

An Investigation into the Relationship between Information Channels Chosen by Faculty and Its Impact on their Academic Role

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Abstract

This study attempts to find out whether variations in the academic roles in teaching and research are associated with changes in the information channels used by faculty. The underlying assumption is that the specific roles cause major variations in the frequency levels in the use of information channels. After formulating six research hypotheses, testing of the targeted dimensions was done through information channels. The matched pairs Wilcoxon signed ranks test examined the hypotheses as a directional one tailed test at the 0.05 level of significance. Data generated via the questionnaire method, indicated that roles represent a large proportion of frequency variations in the use of the information channels. Out of six hypotheses, four hypotheses had validation from the generated data with the other two failing to support. The outcomes indicated that two information channels had a greater value on impacting teaching roles with the other channels (4) showing more tilt towards research roles.

Keywords: Information Channels, Information Use, Research, Teaching

1. Introduction

A proper understanding of the information seeking behavior among faculty is critical to effective delivery of information services in academic libraries. The libraries have the onus to offer services equaling the behavior response generated by understanding information seeking behavior of its users. Information is needed when knowledge gaps occur requiring filling up. The teacher is the facilitator of learning. It is a well-known truism that “one can only take a horse to the canal but cannot force it to drink”. Further, a typical user can only be properly guided by a well trained teacher. This enables a teacher to apply suitable methods and strategies for promoting balanced development of

students to be converted into national assets. More significantly, librarians and other library personnel must make sense of the criteria of information seeking and the nature of information sought by users so that they are able to provide the required information services, design new information systems, operate the existing systems well, besides planning and delivering various service initiatives.

Information seeking behavioral studies represents finer aspects in the realm of user studies. The information usage and needs are fashioned by user-specific motives, reliance, import and purposes. User satisfaction is ensured through different mechanisms to access and search through many information sources. Later, the necessary information about user preferences is obtained by following regular and temporary means in a timely manner from different information spots. While

acquiring information, users refer to the preset methods, thereby marking their fulfillment or discontent on the different purposes and desires.

Typically, various user communities source information from a host of platforms like personal library, institutional library, departmental libraries, outside libraries, conferences/ seminars, besides discussions with colleagues for teaching and research purposes. In this study, the primary focus is on extending the ambit of study to make sense of the associative equation between academic roles and the choice of information channels earmarked for use in teaching and research, not just describing the investigation. Moreover, the paper seeks to identify the dominant trends and preferences in such a relationship.

2. Objectives

- ❖ To categorize roles performed by teaching personnel serving in engineering colleges as academicians;
- ❖ To examine importance of information channels used by teaching personnel for meeting their teaching and research needs;
- ❖ To examine the associative relation enjoining roles and information channels.

3. Hypotheses

In the study, the following hypotheses have been formulated:

- ❖ Faculty members will use ‘personal library collection’ at higher frequency for their research than teaching.
- ❖ Faculty members will use ‘institutional library collection’ at higher frequency for their teaching than research.

- ❖ Faculty members will use ‘departmental library collection’ at higher frequency for their teaching than research.
- ❖ Faculty members will use ‘sources other than institutional library collection’ at higher frequency for their research than teaching.
- ❖ Faculty members will use ‘conference/seminar collection’ at higher frequency for their research than teaching.
- ❖ Faculty members will use ‘discussion with other scholars’ at higher frequency for their research than teaching.

4. Scope, Limitation and Methodology

This study encapsulates the investigative outcomes on understanding the association between the teaching personnel’s choice of academic roles and their information search patterns in select libraries operating under the auspices of Vignan Group of Educational Institutions (VGEI), Andhra Pradesh. In all, 8 colleges function under the group’s banner represent the sample of the user survey. The user groups represent dominant participants’ viz., teaching personnel, support staff, students pursuing PG and UG dependent on the library services at such institutes. However, in view of the number of all users being quite high, only the teaching personnel have been designated as sample of second instance.

