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Motivation and Dependence towards the Use of ICT Resources with Reference to Students and Faculty Members of Medical Colleges in Puducherry

K. Saravanan[1] and S. Ravi[2]
[1]Community College, Pondicherry University, Lawspet , Puducherry - 605008, India
[2]Library & Information Science Wing, DDE, Annamalai University,
Annamalai Nagar - 608 002, Tamil Nadu, India.
E-mail:ksaravanan@gmail.com

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Abstract

The study examined the utilization of ICT resources for study and research by the students and faculty members of Medical colleges in Puducheery. Three medical colleges viz. JIPMER, Mahatma Gandhi and Manakular Medical Colleges were selected for the study. It is observed that majority of the respondents either have strongest motivation or fair motivation towards collection of information relating to participation and conducting seminars and conferences, writing and publishing research papers, information about scientific and technical use and current developments.

Keywords: *ICT Resources, Medical Colleges, Puducherry*

1. INTRODUCTION

Researches have shown that there is still a long way ahead before implementing ICT in classroom practice Some students have revealed that the integration of ICT in classroom practice has been low by the teachers around the world. Furthermore, there are barriers integrating computer use in curriculum. Moreover, there are various factors that influence on the use of ICT in science education: the infrastructure for ICT in science education, the principal's views of ICT in the college and the external parameters affecting philosophy/practice. Also, Fullen identified factors such as: the characteristics of innovation (e.g. need for innovarion and its properties), local characteristics (e.g. chemistry teachers' ideas, support and institution context) and external factors (e.g. the national framework curriculum in chemistry). As stated, the most factors contributing to the advancement of innovation is the availability of infrastructure resources such as: hardware, in terms of the number of computers in the institution available for students and teachers for educational purposes, the quality and functioning of equipment (speed of processors, operating systems, peripherals and access to the internet), as well as availability of general and educational softwares. In other words, availability of ICT alone is insufficient and must be accompanied by technical as well as pedagogical support.

More research has to be conducted in order to understand features of learning environments affecting student's motivation for studying and enhancing their interests. Although there are number of researches in the field of ICT pedagogy, they have measured attitudes toward computers in the general sense without essential features in computer use. A literature review shows there are few researches focusing on the use of ICT in teaching during the past decades.

2. LITERATURE REVIEW

Watts [1] examined some of the barriers to the usage of electronic information resources available at the medical library of College of Medicine, University, of Nigeria, Nsukka, Their findings reveal that lack of an adequate ICT (information and communication technology) infractructure and affordable online access, absence of in depth ICT skills and information searching skills among library staff, and cost of using the cybercafe are barriers to the use of electronic resources. In the same vein, Howard [2] identified problems in the adoption and usage of ICT and e-resources in Nigeria. These include lack of adequate ICT skills among staff and users, low basic information literacy levels in the Nigerian population, and prohibitive cost in developing countries to gain access to internet through cybercafe.

Sussman [3] identified the reasons why his respondents preferred print sources as easier to read,

better graphic quality, easier to browse, and easier to access. Palmer and Saddler reporter that their respondents expressed desire for print information sources because they are considered proven archival sources. Other reasons the print information sources are preferred to online sources are: ability to browse and scan through pages, portability, physical comfort, and conveniences. However, in a more recent study on students' preference of journal format, print, CD-ROM or online, conducted at the University of Agriculture, Abeokuta, Salaam found that the users preferred the CD-ROM databases, particularly the TEEAL, to other media.

Wang [4] described electronic resources in libraries as mixed blessing. Electronic resources are popular because they provide more flexibility in searching than their paper-based counterpart, and they can be accessed remotely at anytime. However, electronic resources do not reduce library operating cost and present new challenges for staff. Moreover, electronic system can fail as a result of inadequate power supplies. Waiting for files to download, waiting to have a server to accept your query or being abruptly cut off in mid-session are sources of frustration that do not exist with paper-based resources. On the other hand, torn-out articles, miss-shelved or missing volumes, or library holiday gaps are not issues with the electronic resources, provided offline access to the required system is available.

