

An Analysis of Engineering Faculty Patterns of Usage of Library Resources on a Small Commuter University Campus

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Background

- Purdue University North Central is a regional, commuter university with 3,300 full-time and part-time students.
- 21 Engineering and Technology Faculty
- Served on the library sub-committee at our campus
 - Looked at issues regarding how the library would look in the future,
 - how it could be improved.
- Based on informal interactions with the faculty in the College of Engineering and Technology
 - Faculty at our campus didn't appear to use the library services
 - Faculty believed they could do searches independently - primarily using Google Scholar
- Study initiated to determine the actual library usage patterns were by the faculty in the College of Engineering and Technology.

Objectives of Study

- Determine the extent to which the engineering and technology faculty members use the reference librarian's services.
- Obtain the faculty's perspective regarding the current state of interaction between them and library reference librarian.
- Obtain the librarian's perspective regarding the existing dialogue between the engineering and technology faculty and the library (primarily reference librarian),
 - Ways in which this dialogue can be improved.

Investigation Methodology

- Conduct survey
 - Gauge extent of usage of library search services by Engineering and Technology faculty
 - Gauge faculty's attitude to increase / improve state of interaction
- Get reference librarian's perspective
- Propose methods / technologies to enhance interaction

Survey

- A survey was distributed to every faculty member in the College of Engineering and Technology
 - 21 Faculty
- Survey
 - Library Resource Usage in PNC College of Engineering
 - Anonymous responses

Survey

- 1) Over the last year, approximately how many hours did you spend on background research?
(i.e., background searching to acquire data that would be used for either scholarship activity or classroom teaching)

_____ hours/month spent searching for info / papers to support research or teaching

Survey

- 2) Of the total time entered in Question 1, what % of that time did you use to independently acquire this material?
(i.e., independently conducted internet searches, physically went to the library and looked for material yourself using library resources / databases)

_____ % of time spent independently searching

- Of the total time entered in Question 1, what % of that time did you indirectly acquire the material by using a librarian?
(i.e., search done by a reference librarian by providing him/her with keywords relevant to your search or description of the problem)

_____ % of time where librarian performed search

Survey

- 3) Approximately what % of the material that you independently acquired for yourself through your searches ended up being actually relevant and useful for the scholarship or classroom activity for which it was intended?

_____ % of material independently searched that was relevant to your research (or N/A)

Survey

4) Approximately what % of the material that the librarian acquired for you through his/her research ended up being actually relevant and useful for the scholarship or classroom activity for which it was intended?

_____ % of material searched by librarian that was relevant to your research (or N/A)

5) How useful do you consider the librarian's services to be in support of your research?

_____ 4 (Very Useful)

_____ 3

_____ 2

_____ 1

_____ 0 (Not Useful at All)

Survey

- 6) Would you consider using the librarian's services to perform background searches if the process was automated?
(i.e., can simply submit an electronic form with your request)

Yes

No

Engineering and Technology Faculty Library Usage Patterns Survey Results

Q***	F1*	F2*	F3*	F4*	F5*	F6*	F7*
1 [hrs/mo]	4	4	40	8	2	25	50
2 [%]	100/0	100/0	100/0	100/0	70/30	100/0	90/10
3 [%]	60	50	75	10	80	100	90
4 [%]	n/a	n/a	n/a	90**	n/a**	n/a	n/a**
5 [0-4]	n/a	n/a	n/a	n/a	3	n/a	n/a
6 [y/n]	y	y	y	y	y	Y	y

Table 1 continued

Q***	F8*	F9*	F10*	F11*	F12*	F13*	F14*
1 [hrs/mo]	2	10	1.5	10	20	20	3
2 [%]	100/0	100/0	100/0	100/0	100/0	100/0	100/0
3 [%]	80	75	80	90	100	60	75
4 [%]	n/a	n/a	n/a	n/a	n/a	n/a	n/a
5 [0-4]	n/a	n/a	n/a	n/a	n/a	n/a	n/a
6 [y/n]	y	y	y	y	y	y	y