In the selected colleges under study, the population comprising 1380 teaching staff was found to be too unwieldy in view of time and cost factors. Hence, the stratified random sampling technique was applied to create a 550 member-strong sample accounting for 40% population. Which got further reduced as 70 % of the sample responded. With 385

respondents, data collection was undertaken which was then supported by inputs from users from informal discussions.

5. Collection of data

The respondents were served questionnaire with a focus on eliciting their background information through questions that help ascertain the frequency of information channels usage in teaching and research roles. The questionnaire served to 385 users comprised select teaching personnel active in teaching and research. In order to manage the study within less time and funds, data collection was done using a self administered questionnaire. In keeping with time-tested practice of using personalized questionnaire method to generate relevant and adequate data from a sample, the users were served the questionnaire in person. The respondents were given freedom of adequate time to return filled in questionnaire. In essence, the researcher took care to ensure reliability and accuracy in the respondent data.

Post data collection, the researcher did a thorough examination and analysis of the data as per the pre set objectives and hypotheses. Firstly, data recording was done on data sheets before feeding them into computer, which was later processed with SPSS software for Wilcoxon Signed Rank Test.

6. Statement on the statistical test

A non-parametric statistical test i.e. matched pairs Wilcoxon signed ranks test was applied to the collected data, which suits repeated measures experiments while comparing two conditions to create conditions, different or varying in degree i.e. greater/smaller. When the distribution of scores in

two matched samples are same, validation of the null hypothesis of the Wilcoxon test occurs. On the other hand, the scenario of alternative hypothesis emerges in case of variations in scores among samples occur. As the information seeking behaviour of a single population was distributed under two varying roles viz., research and teaching, such a statistical test was chosen.

The data comprising variations in the values found in the two-matched samples was put to Wilcoxon test with value variations ranked from smallest to largest. In the next step, ranked values were split into two distinct clusters viz., one with positive variations and the other with negative variations after which the ranks were added in each group. Later, the lesser sum was accepted as the test statistic for the Wilcoxon test. In fact, the size of N determines how important is observed value of this statistical test. In case N exceeds 25, the value Z needs computation, while the sum of smaller ranks have normal distribution with:

$$\text{Mean} = \mu T = \frac{N(N+1)}{4}$$

$$\text{and Standard Deviation} = \delta T = \sqrt{\frac{N(N+1)(2N+1)}{24}}$$

Therefore, the value of Z is computed by the following formula:

$$Z = \frac{T - \mu T}{\delta T}$$

Hence, the obtained Z value from the above formula shows a normal distribution having zero mean and unit variance. Further, other vital statistical values like mean rank for each variable; the number of positive, negative, and tied ranks and the significance of z value is exhibited in the results.

7. Independent and dependent variables

In academic roles, two values mark independent variables viz., teaching and research, while the dependent variables tend to measure the importance of information channels.

8. Data analysis

The respondents i.e. faculty members assign varying importance to different information channels

namely, personal library, institutional library, departmental libraries, outside libraries, conferences/ seminars and discussions with colleagues for teaching and research roles. When respondents assign a purported importance to any item from enlisted information channels, it is known as the variable class, which is normally rated on a seven-point scale. The rating scale signifies degree of importance, which ranges from 1 to 7, with “1” being most important and “7” being least important.

8.1 Personal Library

Table 1 exhibits the frequency distribution of the importance placed on personal library as a source of collecting information for catering to teaching and research purposes.

Table 1: Importance placed on personal library and distribution regularity

Purpose	Most						Least
	1	2	3	4	5	6	7
Percentage							
Teaching	235(61.03)	53(13.77)	39(10.13)	22(5.71)	13(3.38)	14(3.64)	9(2.34)
Research	216(56.10)	55(14.29)	62(16.10)	27(7.01)	11(2.86)	9(2.34)	5(1.30)

From Table 1, it can be observed that faculty members placed heavy importance on ‘personal library’ for their teaching and research purposes. However, it is found to be more on teaching than research. Personal library was rated as the top priority by 61.03 percent of the faculty for various teaching purposes, while 56.10 percent preferred for the research purpose. Though, it was rated as the 2nd priority by 13.77 and 14.29 percent faculty for their teaching and research purposes, respectively.