3. METHODS AND MATERIALS

This study attempts to examine the impact of internet resources towards acquisition of knowledge among the students and faculty members of Medical Colleges in Puducherry region. It is primarily a fact-finding venture. The identified factorss are cross-tabulated with the institutional background. The researcher has selected three medical colleges in Puducherry viz Mahatma

Table 1 Institution-wise Respondents' Motivation towards Utilization of ICT to Collect Information

Institution	To Make Review of Literature Collection				For Participation in Seminar/Conference etc			
	[illegible]	Fairly	Average	Weakest	Strongest Motivator	Fairly	Average	Weakest
Mahatma Medical College	36 (27.48)	19 (14.5)	26 (19.85)	50 (38.60)	66 (50.38)	30 (22.9)	14 (10.68)	21 (16.1)
Jipmer Medical College	19 (6.46)	96 (32.65)	106 (36.05)	73 (24.83)	107 (36.39)	35 (11.90)	37 (12.58)	115 (39.11)
Manakula Vinayagar Medical College	30 (61.22)	2 (4.08)	2 (4.08)	15 (30.61)	15 (30.61)	10 (20.41)	2 (4.08)	22 (44.90)
Total	85 (17.93)	117 (24.68)	134 (28.27)	138 (29.11)	188 (39.66)	75 (15.82)	53 (11.18)	158 (33.33)
Institution	**To Collect Secondary Data**				**To Write and Publish Paper**			
	Strongest Motivator	Fairly	Average	Weakest	Strongest Motivator	Fairly	Aver age	Weakest
Mahatma Medical College	42 (32.10)	31 (23.66)	46 (35.11)	12 (9.16)	29 (22.14)	36 (27.48)	51 (38.93)	15 (11.45)
Jipmer Medical College	119 (40.48)	85 (28.91)	35 (11.90)	55 (18.71)	66 (22.45)	75 (25.51)	104 (35.37)	49 (16.66)
Manakula Vinayagar Medical College	9 (18.37)	14 (28.57)	6 (12.24)	20 (40.82)	20 (40.82)	19 (38.77)	4 (8.16)	6 (12.24)
Total	170 (35.86)	130 (27.45)	87 (18.35)	87 (18.35)	115 (24.26)	130 (33.54)	159 (33.54)	70 (14.77)

Gandhi Medical College, JIPMER and Manakula Vinayager Medical College. In total, 474 students and faculty members are selected as sample. The researcher has employed a well structured questionnaire for collecting data from the respondents. The collected data are classified and tabulated according to the objectives and hypotheses stated. First, the data are recorded on data sheets and fed in to the computer.

A study of data in Table 1 indicates the institution-wise respondents' motivation towards utilization of ICT to collect information. It could be noted that out of the total 474 respondents 17.93 % of them have strongest motivation to collect information towards collection of review of literature, 24.68 % of them have fair motivation, 28.27 % of them have average motivation, the rest 29.11 % of them biggest motivation. It is seen from the table that out of the total 474 respondents 39.66 % of them have strongest motivation to collect information towards participation in seminars and conference, 15.82 % of them have fair motivation, 11.18 % of them have average motivation, the rest 33.33 % of them biggest motivation.

A keen observation of data in table reveals that out of the total 474 respondents 39.66 % of them have strongest motivation to collect information towards conducting in seminars and conference, 15.82 % of them have fair motivation 11.18 % of them have average motivation, the rest 33.33 % of them biggest motivation.

It is significant to note that out of the total 474 respondents 35.86 % of them have strongest motivations to collect secondary data, 27.45 % of them have fair motivation, 18.35 % of them have average motivation, the rest 18.35 % of them have average motivation, the rest 18.35 % of them biggest motivation.

