

Spring 7-31-2019

# PRINT AND DIGITAL INFORMATION SEEKING BEHAVIOR OF TEACHERS OF INTERNATIONAL SCHOOLS IN CHENNAI : A GENDER-BASED CASE STUDY

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J.S., Yagnasridevi and Ramalingam, Jeys Shankar, "PRINT AND DIGITAL INFORMATION SEEKING BEHAVIOR OF TEACHERS OF INTERNATIONAL SCHOOLS IN CHENNAI : A GENDER-BASED CASE STUDY" (2019). *Library Philosophy and Practice (e-journal)*. 2834.

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**Print and Digital Information Seeking Behavior  
of Teachers of International Schools in Chennai  
: A Gender-Based Case Study**

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**0. ABSTRACT**

*The present study examined the information seeking behaviour of male and female teachers working in the international schools located in Chennai City, Tamilnadu State, India. Descriptive research design was adopted. Well-structured, self-administered questionnaires were used to collect data. Out of 500 questionnaires randomly distributed, 300 duly-filled questionnaires were received and included for the analysis. The data was analyzed using SPSS package. The findings of the study reveal that : More male respondents seek general information often and more female respondents seek academic information often ; More female respondents seek information for preparing class notes and writing articles while more male respondents seek information for seminar presentation and general awareness; male respondents are frequent library visitors than the female respondents ; More male respondents spend 1-4 hours per week and more female respondents spend less than one hour per in the library; More male respondents than female respondents read only required things in the library, prefer to search with Google, visit the library for leisure reading and preparing for competitive exams, use the available print resources since few years and borrow the non-available items from wherever available. More female respondents than male respondents take print out / photocopies of required materials, borrow books from library for home, visit library for research work, use the available print resources since many years and purchase the books when they are not available in the school library. More male respondents than female respondents obtain the journals / magazines from library, use their own textbooks and reference books /workbooks /guides / specimen copies as their primary sources of information and use online resources as secondary source of information. More female*

*respondents than male respondents obtained the journals / magazines through online sites, heavily used the textbooks borrowed from the library as the primary source of information and make use of notes and worked out papers as the secondary source of information. More male respondents than female respondents get guidance from senior teachers to learn to use e-resources, need help in the use of e-resources periodically / not at all, coin new words based on their earlier reading while searching, use simple words or phrases in searching, get relevant information from e-resources and search for full text and abstracts while looking for published information. More female respondents than male respondents get guidance from library staff in the use of e-resources, need help often in the use of electronic resources, coin those keywords that they think at the time of searching, agree that the information obtained from e-resources cover a broad scope of their topics and search for index while looking for published information. More female respondents than male respondents faced technical problems and the problem of choosing appropriate databases in using the electronic resources. While more male respondents are bothered about lack of knowledge, non-availability of required books and e-resources and not proficient in search strategies, more female respondents are worried with lack of institutional support and lack of time. It is suggested to build an inclusive, modern, need based and congenial library to be ready to satisfy the information needs of male and female teachers of varied behaviour and pattern in their information seeking process.*

**Keywords:** School Teachers, Information Seeking Behaviour, International Schools, Chennai, E-Resources, Print Resources

## **1. Introduction**

To teach is to learn twice. The teachers need to be knowledgeable, skilled, competent, updated and creative in all their endeavours to reach the users in the class rooms. The efficiency of their teaching, the effectiveness of their delivery, the reachability of their ideas, the fruitfulness of class interactions etc. depend heavily on their preparations – academic, scholastics, co-scholastic and research. The teachers working in international schools need to be more smart, powerful and wise. They have varied information needs to satisfy their teaching –learning requirements.

The kind of information needs they have in their academic field of work, how do they obtain the information required to satisfy their needs, how often and what for they make use of school library and its resources, what print resources are preferred by them, what about their awareness and use of e-resources, what are the problems they face in using library, print resources and e-resources, how do they make use of ICT for satisfying their information needs and what about the use of informal information sources among the teachers of international schools so on and so forth come under the purview of

information seeking behaviour of the respondents in the present study – a gender based study to describe the ISB of male and female teachers.

The analysis of information seeking behaviour and pattern of international school teachers will provide a handful of findings that will be useful to school management and library personnel to get users' solid expectations and requirements so that they may bring required changes in the library organization, resources building practice, services, ICT applications etc.

## 2. Operational Definitions

**Information seeking:** Information-seeking is described as the purposive acquisition of information from selected information carriers; these include information sources and channels for communicating information (**Johnson, 2003**). It includes examining the ways in which people find information they require, such as how and where people look for solutions to information problems (**Burke, 2007**)

**Information behavior:** defined information behaviour as the human behaviour dealing with generation, communication and use of information and other activities concerned with information, such as information-seeking behaviour and interactive information retrieval **Ingwersen and Järvelin (2005)**.

## 2 Review of Literature

Information-seeking is conceived as a process in which information needs are pursued, or in which problem-solving takes place within a context. (**Foster (2004)**).

**Shanmugam (1999)** studied the information seeking behaviour of trainee teachers in selected teacher training colleges in Malaysia and found that : The trainee teachers (95.6%) relied heavily on lecture notes as their most frequent source of information. Fellow course mates (88.8%) were the second most frequently used source, followed by college libraries (87.8%) and lecturers currently teaching them (80.1%). This shows an over dependence on internal sources rather than external sources of information. In the printed source category, textbooks were the most popular sources consulted. Renowned printed materials such as journals, encyclopedias, and indexes recorded low frequency of use. The problems faced included : Sources being 'unavailable and/ or inaccessible' was the most severe problems cited by the trainees in the process of locating information ; 'Having time to locate information' was the second major problem ; Using Online Public Access Catalogue System (OPAC) was the third important problem encountered by the trainees. **Gasque & Costa (2003)** described teachers' main characteristics and to identify both information channels and sources they use as well as factors that influence their behaviour patterns when seeking information to continuing education. The results showed that the most used sources of information are the didactic book, the Para-didactic book and newspapers. However, main conclusions of the study were that new

information technologies have not yet been used as a quotidian resource to support continuing education.

