strategies to approximate necessary information.

Identifying the best and most authoritative research sources

We define "best sources" with five characteristics: currency, appropriate level of detail, authoritative authorship, and mappable or visual data.

1. Currency: Researching an entrepreneurial opportunity requires using the most up-to-date data. For example, students considering starting a venture in 2017 should not use 2010 decennial Census data to measure the market size of their target location. Instead they should use the most recent American Community Survey (ACS) annual data. Likewise, to evaluate the size of the local competition, the students should use a source of company information that provides at least annual updates.

2. Appropriate level of detail: Some sources provide national coverage of markets and industries. National trends and financial data are a vital aspect of exploring an entrepreneurial idea. But to make the best decisions about creating a company that serves a more specific level of geography, the students need data at a smaller level of detail. Data on the industry and target market may be available at the state, county, place (types of municipalities, like cities), zip codes, Census tracts, or even Census block groups. Students need to use sources that provide data at the appropriate level of geography of the proposed target market.

   Students also need industry data at the most specific level of industry definition. An industry report at the sector level (equivalent to a 2-digit NAICS code) will provide very limited support in creating a business plan. A report at the level of NAICS industry (5-digit) or U.S. industry (6-digit NAICS) would be much more useful and relevant. For example, a student team exploring the creation of a music recording business should be using data and research at the level of NAICS 512240 "Sound Recording Studios", not NAICS 51 "Information" or even NAICS 512 "Motion Picture and Sound Recording Industries." Data at the detailed U.S.-industry level is available from Census tools such as Business Patterns, the Economic Census, and some commercial databases.
3. Target market analysis in a business plan should be based on the most specific and relevant data available. As with industry classification, data is often available for a broad market (i.e. total spending on pets) as well as a more specific level (i.e. percentage of frequent buyers of moist cat food). The Bureau of Labor Statistics' Consumer Expenditure Survey provides free and recent measurements of household spending on consumer products and services for four U.S. regions (Northeast, Midwest, South, and West). However, if available, students could use market research databases to measure market size at a much more detailed level of product or service definition, and perhaps down to the Census block group level.
4. Authoritative authorship: Some publishers of business information are well known for their quality of data collection and analysis. These high-quality providers include libraries, business schools, government agencies, and corporations as their customers and are routinely cited in articles about industry and market trends published in influential publications like the Wall Street Journal, New York Times, Economist, and others. Students should use such authoritative sources of business information whenever possible.

   Students should also seek out the ultimate source of government data. It is often possible to find local demographic data via a Google search that may result in a blog post or chamber of commerce page using 2010 Census data. But students can probably find more complete and updated numbers from the American Community Survey using the Census website. Students may also find more geographically specific (city, Census tract) data as needed. Expecting students to find the ultimate source of government data is analogous to reading a Wikipedia article but then

examining, using, and citing quality sources referenced at the bottom of the article.

5. Mappable and visual data: The visualization of data has become more common as data tools continue to grow in power. While customized tables generated from authoritative data sources are useful for presenting numbers, mapped data often provide a more effective display of numeric research that helps to justify strategic decisions. Some mapping tools allow data to be displayed at the Census block group level. Sometimes the location of competitors or customers may be displayed over the market data. Both the Census and subscription databases provide mapping tools for industry and market data, although the commercial products tend to provide more flexibility.

How can professors identify the best sources available? This is the natural territory of the librarian. Many business librarians maintain an online list of carefully chosen subscription databases available through the library, as well core government datasets like the American Community Survey for population and the Economic Census for industry and financial benchmarking. A core activity of the partnership would be the curation of the exact list of recommended resources for all parts of the assignment or project.

Designing Effective Assignments

Student learning outcomes are well established as effective tools in pedagogy. To better understand assignment design, librarians need to understand the steps involved. While these steps may be familiar to faculty members who partner with librarians, many librarians have not been required to learn assessment-driven assignment design.

For any assignment, professors should first establish the learning outcomes. When designing an effective assignment, it is best to begin with the end in mind. The end or outcome of an assignment is what students learned from it. What are the desired learning outcomes for the assignment? These learning outcomes will inform the assignment's design. Elements that aren't significant enough to include in the learning outcomes should not be included in the assignment.

For example, if one of the learning outcomes is for students to analyze an income statement, then professors should provide the income statement. If, however, the learning outcomes require students to demonstrate their ability to find and analyze an income statement, then professors should acknowledge that students may need instruction on how to do both activities.