In order to find incidence of any noticeable statistical variations between faculty members and their perceived choice of ‘personal library collection’, the Wilcoxon test is applied to compare the two roles. Table 2 indicates the relevant data analysis results.

Table 2: The correlation between role and dependence on personal library

Direction of differences	Cases	Mean rank	Z value	Two-Tail Probability
Research < Teaching	36	33.00	-0.602	P<0.05
Research > Teaching	30	34.00	0.547	
Research = Teaching	319			
Total	385			

Based on such results, the research hypothesis i.e. “There won’t be any significant difference on the importance of personal library collection among the faculty members for their research and teaching purposes” fails to be validated. The frequencies exhibited in Table 2 show faculty members favoring teaching as opposed to research as far as personal library is concerned.

8.2 Institutional Library

Table 1 exhibits the frequency distribution of the importance placed on ‘institutional library’ as a source of collecting information used in teaching and research.

Table 3: Importance placed on institutional library and Frequency distribution

Purpose	Most							Least
	1	2	3	4	5	6	7	
Percentage								
Teaching	196(50.91)	87(22.59)	42(10.91)	33(8.57)	11(2.86)	9(2.34)	7(1.82)	
Research	219(56.88)	71(18.44)	28(7.27)	21(5.45)	21(5.46)	16(4.16)	9(2.34)	

From Table 3, it can be seen that faculty members placed heavy importance on the ‘institutional library’ for the research and teaching purposes. However, there was higher importance on institutional library for research than for teaching. Institutional library garnered most mileage by 50.91% faculty members having teaching preference, with 56.88 % favoring research. It was rated as the 2nd priority by 22.59 and 18.44 percent of the faculty members for their teaching and research purposes, respectively.

In order to find incidence of any noticeable statistical variations between faculty members and their preference for ‘institutional library collection’, the Wilcoxon test is applied to compare the two roles. Table 4 indicates the relevant data analysis results.

Table 4: The relationship between role and dependence on institutional library

Direction of differences	No. of cases	Mean rank	Z value	Two-Tail Probability
Research < Teaching	37	34.00	0.392	P<0.05
Research > Teaching	30	34.00	-0.855	
Research = Teaching	318			
Total	385			

Based on above results, the research hypothesis i.e. “There won’t not be any significant difference in the importance of institutional library collection among the faculty members for their research and teaching purposes” fails to be validated. The frequencies exhibited in Table 4 show faculty members favoring ‘institutional library’ more for research compared to teaching.

8.3 Departmental Libraries

Table 5 exhibits frequency distribution of the importance placed on ‘departmental library’ collection as a source of collecting information used in teaching as well as research.

Table 5: Frequency distribution of importance placed on departmental libraries

Purpose	Most							Least
	1	2	3	4	5	6	7	
Percentage								
Teaching	203(52.73)	37(9.61)	36(9.35)	41(10.65)	22(5.71)	19(4.94)	27(7.01)	
Research	184(47.79)	31(8.05)	47(12.21)	43(11.17)	31(8.05)	28(7.27)	21(5.46)	

From Table 5, it can be observed that departmental libraries were rated as most preferred by 52.73 percent and 47.79 percent of the faculty members for their teaching and research purposes, respectively. It is also evident from the table that departmental libraries were rated as the 2nd most preferred channel by 9.61 percent and 8.05 percent. In the middle, 9.35 percent and 12.21 percent respondents preferred them for teaching and research, respectively followed by 10.65 percent and 11.17 percent respondents preferring them for teaching and research purposes. Next, 5.71 percent

and 8.05 percent preferred them for teaching and research purposes, followed by 4.94 percent and 7.27 respondents in the 6th place. Finally, the least preference was assigned by respondents with 7.01 percent and 5.46 percent for teaching and research purposes, respectively.