**Recker & others (2004)** examined how middle and high school science and mathematics teachers use and find online resources and the study established that the teachers used a broad range of search strategies and main factors that used to evaluate the information sources were age of materials, currency and accuracy. **Abdullahi & Haruna (2006)** discovered that teachers first consulted personal collection followed by colleagues in the same discipline and libraries.

Teachers have reported that having access to available information is a priority for their information seeking, yet lack of access to information continues to be a main barrier to information seeking (**Williams & Coles, 2007**). **Pattuelli (2008)** notes that teachers' information needs are related to pedagogy, national curriculum standards and the syllabus, including examinations as well as knowledge of the subject matter to be taught.

**Tahir, Mahmood & Shafique (2008)** studied the information seeking behaviour of Humanities teachers. The study finds that consulting with experts in the subject field is the preferred method of getting information, followed by the conversation with colleagues. The most important resource for teaching are the reference books, whereas consultation with knowledgeable persons or experts in the field is the most important source of information for research. Most teachers in the field of humanities get information from their departmental library and display a clear preference for the print media, while they least prefer audiovisual material.

**Mardis (2009)** found that teachers have very specific information needs relating to mastering the curriculum content and the behavioural structure of their classrooms for a diverse range of learners. **Kamba (2010)** in his proposed circular model of information seeking behaviour of school teachers in rural areas of Nigeria found out that information seeking behaviour of school teachers were similar with other respondents elsewhere. However, in this research the findings further showed that teachers used varieties of Information Communication Technologies (ICT) to search for information, though they lacked competent skills. The findings revealed that respondents used the Internet and other electronic resources but they considered printed resources as the most preferred resources for their activities.

**Adeoye & Popoola (2011)** stressed that teachers need various kinds of information for teaching and research for the purposes of imparting knowledge in students and for self-development. **Olsen and Diekema (2011)** found that teachers' information seeking behavior is understudied and found few studies that focused on teachers' information seeking behaviour. They found that the teachers' information needs are driven by curriculum and school policy and they mostly shared knowledge with their close colleagues. Barriers to information seeking online included the abundance of resources

that made searching overwhelming, and lack of time to search. They concluded that teachers are unique information consumers and users.

**Bitso & Fourie (2014)** conducted a study on information-seeking behaviour of prospective geography teachers at the National University of Lesotho based on their experiences during teaching practices. They examined the scope of the information needed, various styles of information-seeking and preferred information sources of prospective geography teachers and the study found the teachers preferred to use traditional information sources and hardly used modern electronic sources.

**Laloo & Buhril (2013)** examined the information needs and information seeking behaviour of teachers of special education in Shillong, India and revealed that : For many respondents, the purpose for information search was to try to keep them up-to-date; Fifty-six (56%) percent of the respondents mainly search for information from their own colleagues ; a majority of the respondents use books related to their work to a great extent ; A majority (eighty percent -80%) preferred using information sources in Print format rather than in electronic format ; 48% visit the library once a week; 52.9% of them spent one hour a day on internet ; 76% used Google search engine; The problems arise mainly due to non-availability of sources, shortage of resources and lack of time.

### **3. Objectives of the Study**

On the basis of the elaborate literature study and subsequent fixing of the research problem to be studied, the Core objectives and the associated ancillary objectives were finalized as under.

#### **Core objectives**

- To elicit the socio-demographic profile of the male and female teachers of international schools in Chennai
- To find out their information needs
- To explore their print information seeking behavior
- To unearth their e-information seeking behavior
- To know their problems in accessing information

#### **Ancillary Objectives**

- To identify the purposes of seeking information among the male and female respondents
- To identify the frequency of library visits
- To identify number of hours spent by the respondents in the library per week
- To identify the Information seeking behavior of the respondents in the library
- To identify the problems encountered in the library when seeking information
- To identify ISB of respondents with regard to print resources

- To identify the level of awareness and use of e-resources
- To identify their efficiency in seeking and using online academic resources
- To identify their ISB with e-resources
- To identify their problems in using e-resources
- To identify the use of informal sources of information
- To identify the barriers in seeking information

#### **4. Hypotheses**

- The following hypotheses are set for the present study:
- H<sub>0</sub>: There is no significant mean rank difference between male and female respondents and the problems they face while seeking information in the library.
- H<sub>0</sub>: There is no significant mean difference between male and female respondents and all the problems they face while seeking information in the library, bundled together.
- H<sub>0</sub>: There is no significant mean rank difference between male and female respondents and their level of awareness and use of six e-resources.
- H<sub>0</sub>: There is no significant mean difference between male and female respondents and level of awareness and use of all the e-resources taken together.