Learning outcomes should be observable and measurable. Instead of saying that students should be able to analyze an income statement, professors should include specific, demonstrable behaviors. For example, "Students will be able to analyze an income statement by correctly calculating and interpreting the current ratio and inventory turns."

When designing learning outcomes, faculty should consider skills, process, and knowledge. All three may be elements of the learning outcomes and should be specified separately. Faculty should also consider the level at which students are expected to learn and demonstrate mastery of the material. Taxonomies like those by Bloom or Fink are very useful for the design process. Should students remember a

concept, explain it, analyze it, or compare it to another concept? These are different levels of learning, and students should understand the level at which they'll need to demonstrate their learning of the material.

After determining the outcomes, this is a good moment for professors to include their business librarian before moving to the next stage of developing the assignment. The librarian can make sure that appropriate resources will be available for students to successfully fulfil the assignment. For instance, asking students to analyze the income statement of a privately held company would not be a successful assignment as private companies are not required to disclose this information. Likewise, expecting students to find an industry report about an emerging industry might be frustrating and unsuccessful for students if none has been published or the library lacks access to one. Working with a librarian helps the professor make the best choices about assignment specifics.

The librarian can also help the professor make sure that the available resources have the appropriate level of content. Depending on the topic, resources might be either too sophisticated or too basic. Faculty might also find that library resources provide the analysis or comparison that was assigned for the students to perform, thus removing the need for students to complete it. SWOT (strengths, weaknesses, opportunities and threats) analyses are an example available resources. Instead of asking students to create their own SWOT for a company, require them to find one and analyze it. Students may be required to generate three strategic initiatives to address items in the SWOT, for example. Or students can be specifically required to create a SWOT for a company and industry not covered in library resources.

Finally, the librarian, partnering with the professor, designs the research instruction for the assignment. Working with the students, the librarian can demonstrate sample searches in the chosen resources and provide guidance through refined searching. This guidance can be either in the classroom or the library for the entire class, or it can be delivered in individual meetings with students or student groups. In either case, the librarian's contact information is a vital part of any syllabus or course guide.

Establishing the grading rubrics

Assessing student learning outcomes is a priority in many business schools and is increasingly a priority for academic libraries. The librarian can assist with assessment that benefits the student information literacy across an entrepreneurship program. Grading rubrics for assignments are a good starting point.

For each assignment, the grading rubric needs to be detailed regarding research expectations. The learning objectives for the class provide guidance for writing the grading rubrics. Linking the objectives to the rubrics helps keep the outcomes observable and measurable.

The rubrics should establish the levels of performance. For example, a minimum performance might be: "Find and download the income statement." An advanced performance might be: "Analyze a time series of income-statement data using Excel."

In a three-credit entrepreneurship research class taught by one of the authors, students were required to create a final research project based on an entrepreneurial idea of their choice. The rubric for this project included the following statement:

> Using a variety of relevant, high-quality sources, including data: 22 points. Maximum points awarded for covering all the listed relevant topics using most of the core sources highlighted throughout the semester (listed in the class library guide), including Economic Census data and/or other Census business and industry data. All your sources need to make sense for your proposed business idea—don't include off-topic information or sources.

There is an extensive body of literature on assessment rubrics in business education, but information literacy rubrics are also of value. The Association of American Colleges and Universities (2013) published a rubric called the VALUE: Valid Assessment of Learning in Undergraduate Education, which may be used to assess the student information literacy skills in addition to the rubric used for course content.

A well designed assignment is built on integrated learning outcomes, research instruction, and assessment. When these three elements are part of an assignment, student learning is likely to be successful.

Conclusion

Both entrepreneurship faculty and librarians often bemoan the quality and quantity of research that students apply to their assignments and course projects. With this shared concern, faculty and librarians can work together to create both higher expectations and opportunities to develop student research skills, thus increasing the quality of student learning. With intentional course design, supportive instruction, meaningful assignments that utilize quality resources, and explicit assessment, faculty and librarian collaborations can result in deeper learning. The recommendations and best practices presented here are intended to highlight the opportunities for faculty to influence the quality of student research and learning through librarian collaboration.

Reference

Association of American Colleges & Universities (2013). Information Literacy Valid Assessment of Learning in Undergraduate Education. Retrieved from https://www.aacu.org/value/rubrics/information-literacy