In order to find incidence of any noticeable statistical variations between faculty members and their importance on ‘departmental library collection’, the Wilcoxon test is applied to compare the scores of two roles. Table 6 indicates the relevant data analysis results.

Table 6: The relationship between role and the dependence placed on departmental library collection

Direction of differences	Number of cases	Mean rank	Z value	Two-Tail Probability
Research < Teaching	73	40.00	-7.538	P<0.05
Research > Teaching	6	40.00		
Research = Teaching	306			
Total	385			

Based on above results, the research hypothesis i.e. "There won't not be any significant difference in the importance of departmental library collection among the faculty members for their research and teaching purposes" fails to be validated. The frequencies exhibited in Table 6 show faculty members favoring 'departmental library' more for teaching compared to research.

8.4 Outside Libraries

Table 7 exhibits frequency distribution of the importance placed on outside libraries as a source of collecting information for teaching and research purposes.

Table 7: Frequency distribution of importance placed on outside libraries

Purpose	Most							Least
	1	2	3	4	5	6	7	
Percentage								
Teaching	175(45.45)	83(21.56)	37(9.61)	31(8.05)	29(7.53)	19(4.94)	11(2.86)	
Research	207(53.77)	52(13.51)	43(11.17)	31(8.05)	28(7.27)	15(3.90)	9(2.33)	

From Table 7, it can be found that faculty members placed heavy importance of the 'outside libraries' for research and teaching purposes. However, there was high importance on outside libraries, more for research than for teaching. The outside libraries were rated as the top preference by 45.45% faculty members for meeting teaching needs, while 53.77% prefer research. It was rated as the 2nd most preferred by 21.56 and 13.51 percent of the faculty members for their teaching and research purposes, respectively.

In order to find incidence of any noticeable statistical variations between faculty members and their importance on 'outside libraries', the Wilcoxon test is applied to compare the scores of two roles. Table 8 indicates the relevant data analysis results.

Table 8: The relationship between role and the dependence placed on outside libraries

Direction of differences	Number of cases	Mean rank	Z value	Two-Tail Probability
Research < Teaching	0	0.00	0.00	P<0.05
Research > Teaching	55	28.00	-7.416	
Research = Teaching	330			
Total	385			

Based on above results, the research hypothesis i.e. “There won’t not be any significant difference in the importance of outside libraries among the faculty members for their research and teaching purposes” fails to be validated. The frequencies exhibited in Table 8 show faculty members favoring ‘outside libraries’ more for research compared to teaching.

8.5 Conferences/seminars

Table 9 exhibits the frequency distribution of the importance placed on conferences/seminars as a source of collecting information for teaching and research purposes.

Table 9: Frequency distribution of importance placed on conferences/seminars volumes

Purpose	Most							Least
	1	2	3	4	5	6	7	
Percentage								
Teaching	93(24.15)	98(25.45)	47(12.21)	63(16.37)	32(8.32)	26(6.75)	26(6.75)	
Research	155(40.26)	91(23.64)	49(12.73)	35(9.09)	19(4.93)	21(5.45)	15(3.90)	

From Table 9, it can be seen that conferences / seminars were rated as the most preferred by 24.15 percent and 40.26 percent of the faculty members for their teaching and research purposes, respectively. It is also evident from the table that conferences/seminars volumes were rated next by 25.45 percent and 23.64 percent. In the 3rd place, 12.21 percent and 12.73 percent wished it for teaching and research, followed by 16.37 percent and 9.09 percent respondents for teaching and research. In the 5th place, 8.32 percent and 4.93 percent preferred for teaching and research, while 6.75 percent and

5.45 percent did so. Finally, 6.75 percent and 3.90 percent of the faculty members preferred this channel for their teaching and research purposes, respectively.

In order to find incidence of any noticeable statistical variation between faculty members as far as their importance on ‘seminar/conference volumes’ is concerned, the Wilcoxon test is applied to compare the scores of two roles. Table 10 indicates the relevant data analysis.