#### **4. Methodology**

The researcher has adopted a descriptive design. The study describes the information seeking behaviour of teachers of international schools of Chennai, Tamilnadu State, India. It does not evaluate any skill, rather it states the pattern of seeking information process of the respondents. The respondent population of the study basically comes from the teaching community in the 59 international schools in Chennai. The total numbers of such teachers come up to 1475 in number. An ideal sample size of one fifth was planned. But questionnaires were distributed to 500 teachers through personal contacts, emails and surface mails. As expected a little over 300 responses were received and 300 finalized questionnaires were taken for the scrutiny and the consequent analytical study. The data collected through the responses to the questionnaire were fed into the SPSS system, and the statistical analysis was done. 16 tabulations were done which comprises of the socio-demographic variables, independent variables primarily and their interactions. The ISB with regard to print resources and e-resources on the basis of the gender preferences was also segregated and tabulated.

#### **Statistical Tools Used**

IBM SPSS version 23 was used to interpret the data. Statistical Tools used were as follows:

- Mean and standard deviation
- Percentage Analysis
- Mann Whitney U Test
- Independent Samples t test

## 5. Data Analysis and Interpretation

**Table 1: Gender-wise distribution of socio-demographic variables of the Respondents**

Variable	Categories	Gender			
		Male		Female	
		No. of Respondents	%	No. of Respondents	%
Age	Less Than 35	35	30.4%	63	34.1%
	35-45	40	34.8%	71	38.4%
	More than 45	40	34.8%	51	27.6%
	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>
Nativity	Rural	51	44.3%	104	56.2%
	Urban	64	55.7%	81	43.8%
	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>
Highest Qualification	UG	39	33.9%	44	23.8%
	PG	44	38.3%	91	49.2%
	M. Phil/Ph. D	32	27.8%	50	27.0%
	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>
Subject	Language	30	26.1%	57	30.8%
	Science	60	52.2%	79	42.7%
	Arts & Humanities	25	21.7%	49	26.5%
	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>
Length of Service	<10 years	25	21.7%	58	31.4%
	10-20	55	47.8%	80	43.2%
	>20 years	35	30.4%	47	25.4%
	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>
Grade Level you teach	Grade 1-5	30	26.1%	56	30.3%
	Grade 6 -10	54	47.0%	85	45.9%
	Grade 11-12	31	27.0%	44	23.8%
	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>

Table 1 shows the socio-demographic information about the respondents of the study. Altogether 185 female respondents and 115 male respondents participated in this research study.

**Male Respondents:** One third of male respondents each belong to 35-45 years of age and more than 45 years of age. Slightly less than one third of them are less than 35 years of age. More than half then are hailed from urban background while about 45% of them are from rural background. One third of male respondents are either graduates or post graduates while little more than one fourth of them are M.Phil/Ph.D degree holders. Half of them teach science subjects, one fourth teach languages and just above one fifth teach arts and humanities. A majority of them have 10-20 years of teaching experience



followed by more than 20 years and a least of them have less than 10 years of experience. About half of them teach 6-10 grades while one fourth of them each teach 1-5 grades and 11-12 grades.

**Female Respondents:** More than one third of female respondents are aged 35-45 years followed by one third with less than 35 years of age and slightly more than one fourth of them with more than 45 years of age. More than 55% are from rural background and less than 45% belong to urban nativity. About half of them are post graduates while little more than one fourth of them are M.Phil/Ph.D degree holders and little less than one fourth of them are undergraduates. A majority of them are science teachers followed by those teaching languages and then arts and humanities. One fourth of them possess more than 20 years of teaching experience while about one third of them have less than 10 years and 43% of them have 10-20 years of teaching experience. 45% teach grades 6-10 whereas 30% teach 1-5 grades and 24% teach grades 11-12.

**Male Vs. Female Respondents:** More male respondents than female respondents are aged more than 45 years; hailed from urban nativity; possess undergraduate degrees ; teach science ; have more than 10 years of experience and teach 11<sup>th</sup> and 12<sup>th</sup> grades. More female respondents than male respondents are aged less than 45 ; hailed from rural nativity; hold PG degrees; teach languages and arts & humanities ; possess less than 10 years of experience and teach 1<sup>st</sup> -5<sup>th</sup> grades.

**Table 2: Information needs of the Respondents**

Information Needs	Response	Gender			
		Male		Female	
		No. of Respondents	%	No. of Respondents	%
General Information Needs	Rarely	12	10.4%	35	18.9%
	Occasionally	20	17.4%	23	12.4%
	Often	83	72.2%	127	68.6%
	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>
Academic Information Needs	Rarely	15	13.0%	18	9.7%
	Occasionally	26	22.6%	30	16.2%
	Often	74	64.3%	137	74.1%
	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>
Scholastic Information Needs	Rarely	20	17.4%	50	27.0%
	Occasionally	42	36.5%	47	25.4%
	Often	53	46.1%	88	47.6%

	<b>Total</b>	<b>115</b>	<b>100.0%</b>	<b>185</b>	<b>100.0%</b>
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Table 2 shows, at what frequency the male and female respondents seek the general, academic and scholastic information.

**Male respondents:** 72.2% of male respondents often need general information. While one third of them need academic information, 46% of them need scholastic information often. 17.4%, 22.6% and 36.5% of them occasionally need general, academic and scholastic information respectively. 10.4% need general information rarely while 13% need academic information and 17.4% need scholastic information rarely.

**Female Respondents:** More than two third of female respondents (68.6%) need general information often. General information is sought rarely by 18.9% and occasionally by 12.4% of them. Three fourth of them seek academic information while 16.2% seek academic information occasionally and 9.7% seek it rarely. Scholastic information is sought often by 47.6% of them whereas one fourth of them seek scholastic information occasionally and rarely.

**Male Vs Female Respondents:** More male respondents seek general information often and more female respondents seek academic information often.

More male respondents seek general information, academic information and scholastic information occasionally than female respondents.