Survey Results and Analysis

- Based upon the answers to survey question 1, the total number of hours per month over the last year spent by all the faculty members (14 in total) within the College of Engineering and Technology on acquiring background research work for their teaching and scholarship was calculated.
 - **Result = 199.5 hours.**
- Based upon the answers to survey question 2, the total number of hours spent by the faculty members doing the background search work independently was calculated.
 - **Result = 193.9 hours.**
- Based upon the answers to survey question 2, the total number of hours spent by the reference librarian in doing the background search for all the faculty was calculated.
 - **Result = 5.6 hours.**

Survey Results and Analysis

- The percent of time that the faculty members performed background search independently.
 - **Result = 97.2%.**Therefore, only 2.8% of total search was done by the reference librarian.
- Based upon the answers to survey question 3, the total number of hours/month over the last year that were independently spent obtaining background material that ended up being relevant to the faculty teaching and/or research objectives was calculated.

(The quality of relevant searches is not assessed)

- **Result = 155.4 hours.**
- The total number of hours/month that were unproductively spent by the College as a whole over the last year was calculated.
 - **Result = $193.9 - 155.4 = 38.5$ hours/month.**

This equates to approximately 20% of the entire faculty's (as a whole) search time being unproductive.

Survey Results and Analysis

- Based upon the answers to questions 4 and 5,
 - Faculty were not in a position to comment upon the benefit of using a reference librarian's assistance because they have not used the librarian's services.
- Based upon the answers to question 6,
 - All the engineering and technology faculty members, without any exceptions, would like to have a system in place where the faculty would be able to utilize the reference librarian's services in order to make their background research investigations more efficient.

Reference Librarian Feedback

- How to increase interaction between library and Engineering and Technology faculty.
 - Create LibGuides for research areas in Engineering and Technology
 - Engineering and technology topics being researched or taught by professors at the campus
 - Add links to organization and government websites that support and fund research in engineering and technology
 - NSF
 - NIH
 - Private agency funding (American Cancer Society)
 - Database listing for each of the engineering and technology areas
 - Add link to request search
 - Regular email announcements
 - Face to face meetings

Conclusions

- Based upon our survey and the subsequent analysis,
 - Concluded that the majority of the faculty members in the College of Engineering and Technology at Purdue University North Central make little to no use of the on-campus reference librarian's services to search for background material pertaining to their classroom teaching and academic research activities.

Conclusions

- Concluded that 2.8% of the total amount of time spent by the College as a whole involved the use of the services of the library to perform academic background search work.

Conclusions

- Concluded that out of the 97.2% of the total time spent by the College as a whole on obtaining background search material, only 80% of this material was relevant to their classroom teaching or research objectives.
 - Therefore, 20% of the college's time was spent unproductively.

Conclusions

- Results of study call for the creation of a process and system by which the College can more effectively utilize the librarian's services.
 - Would save the College faculty time which can be utilized more effectively for other academic purposes.

Conclusions

- All the College of Engineering and Technology's faculty would like to have a system established that would facilitate the efficient acquisition of background information relevant to their teaching activities and research work by the use of the reference librarian.

Recommendations

- Enhanced outreach by the library to the College's faculty.
 - Process could consist of the publication of available resources via an email
 - Email includes an embedded link to a search request web form
 - Email sent periodically by library staff to
 - Encourage, simplify and improve the mechanisms to interact with library staff.
 - Make engagement with the reference librarian easier
 - Encourage and make search requests easy to submit.
- Organize a meeting at the start of each year in which the reference librarian personally engages with the faculty and informs them of the library resources that they can use.

Recommendations

- Implement an on-line web form for the submission of search requests to the reference librarian.
 - The web-based form we recommend includes:
 - a level of priority associated with the request
 - an optional requested due date
 - identification of the department in which the faculty is a member
 - the subject area
 - keywords
 - any specific databases to be searched (optional)
 - any special comments
 - an option requesting an appointment with the librarian.

Recommendations

- Create a short-cut on each faculty member's desktop that points to the on-line web form for requesting a search.
 - Eliminate the need for busy faculty to search for the form on the university website
 - Make it easier and encourage faculty to submit search requests to the university librarians.
- Create LibGuides for specific engineering and technology research areas.

Future Studies

- Follow-up with a larger sample size - intend to expand it within the Purdue system.
- Study the effectiveness of searches done by reference librarian versus those done individually.