

Revealing What Faculty's Course Syllabi Tell Us About the Value of the Library: A Textual Data Mining Approach Using Queries and Nodes in Nvivo

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Project Overview

Project Purpose

Data mine a selection of undergraduate syllabi in order to provide evidence of library usage in the context of faculty teaching and to identify all syllabi that require a research paper or project.

Project Goals

We wanted to learn about Pepperdine's courses using syllabi as data

- Understand the relationship of the library to faculty courses using syllabi as data
- Examine faculty expectations about student research using syllabi as data

Project Scope

We used top enrollment figures as the criteria for selecting a major within each of the five largest Seaver College divisions

- 109 undergraduate syllabi out of 5,514 Pepperdine University courses offered during FY 2014-2015
- Syllabi examined by division:
Business (48), Social Sciences (27), Humanities & Teacher Education (19), Natural Sciences (9), Communication (6)

Project Outcomes

- Evaluate NVivo as a tool for large textual analysis
- Develop a shared thematic vocabulary to analyze non-library data
- Use course syllabi as data to uncover where the library is valuable to faculty in their course

Process

Writing the Definitions: We designed queries to locate research and library terms in the syllabi. We broke out and defined five queries; the terms below indicate when a syllabus would be tagged by a query.

- **Conclusive Research Evidence:** When the course syllabus references "research paper*" "research project" "research essay" "research assignment" "bibliograph*" "annotated bibliography*" "lit* review"
- **Some Research Evidence:** When the course syllabus includes "list of references" "references list" "works cited" "works consulted" "outside source*" "argumentative paper" "pro/con paper" in proximity to an individual or group assignment, project, essay, or paper
- **No Evidence of Research:** when the course syllabus references paper* essay* "term paper" without any reference to research
- **Explicit Mention of Library:** Whenever the library is being explicitly called out in the syllabus
- **Implicit Mention of Library:** Whenever a library resource or services is identified but not called out in the context of it being a library service or resource

Examining Our Terms: Even after refining our search terms list multiple times, we still found surprises. Below are the terms that worked well and others that were problematic.

- **Good (confirmed term):** librarian, Payson, scholarly journals, writing center, database, electronic journal, reserve at Payson library, e-journal, SRDS, Mintel, MRI
- **Bad (only appeared as a false positive):** dictionary, newspaper, selected works
- **Ugly (appeared as both false positive and confirmed term):** library, library visit, journal articles, e-book, peer-reviewed, magazine

Learning the Limitations:

- NVivo not a one size fits all solution to analyzing syllabi
- Assessment at bird's eye view; results are mostly high level and conceptual
- Not granular (no way of instantly generating list of all books assigned in syllabi and acquiring them)
- No replacement for human eye; software/machines can't (yet) capture nuances of terms, still need human review whether coding/term/result is valid.
- Unsure of how closely faculty adhere to syllabus
- Discrepancies in faculty language across majors; e.g. "journal articles" may be a confirmed term in one discipline but false positive in another
- Hard to define big picture; data analysis becomes increasingly complicated as subsets of data are created [e.g. no library, no research; no research, yes library; yes research, no library]
- NVivo: Formatting issues (Google Drive quotations); Unable to combine wildcard & phrase terms

Value of the Project

Overall results

NVivo search results indicated 93 (of 109) syllabi have either a research or library term showing that the query terms used were relevant to most syllabi. We are quantifying the degree of resources used in course syllabi to "demonstrate and improve library support of faculty teaching," as recommended in *Value of Academic Libraries* (ACRL, 2010).

Evidence of the Library

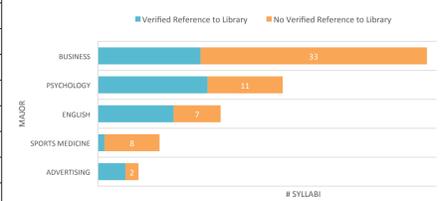
Since this was a pilot project, the team manually verified each reference to the library. 43% of the syllabi had at least one *valid* library reference. The chart below shows the number of syllabi by major in which faculty rely upon the agency of the library for services and resources to support their teaching.

Learning About Research Assignments

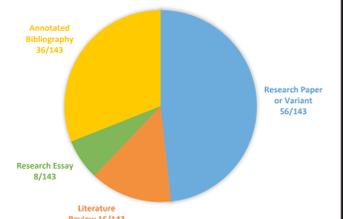
Library instruction is not occurring in every class where faculty assign a research paper and this project reveals the gap so that librarians can target classes for future instruction.

Terms Unique to the Library	Frequency
Payson	18
Writing Center	12
Database	11
SRDS	4
Mintel	4
PsychINFO	3
E marketer	3
ProQuest	3
EBSCO	3

REFERENCES TO THE LIBRARY WITHIN SYLLABI



VERIFIED RESEARCH TERMS MOST FREQUENTLY USED IN SYLLABI



Takeaways for Liaisons

We provided liaison librarians both a high-level snapshot of where research plays a role in all their faculty's courses and allow them to see where they can establish new instructional connections and new ways for supporting their faculty.

	Corresponding 2014-2015 Library Instruction Statistics	Findings about research in syllabus and library instruction	Findings About Faculty Use of the Library	False Positives for library terms
Business	Library instruction occurred in 12 out of 48 courses; Liaison led 34 instruction sessions for the Business Administration division	No correlation between presence of research in syllabus and occurrence of library instruction	Direct reference to business liaison by name, specific business resources (Mergent, Wall Street Journal, SPSS)	Library (URL), "Selected works" (not Digital Commons), e-books (required reading), "library visit" (generic statement)
Psychology	Library instruction occurred in 2 out of 27 courses; Librarians led 9 instruction sessions for the Social Sciences division	Thirteen classes required students to write research paper or a literature review but did not receive library instruction	References to the library (e.g., Payson, Writing Center) as well as discipline specific e-resources (PsychInfo, PubMed), software available at the library (SPSS), services (reference desk, interlibrary loan) and general implicit library resources (library databases, peer reviewed, academic journal)	No false positives
English	Library instruction occurred in 10 out of 19 courses; Liaison led 37 courses in Humanities and Teacher Education division	Nine courses required a research paper but did not receive library instruction	Library frequently referenced regardless of receiving instruction. Frequent library terms are writing center and library	Magazine, newspaper, dictionary, encyclopedia, database, selected works
Sports Medicine	Library instruction occurred in 0 out of 9 courses; Liaison led 10 instruction sessions for the Natural Sciences division	- N/A Only one course with research paper (option in lieu of final exam)	Only one accurate reference to the library	Library (Pearson Custom Library Lab Manual), Sage (Sage published textbook required reading)
Advertising	Library instruction occurred in 2 out of 6 courses; Liaison led 22 instruction sessions for the Communication division	One class required research paper and received library instruction	References to library resources (E marketer, ProQuest, EBSCO, SRDS, Mintel, MRI), references to the library (library, librarian)	No false positives