More female respondents seek general and scholastic information rarely than male respondents. More male respondents seek academic information rarely than female respondents.

**Table 3**

*Purposes of seeking information among the Respondents*

Variables	Categories	Purpose of Information seeking									
		Preparing class notes		Seminars		Writing Articles		General awareness		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Gender	Male	32	27.8%	31	27.0%	23	20.0%	29	25.2%	115	100%
	Female	67	36.2%	42	22.7%	50	27.0%	26	14.1%	185	100%
	<b>Total</b>	<b>99</b>	<b>33.0%</b>	<b>73</b>	<b>24.3%</b>	<b>73</b>	<b>24.3%</b>	<b>55</b>	<b>18.3%</b>	<b>300</b>	<b>100%</b>

Table 3 shows the purposes of seeking information among the male and female respondents.

**Male Respondents:** Slightly more than one fourth of male respondents seek information for preparing class notes, seminar presentation and general awareness and one fifth of them seek information for writing articles.

**Female Respondents:** More than one third of female respondents seek information for preparing class notes whereas one fourth of them seek for writing articles and one fifth for seminar presentations. The least number of them seek information for their general awareness.

**Male Vs. Female Respondents:** More female respondents seek information for preparing class notes and writing articles while more male respondents seek information for seminar presentation and general awareness than their counterparts.

**Table 4: Frequency of library visits**

Variables	Categories	Visit to the library							
		Daily		Weekly		Occasionally		Total	
		No.	%	No.	%	No.	%	No.	%
Gender	Male	50	43.5%	36	31.3%	29	25.2%	115	100.0%
	Female	73	39.5%	50	27.0%	62	33.5%	185	100.0%
	<b>Total</b>	123	41.0%	86	28.7%	91	30.3%	300	100.0%

Table 4 shows the frequency of library visits of male and female respondents.

**Male Respondents:** A majority of 43.5% of male respondents visit the library daily followed by 31.3% of them visiting the library once in a week and one fourth of them visiting the library occasionally.

**Female Respondents:** A majority of 39.5% of female respondents visit the library daily followed by 33.5% of them visiting the library occasionally and 27% of them visiting the library once in a week.

**Male Vs. Female Respondents:** More male respondents visit the library daily and once a week and more female respondents visit the library occasionally than their counterparts.

Thus, male respondents are frequent library visitors than the female respondents.

**Table 5: Hours spent per week in the library**

Variables	Categories	How many hours you spend in the library							
		Less than one hour		1-4 hours		More than 4 hours		Total	
		No.	%	No.	%	No.	%	No.	%
Gender	Male	53	46.1%	47	40.9%	15	13.0%	115	100.0%
	Female	117	63.2%	43	23.2%	25	13.5%	185	100.0%
	<b>Total</b>	170	56.7%	90	30.0%	40	13.3%	300	100.0%

Table 5 shows the hours spent by male and female respondents per week in the library.

**Male Respondents:** A majority of male respondents spend less than one hour per week in the library (53, 46.1%). It is followed by those spending 1-4 hours (47, 40.9%) and those spending more than 4 hours (15, 13%) per week in the library.

**Female Respondents:** A majority of female respondents spend less than one hour per week in the library (117, 63.2%). It is followed by those spending 1-4 hours (43, 23.2%) and those spending more than 4 hours (25, 13.5%) per week in the library.

**Male Vs Female Respondents:** More male respondents spend 1-4 hours per week and more female respondents spend less than one hour per in the library than their counterparts. Almost equal number of male and female respondents spends more than 4 hours per week in the library.

**Table 6: Information seeking behaviour in the library**

ISB in the Library	Response	Gender					
		Male		Female		Total	
		No.	%	No.	%	No.	%
Preference of reading behaviour while in library	Only read the required	71	61.7%	76	41.1%	147	49.0%
	Prefer searching with Google	34	29.6%	30	16.2%	64	21.3%
	Take print outs/photo copies	9	7.8%	35	18.9%	44	14.7%
	Borrow books for home	1	0.9%	44	23.8%	45	15.0%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
Make use of library resources for other than subject related needs	For leisure reading	50	43.5%	74	40.0%	124	41.3%
	For competitive exams	29	25.2%	44	23.8%	73	24.3%
	Research Work	36	31.3%	67	36.2%	103	34.3%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
Section of the collection interests you	Language	14	12.2%	14	7.6%	28	9.3%
	Science	46	40.0%	95	51.4%	141	47.0%
	Others	55	47.8%	76	41.1%	131	43.7%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
Plan to use them	Everyday	51	44.3%	82	44.3%	133	44.3%
	Once a week	47	40.9%	90	48.6%	137	45.7%
	As and when needed	17	14.8%	13	7.0%	30	10.0%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
Use of print resources available in the library	Since many years	20	17.4%	66	35.7%	86	28.7%
	Since few years	94	81.7%	95	51.4%	189	63.0%
	Since last year	1	0.9%	24	13.0%	25	8.3%
	Not yet	0	0.0%	0	0.0%	0	0.0%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%

Your library does not have the books/ any other similar document	Acquire through purchase	55	47.8%	112	60.5%	167	55.7%
	Borrow from wherever available	60	52.2%	73	39.5%	133	44.3%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%

Table 6 shows the information seeking behavior of male and female respondents in the library.