Table 10: Correlation between role and dependence placed on seminar/conference volumes

Direction of differences	Number of cases	Mean rank	Z value	Two-Tail Probability
Research < Teaching	0	0.00	P<0.05	
Research > Teaching	222	111.50	-14.650	
Research = Teaching	163			
Total	385			

Based on above results, the research hypothesis i.e. “There won’t be any significant difference on the importance of seminar conference volumes among the faculty members for their research and teaching purposes” fails to be validated. The frequencies exhibited in Table 10 show faculty members favoring ‘seminar/conference proceedings’ more for research compared to teaching.

8.6 Discussion with other scholars

Table 11 exhibits frequency distribution of the importance placed on discussion with other scholars as a source of collecting information for teaching and research.

Table 11: Frequency distribution of importance placed on discussion with other scholars

Purpose	Most							Least
	1	2	3	4	5	6	7	
Percentage								
Teaching	116(30.13)	74(19.22)	51(13.25)	72(18.70)	41(10.65)	19(4.93)	12(3.12)	
Research	169(43.90)	77(20.00)	57(14.80)	51(13.25)	12(3.12)	11(2.85)	8(2.08)	

From Table 11, it can be seen that ‘discussion with other scholars’ is rated as the first preference by 30.13 percent and 43.90 percent of the faculty members for their teaching and research purposes, respectively. It is also evident from the table that ‘discussion with other scholars’ is rated as the 2nd most preferred by 19.22 percent and 20.00 percent; 3rd most preferred by 13.25 percent and 14.80 percent; 4th most preferred by 18.70 percent and 13.25 percent; 5th most preferred by 10.65 percent and 3.12 percent; 6th most preferred by 4.93 percent and 2.85 percent;

7th most preferred by 3.12 percent and 2.08 percent of the faculty members for their teaching and research purposes, respectively.

In order to find incidence of any noticeable statistical variation between faculty members as far as their importance on ‘discussions with other scholars’ is concerned, the Wilcoxon test is applied to compare the scores of two roles. Table 12 indicates the relevant data analysis.

Table 12: The relationship between role and the dependence placed on discussions with other scholars

Direction of differences	Number of cases	Mean rank	Z value	Two-Tail Probability
Research < Teaching	0	0.00		
Research > Teaching	223	112.00	-14.774	P<0.05
Research = Teaching	162			
Total	385			

Based on above results, the research hypothesis i.e. “There won’t be any significant difference on the importance on discussion with other scholars among the faculty members for their research and teaching purposes” fails to be validated. The frequencies exhibited in Table 12 show faculty members favoring ‘on discussion with other scholars’ more for research compared to teaching.

9. Major findings

- ❖ A majority of the faculty members placed far more importance on their teaching than research as far as ‘personal library’ channel is concerned.
- ❖ A major proportion of the faculty placed much more importance on ‘institutional library’ for their research than teaching.
- ❖ Most of the faculty members placed greater importance on ‘departmental library’ for their teaching than research.
- ❖ A majority of the faculty members placed greater importance on ‘outside libraries’ for their research than teaching.
- ❖ A major proportion of the faculty placed far more importance on ‘seminar/conference proceedings’ for their research than teaching.

- ❖ Most of the faculty members placed far more importance on ‘discussion with other scholars’ for research compared to teaching.

10. Conclusion

The study measures the frequency of use of six information channels by faculty. As per the set objectives, the respondents were expected to assign better scores to the institutional library collection, other institutional library collections, conferences/seminars, and discussions with other scholars’ sources for their importance on research than teaching. Conversely, they were expected to favor the use of personal library and departmental library collection a lot higher for their teaching than research. Significantly, the results validate the targeted scenario in a majority cases i.e. four. In conclusion, the research purpose scores higher in terms of frequency of use in case of institutional library collection, other than institutional library collection, conferences/seminars, and discussions with other scholars and are more frequently used for this purpose thereof. However, in the role of teaching, personal library and departmental library collection are the channels used most frequently. Only in two out of the six cases i.e. personal library and institutional library, the produced results failed to support the direction of the hypotheses.

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