Table 2 Updating the Latest Development in the Subject

Institution	To Update the Latest Development in the Subject				Discussion with Experts			
	Strongest Motivator	Fairly	Average	Weakest	Strongest Motivator	Fairly	Average	Weakest
Mahatma Medical College	25 (19.1)	27 (20.61)	27 (20.61)	52 (39.69)	11 (8.39)	19 (14.50)	34 (25.95)	67 (51.14)
Jipmer Medical College	84 (28.57)	36 (12.24)	75 (20.61)	52 (39.69)	11 (8.39)	19 (14.50)	34 (25.95)	67 (51.14)
Manakula Vinayagar Medical College	5 (10.20)	16 (32.65)	19 (38.77)	9 (18.37)	15 (30.16)	19 (38.77)	8 (16.33)	7 (14.28)
Total	114 (24.05)	79 (16.66)	121 (25.53)	160 (33.75)	82 (16.88)	80 (17.29)	146 (30.80)	166 (35.02)
	Govt. Decision on Tech. Policy Funding				Self-Fulfillment and Self-Satisfaction			
Institution	Strongest Motivator	Fairly	Average	Weakest	Strongest Motivator	Fairly	Average	Weakest
Mahatma Medical College	25 (19.1)	48 (36.64)	35 (26.72)	23 (17.56)	9 (6.87)	21 (16.03)	29 (16.03)	72 (54.96)
Jipmer Medical College	47 (15.98)	95 (32.31)	120 (40.82)	32 (10.88)	25 (8.50)	160 (54.42)	34 (11.56)	75 (25.51)
Manakula Vinayagar Medical College	13 (26.53)	12 (24.49)	5 (10.20)	19 (38.77)	4 (8.16)	5 (10.20)	17 (34.69)	23 (46.94)
Total	85 (17.93)	155 (30.70)	160 (33.75)	74 (15.61)	38 (8.02)	186 (39.24)	80 (16.88)	170 (35.86)

It is significant to note that out of the total 474 respondents 24.26 % of the strongest motivation to collect information towards writing and publishing research papers, 27.43 % of them have fair motivation, 33.54 % of them have average motivation, the rest 14.77 % of them biggest motivation.

It is interesting to note that out of the total 474 respondents 24.05 % of them have strongest motivation to update the latest development in the subject, 16.66 % of them have fair motivation, 25.53 % of them have average motivation, the rest 33.75 % of them have fair motivation, 25.53 % of them have average motivation, the rest 33.75 % of them biggest motivation. It is seen from the table data that out of the total 474 respondents 16.88 % of them have strongest motivation to make discussion with experts, 17.29 % of them have fair motivation, 30.80 % of them average motivation, the rest 35.02 % of them biggest motivation. In this study that out of the total 474 respondents 17.93 % of them have strongest motivation to collect information towards governments' decision on technology and policy of funding, 30.70 % of them have fair motivation, 33.75 % of them have average motivation, the rest 15.61 % of them biggest motivation.

It is observed from the table that out of the total 474 respondents 8.02 % of them have strongest motivation to collect information towards self fulfillment and self satisfaction, 39.24 % of them have fair motivation, 16.88 % of them have average motivation, the rest 35.86 % of them biggest motivation. It could be noted that out of the total 474 respondents 30.59 % of them have strongest motivation to collect information towards scientific and technical notes, 32.49 % of them have fair motivation, 25.10 % of them have average motivation, the rest 11.81 % of them Weakest motivation.

Table 3 Current Developments

Institution	Scientific and Technical News				Current Developments				
	Strongest motivator	Fairly	Average	Weakest	Strongest motivator	Fairly	Average	Weakest	Total
Mahatma Medical College	40 (30.5)	30 (22.90)	46 (35.11)	15 (11.45)	61 (46.56)	42 (32.06)	24 (18.32)	14 (10.16)	131
Jipmer Medical College	93 (31.63)	115 (39.12)	64 (21.77)	22 (7.48)	75 (25.51)	120 (40.82)	97 (32.99)	2 (0.68)	294
Manakula Vinayagar Medical College	12 (24.49)	9 (18.37)	9 (18.37)	19 (38.77)	16 (32.65)	12 (24.49)	3 (6.12)	18 (36.73)	49
Total	145 (30.59)	154 (32.49)	119 (25.10)	56 (11.81)	152 (32.07)	174 (36.71)	114 (20.05)	34 (71.73)	474

It is remarkable to observe that out of the total 474 respondents 32.07 % of them have strongest motivation to collect information towards current developments, 36.71 % of them have fair motivation, 20.05 per cent of them have average motivation, the rest 71.73 % of them weakest motivation.