**ISB of Male Respondents in the Library:** About two third of male respondents read only the required things in the library followed by 30% of them who prefer searching with Google. 43.5% of them make use of library for leisure reading while 31.3% for their research work and one fourth of them for preparing for competitive examinations. 40% of them prefer to use science section while 12.2% prefer to use language section and a majority of 47.8% prefers to use other sections of the library. 44.3% of them plan to use the preferred sections everyday followed by once a week (40.9%) and as and when needed (14.8%). More than 80% of then have been using the print resources available in the library since few years while 17.4% since many years. If the school library does not have books / other similar documents, 52% of them borrow from wherever available and the rest acquire through purchase.

**ISB of Female Respondents in the Library:** 41.1% of female respondents read only the required things in the library while 23.8% borrow books for home, 18.9% take print out / photo copies and 16.2% prefer searching with Google. 40% of them visit library for leisure reading while 36.2% for research work and 23.8% for preparing for competitive examinations. More than half of them prefer to visit science section while 41.1% prefer other sections of the library. They have planned to make use of their preferred sections once a week (48.6%) and every day (44.3%). More than half of them use the print resources available in the library since few years and more than one third of them use print resources since many years. If required materials are not available in the library, a majority (60%) purchases it and the rest (40%) borrow the same from wherever available.

**ISB of Male Vs. Female Respondents in the Library:** More male respondents than female respondents read only required things in the library, prefer to search with Google, visit the library for leisure reading and preparing for competitive exams, prefer to visit language and other sections of the library, plan to use these sections as and when required, use the available print resources since few years and borrow the non-available items from wherever available. More female respondents than male respondents take print out / photocopies of required materials, borrow books from library for home, visit library for research work, prefer to visit science section, plan to visit the science section once a week, use the available print resources since many years and purchase the books when they are not available in the school library.

**Table 7: Problems encountered in the library when seeking information Vs. Gender of the Respondents: Mann-Whitney Test**

Problems	Gender	N	Mean Rank	Sum of Ranks	Mann Whitney U Statistic	Sig. (2 tailed)
Sources are fewer in number than expected	Male	115	160.00	18400.00	9545.000	.068
	Female	185	144.59	26750.00		
	<b>Total</b>	300				
Search consumed more time	Male	115	165.93	19081.50	8863.500	.002
	Female	185	140.91	26068.50		
	<b>Total</b>	300				
Tracing of accurate information proved difficult	Male	115	131.43	15114.50	8444.500	.001
	Female	185	162.35	30035.50		
	<b>Total</b>	300				
Search engines directed to sources that could not be accessed/Restricted	Male	115	151.09	17375.00	10570.000	.899
	Female	185	150.14	27775.00		
	<b>Total</b>	300				
Resources are disorganized	Male	115	138.50	15928.00	9258.000	.029
	Female	185	157.96	29222.00		
	<b>Total</b>	300				
No free accessibility	Male	115	137.01	15756.50	9086.500	.016
	Female	185	158.88	29393.50		
	<b>Total</b>	300				
Clumsy and congested seating arrangement	Male	115	169.22	19460.50	8484.500	.000
	Female	185	138.86	25689.50		
	<b>Total</b>	300				

**Hypothesis:** There is no significant mean rank difference between male and female respondents and the problems they face while seeking information in the library.

**Variables:** Gender (Independent Variable) and Problems (Dependent Variables)

**Test Employed:** Mann Whitney U Test Via Table 7

**Results:**

- a) There is no significant difference between male and female respondents and two problems they encounter in seeking information from the library namely sources are fewer in number than expected ( $U=9545$ ,  $p=.068$ ) and search engines directed to sources that could not be accessed ( $U=10570$ ,  $p=.899$ ) as the p value is more than the significant level of 0.05. The null hypothesis is accepted.
- b) There is a significant difference between male and female respondents and five other problems they encounter in seeking information from the library as the p-value is less than the significant level of 0.05. The null hypothesis is rejected and the alternative hypothesis is accepted. There is a difference in the mean ranks.

**Table 8: Problems encountered in the library when seeking information Vs. Gender of the Respondents: Independent Samples t test**

Group Statistics										
All the Problems in Seeking Information from the Library		Gender	N	Mean	Std. Deviation	Std. Error Mean				
		Male	115	15.2957	1.58377	.14769				
		Female	185	15.2432	1.66820	.12265				
Independent Samples Test										
		LTEV		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% of the CI Difference	
									Lower	Upper
Problems	Equal variances assumed	.005	.941	.270	298	.788	.05241	.19432	- .33001	.43482

**Note.** LTEV = Levene's Test for Equality of Variances; CI = Confidence Interval.

**Hypothesis:** There is no significant mean difference between male and female respondents and all the problems they face while seeking information in the library, bundled together.

**Variables:** Gender (Independent Variable) and Problems (Dependent Variable)

**Test Employed:** Independent Samples t test Via Table 8

**Results:**

**Levene's Test for Equality of Variances:** The p value is more than 0.05. So, equal variance is assumed. The researcher looked for the results of t test under the row equal variance assumed.

**Independent Samples t test :** The p value is more than the significant level of 0.05 ( $t=.270$ ,  $df=298$ ,  $p=.788$ ,  $MD=.05241$ ). The mean difference is insignificant. The null hypothesis is accepted. There is no significant difference between the variables. The lower bound and upper bound values at 95% of the Confidence interval difference include Zero indicating the existence of no difference.

Table 9 shows the sources of print resources among the male and female respondents.

**Male and Female Respondents:** For obtaining the journals/ magazines, 59.1% of the male respondents and 53.5% of the female respondents go for library being the highest percentage in results than compared to personal subscription and online sites. 18.3% of the male members and 18.9% of female members obtain the journals / magazines through personal subscription and 22.3% of the male staff members and 27.6% of the female staff members through online sites.

54.8% of the male and 76.2% of the female respondents use the textbooks borrowed from library as their primary sources of information and 27% of the male and 14.6% of the female respondents use their own text book for seeking primary source of information and 18.3% of the male respondents and 9.2% use reference books/ workbooks / guides and specimen copies as the primary seeking of information as print resources .

77.4% of the male and 77.3% of the female respondents use books as the formal sources of information seeking and 12.2% of the male and 11.9% of the female respondents seek through magazines and 10.4% of the male respondents and 10.8% of the female respondents seek information through journals.

**Table 9: ISB – Print Resources Vs. Gender of the Respondents**

Print Resources	Options	Gender					
		Male		Female		Total	
		No.	%	No.	%	No.	%
Obtain the Journals/Magazines	Library	68	59.1%	99	53.5%	167	55.7%
	Personal Subscription	21	18.3%	35	18.9%	56	18.7%
	Online Sites	26	22.6%	51	27.6%	77	25.7%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
Primary Sources of Information	Text books - Borrowed from library	63	54.8%	141	76.2%	204	68.0%
	Textbooks - Own	31	27.0%	27	14.6%	58	19.3%
	Reference Books / Workbooks / Guides - specimen copies	21	18.3%	17	9.2%	38	12.7%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
Secondary Sources of Information	Notes and worked out papers	56	48.7%	109	58.9%	165	55.0%
	Online resources	23	20.0%	17	9.2%	40	13.3%
	Peer discussion	36	31.3%	59	31.9%	95	31.7%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
Formal Sources of Information Collection or Seeking	Books	89	77.4%	143	77.3%	232	77.3%
	Magazines	14	12.2%	22	11.9%	36	12.0%
	Journals	12	10.4%	20	10.8%	32	10.7%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%

**Male Vs. Female Respondents:** More male respondents than female respondents obtain the journals / magazines from library, use their own textbooks and reference books /workbooks /guides / specimen copies as their primary sources of information and use online resources as secondary source of information.

More female respondents than male respondents obtained the journals / magazines through online sites, heavily used the textbooks borrowed from the library as the primary



source of information and make use of notes and worked out papers as the secondary source of information.

Almost equal number of male and female respondents obtains the journals / magazines through personal subscription, participate in peer discussion to be a secondary source of information, use books, magazines and journals as the formal sources for information seeking and collecting.

**Table 10: Level of awareness and use of e-resources Vs. Gender of the Respondents: Mann-Whitney Test**

E-Resources	Gender	N	Mean Rank	Sum of Ranks	Mann Whitney U Statistic	Sig. (2 tailed)
E-Journals	Male	115	152.54	17542.50	10402.500	.692
	Female	185	149.23	27607.50		
	<b>Total</b>	300				
E-Books	Male	115	140.93	16207.50	9537.500	.049
	Female	185	156.45	28942.50		
	<b>Total</b>	300				
E-Databases	Male	115	140.93	16207.50	9537.500	.049
	Female	185	156.45	28942.50		
	<b>Total</b>	300				
E-Reports	Male	115	140.93	16207.50	9537.500	.049
	Female	185	156.45	28942.50		
	<b>Total</b>	300				
CD Rom Databases	Male	115	140.93	16207.50	9537.500	.049
	Female	185	156.45	28942.50		
	<b>Total</b>	300				
E Thesis	Male	115	148.65	17095.00	10425.000	.709
	Female	185	151.65	28055.00		
	<b>Total</b>	300				

**Hypothesis:** There is no significant mean rank difference between male and female respondents and their level of awareness and use of six e-resources.

**Variables:** Gender (Independent Variable) and E-Resources (Dependent Variables)

**Test Employed:** Mann Whitney U Test Via Table 11

**Results:**

- a) There is no significant difference between male and female respondents and their level of awareness and use of two e-resources namely e-journals ( $U=10402.5$ ,  $p=.692$ ) and e-theses ( $U=10425$ ,  $p=.709$ ) as the p value is more than the significant level of 0.05. The null hypothesis is accepted.

- b) There is a significant difference between male and female respondents and their level of awareness and use of 4 e-resources namely e-books, e-databases, e-reports and CD-ROM databases as the p-value is less than the significant level of 0.05. The null hypothesis is rejected and the alternative hypothesis is accepted. There is a difference in the mean ranks.

**Table 11: Independent samples t test: Level of awareness and use of e-resources Vs. Gender of the Respondents**

Group Statistics											
	Gender	N	Mean	Std. Deviation	Std. Error Mean						
Awareness and Use of E-Resources	Male	115	16.0696	2.05504	.19163						
	Female	185	16.4811	1.81806	.13367						
Independent Samples Test											
		LTEV		t-test for Equality of Means							
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference		
										Lower	Upper
E-Resources	EVNA	11.041	.001	-1.761	219.693	.080	-.41152	.23365	-.87199	.04896	

**Note.** LTEV = Levene's Test for Equality of Variances; CI = Confidence Interval ; EVN A = Equal variances Not assumed

**Hypothesis:** There is no significant mean difference between male and female respondents and level of awareness and use of all the e-resources taken together.

**Variables:** Gender (Independent Variable) and E-Resources (Dependent Variable)

**Test Employed:** Independent Samples t test Via Table 11

### Results:

**Levene's Test for Equality of Variances :** The p value is less than 0.05. So, equal variance is not assumed. The researcher looked for the results of t test under the row 'equal variance not assumed'.