The institution wise analysis reveals the following facts. Majority of the respondents of Madras University have strongest motivation towards collection of information to participate in seminars and conferences (50.38%). A considerable number of respondents of Jipmer Medical College have average motivation towards collecting information relating to preparation of class teaching (36.05), writing and publishing research papers (35.37%), question paper setting (35.37%) and governments' decision on technology and policy of funding.

The anova to a model is applied for further discussion. At one point the computed ANOVA value 19.67 which is greater than its tabulated value at 5 % level of significant. Hence, variation with respect to strong motivation towards collection of various type of is statistically identified as significant. In another point the computed anova value 1.81 which is lesser than its tabulated value at 5 per cent level of significant. Hence, variation among chosen institutions is statistically identified as insignificant with respect to respondents' strong motivation towards collection of various information.

ANOVA						
Source of Variation	**SS**	**Df**	**MS**	**F**	**P-value**	**F cruit**
Rows	15571.27	2	7785.633	19.67523	2.96E-05	3.554561
Columns	6461.467	9	717.9407	1.814322	0.134838	2.456282
Error	7122.733	18	395.7074			
Total	29155.47	29				

Table 4 Institution-wise Respondents Dependence on ICT Sources Getting Relevant Reference of their Requirement

Institution	**WWW**					**E-Mail**				
	High Dependent	**Frequent Department**	**Occasional Department**	**Rare Department**	**Non-Department**	**High Dependent**	**Frequent Department**	**Occasional Department**	**Rare Department**	**Non-Department**
Mahatma Medical College	27 (20.61)	24 (18.32)	29 (22.14)	27 (20.61)	27 (20.61)	7 (5.34)	27 (20.61)	44 (33.58)	10 (7.63)	43 (33.58)
Jipmer Medical College	29 (9.86)	106 (36.05)	42 (14.28)	97 (32.99)	20 (6.80)	66 (22.45)	42 (14.28)	105 (35.71)	26 (8.84)	55 (18.71)
Manakula Vinayagar Medical College	2 (4.08)	5 (10.20)	10 (20.41)	26 (53.06)	6 (12.24)	2 (4.08)	6 (6.12)	5 (10.20)	12 (24.49)	27 (55.10)
Total	58 (12.24)	135 (28.48)	81 (17.1)	152 (32.1)	48 (10.13)	75 (15.82)	72 (15.19)	154 (32.49)	48 (10.13)	125 (26.37)
Institution	**Voicemail**					**CD-Rom**				
	High Dependent	**Frequent Department**	**Occasional Department**	**Rare Department**	**Non-Department**	**High Dependent**	**Frequent Department**	**Occasional Department**	**Rare Department**	**Non-Department**
Mahatma Medical College	12 (9.16)	27 (20.61)	59 (45.04)	22 (16.79)	11 (8.39)	15 (11.45)	69 (52.67)	11 (8.39)	16 (12.21)	20 (15.26)
Jipmer Medical College	18 (61.22)	86 (29.25)	129 (43.88)	43 (14.63)	18 (61.22)	9 (3.06)	13 (4.42)	22 (7.48)	125 (45.52)	125 (45.52)
Manakula Vinayagar Medical College	25 (51.02)	4 (8.16)	12 (24.49)	5 (10.20)	3 (6.12)	4 (8.16)	7 (14.25)	9 (18.36)	12 (24.49)	17 (34.69)
Total	55 (11.60)	117 (24.68)	200 (42.19)	70 (14.77)	32 (6.75)	28 (5.91)	69 (18.77)	42 (8.86)	153 (32.28)	162 (34.18)
Institution	**Printer**					**Fax**				
	High Dependent	**Frequent Department**	**Occasional Department**	**Rare Department**	**Non-Department**	**High Dependent**	**Frequent Department**	**Occasional Department**	**Rare Department**	**Non-Department**
Mahatma Medical College	17 (12.97)	45 (34.35)	42 (32.06)	16 (12.21)	9 (6.87)	8 (6.11)	17 (12.97)	25 (19.1)	51 (38.93)	29 (22.14)
Jipmer Medical College	84 (29.57)	32 (10.88)	106 (36.05)	33 (11.22)	39 (13.26)	21 (7.14)	19 (6.46)	5 (1.7)	79 (26.87)	170 (57.82)
Manakula Vinayagar Medical College	5 (10.20)	9 (18.36)	20 (40.82)	11 (22.45)	4 (8.16)	2 (4.08)	2 (4.08)	4 (8.16)	8 (16.32)	33 (67.35)
Total	106 (22.36)	86 (18.14)	168 (35.44)	62 (13.08)	52 (10.97)	31 (6.54)	38 (8.02)	35 (7.38)	138 (29.11)	232 (48.95)