**Independent Samples t test:** The p value is more than the significant level of 0.05 ( $t=1.761$ ,  $df=219.693$ ,  $p=.080$ ,  $MD=.41152$ ). The mean difference is insignificant. The null hypothesis is accepted. There is no significant difference between the variables. The lower bound and upper bound values at 95% of the Confidence interval difference include Zero indicating the existence of no difference.

Table 12 shows the efficiency of male and female respondents in seeking and using online academic resources.

**Table 12: Efficiency in seeking and using online academic resources Vs. Independent Variables**

Variables	Categories	Efficiency in seeking and using online academic resources							
		Best		Fairly Good		Satisfactory		Total	
		No.	%	No.	%	No.	%	No.	%
Gender	Male	8	7.0%	33	28.7%	74	64.3%	115	100.0%
	Female	15	8.1%	68	36.8%	102	55.1%	185	100.0%
	<b>Total</b>	23	7.7%	101	33.7%	176	58.7%	300	100.0%

**Male Respondents:** About two third of male respondents stated that their efficiency in seeking and using online academic resources are satisfactory while slightly more than one fourth of then stated that their efficiency is fairly good. Only 7% of then claimed to have best efficiency.

**Female Respondents:**55.1% of female respondents claimed that their efficiency in seeking and using online academic resources is satisfactory followed by 36.8% who have fairly good efficiency and 8.1% who rated their efficiency as ‘Best’.

**Male Vs. Female Respondents:** More male respondents than female respondents have satisfactory efficiency in seeking and using online academic resources. More female respondents than male respondents claimed to have fairly good efficiency in the same.

**Table 13: ISB with e-resources Vs. Gender of the Respondents**

ISB	Response	Gender					
		Male		Female		Total	
		No.	%	No.	%	No.	%
learn to use electronic resources	Library orientation/instruction programs	45	39.1%	72	38.9%	117	39.0%
	Guidance from senior teachers	20	17.4%	21	11.4%	41	13.7%
	Guidance from Library staff	50	43.5%	92	49.7%	142	47.3%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
using the electronic resources, did you need help	Periodically	31	27.0%	36	19.5%	67	22.3%
	Often	64	55.7%	125	67.6%	189	63.0%
	Not at all	20	17.4%	24	13.0%	44	14.7%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
coin the key words you use when doing the search	What I can think of at that time	43	37.4%	126	68.1%	169	56.3%
	From my earlier reading	45	39.1%	22	11.9%	67	22.3%
	From the thesaurus	13	11.3%	25	13.5%	38	12.7%
	Simple words or phrases	14	12.2%	12	6.5%	26	8.7%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
electronic resources meet	The information that I got is very relevant	42	36.5%	36	19.5%	78	26.0%

your information needs	The information that I got covers broad scope of my topic	34	29.6%	76	41.1%	110	36.7%
	The information that I got is not up to date	39	33.9%	73	39.5%	112	37.3%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
perform your search for published information	Full text	64	55.7%	87	47.0%	151	50.3%
	Abstract/Summary	31	27.0%	44	23.8%	75	25.0%
	Index only	20	17.4%	54	29.2%	74	24.7%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%
appropriate and relevant information from online resources	Occasionally	115	100.0%	185	100.0%	300	100.0%
	<b>Total</b>	115	100.0%	185	100.0%	300	100.0%

Table 13 shows the information seeking Behaviour of male and female respondents in respect of e-resources.

**Male and Female Respondents:** 39.1% of the male respondents and 38.9% of the female respondents learn to use electronic resources through library orientation / instruction programs and 17.4% of the male and 11.4% of the female get guidance from senior teachers and 43.5% of the male and 49.7% of the female through guidance from library staff for learning to use the electronic resources.

27.0% of the male and 19.5% of the female respondents need help periodically in using the electronic resources while 55.7% of the male and 67.6% of the female often seek help and 17.4 % of the male and 13.0% of the female don't seek help at all in using the electronic resources.

37.4% of male respondents and 68.1% of female respondents coin the key words they think at the time of carrying out the search whereas 39.1% of male and 11.9% of the female have replied that they coin the key words for search from their early reading. 11.3% of male and 13.5% of the female respondents get keywords from the thesaurus while 12.2% of male and 6.5% of the female respondents look for simple words or phrases during their search for information. 36.5% of the male and 19.5% of the female respondents have found the information obtained from e-resources is relevant to meet their needs and 29.6% of the male and 41.1% of the female staff members reveal that the information gathered from e-resources covers a broad scope of the topic to meet their information needs. 33.9 of the male and 39.5% of the female respondents felt that the information they got from electronic resources is not up to date to meet their information needs.

While searching for published information, 55.7 of the male and 47.0% of the female respondents look for full text and 27.0% of the male and 23.8% of the female respondents look for abstract/ summary while 17.4 % of the male and 29.2% of the female

respondents look for index in searching for published information. 100 % of male and female respondents agreed that they get appropriate and relevant information from online resources occasionally.

**Male Vs. Female Respondents:** More male respondents than female respondents get guidance from senior teachers to learn to use e-resources, need help in the use of e-resources periodically / not at all, coin new words based on their earlier reading while searching, use simple words or phrases in searching, get relevant information from e-resources and search for full text and abstracts while looking for published information. More female respondents than male respondents get guidance from library staff in the use of e-resources, need help often in the use of electronic resources, coin those keywords that they think at the time of searching, agree that the information obtained from e-resources cover a broad scope of their topics and search for index while looking for published information. Almost equal number of both male and female respondents learn to use e-resources through library orientation / instruction programs and agree that they get appropriate and relevant information from online resources occasionally.