Table 5 The Way of Collection of Literature

Institution	DVD					Subject Specification Software					
	High Dependent	Frequent Department	Occasional Department	Rare Department	Non-Department	High Dependent	Frequent Department	Occasional Department	Rare Department	Non-Department	Total
Mahatma Medical College	7 (5.34)	4 (3.1)	21 (16.03)	8 (6.11)	91 (69.46)	3 (6.11)	6 (4.58)	14 (10.68)	75 (57.25)	22 (16.79)	131
Jipmer Medical College	13 (4.42)	21 (7.14)	20 (6.80)	47 (15.99)	193 (65.65)	8 (2.72)	23 (7.82)	22 (7.48)	132 (44.90)	109 (37.07)	294
Manakula Vinayagar Medical College	12 (24.49)	12 (24.49)	2 (4.08)	9 (18.37)	14 (28.57)	5 (10.20)	15 (30.61)	15 (30.61)	9 (18.36)	5 (10.20)	49
Total	32 (6.75)	37 (7.81)	43 (9.07)	64 (13.50)	298 (62.87)	21 (4.43)	44 (9.28	51 (10.76)	216 (45.57)	142 (29.96)	474

A study of data in Table 4 indicates the institution-wise respondents' dependence on ICT sources getting relevant reference of their requirement. It could be noted that out of the total 474 respondents 44.30 % of them collect literature through website and 38.40 % of the have no practice to collect literature through website. It is observed that out of the total 474 respondents 11.18 % of them collect literature through e-mail and 72.36 % of them have no practice to collect literature through e-mail. Moreover 16.45 % of them are not aware of collecting literature through e-mail.

In this study that out of the total 474 respondents 9.28 % of them collect literature through voicemail and 65.61 % of them have no practice to collect literature through voicemail. Moreover 25.11% of them are not aware of collecting literature through voicemail. It is observed that out of the total 474 respondents 20.67% of them collect literature through CDROM and 43.67 % of them have no practice to collect literature through CDROM. Moreover 35.65 % of them are not aware of collecting literature through CDROM. It is significant note that out of the total 474 respondents 56.11 % of them collect literature through Printers and 24.47 % of them have no practice to collect literature through Printers. Moreover 19.41 % of them are not aware of collecting literature through Printers. It is observed that 12.45 % of them have no practice to collect literature through Fax and 67.93 % of them have no practice to collect through Fax. Moreover 19.62 % of them are not aware of collecting literature through fax.

It could be noted that out of the total 474 respondents 4.85 % of them collect literature through DVD and 77.45 % of them have no practice to collect literature though DVD. Moreover DVD per cent of them are not aware of collecting literature through DVD. It is seen from the table that out of the total 474 respondents 6.96 % of them collect literature though subject specific software and 64.98 % of them have no practice to collect literature of them are not aware of collecting literature through subject specific software.

The Institution wise analysis reveals the following facts. Majority of the respondents of Mahatma Gandhi Medical College make use of internet (44.27%) and printer (74.81%) towards literature collection A considerable number of respondents of Jipmer Medical College make use of internet (55%), CDROM services (38.77%) and printers (44.90%) towards literature collection.

ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F cruit**
Rows	2501.083	2	1250.542	3.915882	0.044594	3.73889
Columns	1951.833	7	278.8333	0.873124	0.550481	2.764196
Error	4470.917	14	319.3512			
Total	8923.833	23				

4. CONCLUSION

It is observed that majority of the respondents either have strongest motivation or fair motivation towards collection of information relating to participation and conducting seminars and conferences, writing and publishing research papers, information about scientific and technical use and current developments. It is also seen that use of website towards literature collection occupies the first position, Printer the second and CDROD the third. In general respondents less makes use of e-mail, voicemail, Fax, DVD and subject specific software towards the literature collection.

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