**Table 14: Problems in using electronic resources Vs. Independent Variables**

Variables	Categories	Problems in using the electronic resources when searching for the information							
		Operating the physical devices		Technical problems		Choosing appropriate database		Total	
		No.	%	No.	%	No.	%	No.	%
Gender	Male	79	68.7%	22	19.1%	14	12.2%	115	100.0%
	Female	73	39.5%	80	43.2%	32	17.3%	185	100.0%
	<b>Total</b>	152	50.7%	102	34.0%	46	15.3%	300	100.0%

Table 14 explains that the problems faced by male and female respondents in using the e-resources when searching for information.

**Male and Female Respondents:** Operating the physical devices is the problem in using the e-resources among 68.7% of the male and 39.5% of the female respondents whereas 19.1% of male and 43.2% of the female respondents faced technical problems. It is followed by 12.2% of the male and 17.3% of the female respondents who had the problem of choosing the appropriate database when searching for information.

**Male Vs. Female Respondents:** More male respondents than female respondents faced the problem of operating the physical devices. More female respondents than male respondents faced technical problems and the problem of choosing appropriate databases in using the electronic resources.

**Table 15: Use of informal sources of information Vs. Gender of the Respondents**

Informal Sources	Response	Gender			
		Male		Female	
		No.	%	No.	%
Other sources of information Collection	Membership in other libraries	20	17.4%	13	7.0%
	External/sister Institutions	28	24.3%	44	23.8%
	Online resources	67	58.3%	128	69.2%
	<b>Total</b>	115	100.0%	185	100.0%
Informal Resources	Correspondence materials	57	49.6%	55	29.7%
	Field visit/personal enquiry	42	36.5%	96	51.9%
	Seminar/Conference/Workshop	16	13.9%	34	18.4%
	<b>Total</b>	115	100.0%	185	100.0%

Table 15 shows the use of various informal sources of information by male and female respondents.

**Male and Female Respondents:** 17.4 % of the male and 7.0% of the female respondents have membership in other libraries and 24.3% of the male and 23.8% of the female respondents use their external/ sister institutions for other sources of collection. 58.3% of the male and 69.2% of the female respondents look for online resources whilst seeking other sources of information on collection. 49.6 of the male and 29.7% of the female respondents use correspondence materials while 36.5 % of the male and 51.9% of the female respondents get required information through field visit/ personal inquiry. 13.9% of the male and 18.4% of the female respondents seek to get information from seminars / conferences/ workshop.

**Male Vs Female Respondents:** More male respondents than female respondents have taken membership in other libraries and make use of correspondence materials. More female respondents than male respondents make use of online resources as other sources of information collection; get required information by field visits / personal enquiry and by attending seminars / conferences / workshops. Almost equal numbers of male and female respondents depend on external / sister organizations to get needed information.

Table 16 shows the mean based analysis of barriers faced by the respondents in seeking information.

**Male Respondents:** Lack of access to all information is the major problem among the male respondents. It has a WAM of 2.93 followed by other problems like not proficient in search strategies (WAM of 2.74), Lack of knowledge (WAM of 2.51) and lack of institutional support (WAM of 2.37). The other three problems namely lack of time, non-availability of required books and non-availability of required e-resources have the WAM ranging from 2.01 to 2.06.

**Table 16: Barriers in seeking information Vs. Gender of the Respondents: WAM Analysis**

Barriers in seeking information	Male n=115		Female n=185	
	Mean	Std. Deviation	Mean	Std. Deviation
Lack of access to all information	2.93	.256	2.86	.348
Lack of knowledge	2.51	.502	2.44	.498
Lack of institutional support	2.37	.873	2.75	.545
Lack of time	2.01	.903	2.30	.900
Non-availability of required books	2.06	.717	1.66	.588
Non-Availability of required e-resources	2.04	.788	1.32	.479
Not Proficient in search Strategies	2.74	.563	2.58	.604

**Female Respondents:** The five major problems of female respondents in seeking information are : lack of access to all information (WAM of 2.86), lack of institutional support (WAM of 2.75), not proficient in search strategies (WAM of 2.58), lack of knowledge (WAM of 2.44) and lack of time (WAM of 2.30). The least serious problems include non-availability of required books (WAM of WAM of 1.66) and non-availability of required e-resources (WAM of 1.32).

**Male Vs. Female Respondents:** Both male and female respondents ranked the problem ‘lack of access to all information’ first but the magnitude is higher in the case of male respondents. While more male respondents are bothered about lack of knowledge, non-availability of required books and e-resources and not proficient in search strategies, more female respondents are worried with lack of institutional support and lack of time.

## 6. SUGGESTIONS

Based on the findings of the study, the researchers have recommended that:

- A majority of the respondents need general information. The school library should build enough collections to fulfill the general information needs of the teachers.
- Sufficient copies of textbooks, table copies, specimen copies, question banks and reference books for various grades should be made available in the school libraries as most a sizeable number of respondents seek information to prepare class notes.
- The teachers who visit the library occasionally may be motivated to visit the library often. The library should become a centre of knowledge dissemination with variety of resources and services to attract the occasional visitors.
- The library should offer reprographic service as the teachers want to get photocopies / print of required materials.

- Apart from curriculum based resources, the library should build a good collection of books for leisure reading. Novels, personality development / self-improvement books, biographies etc may be purchased and maintained in the school library for the teachers to spend their leisure time in the library. Demand-based, need-based collections are to be built in the school libraries.
- Various competitive exams are being organized for teachers like TET, CTET, TRB, NTA etc. The school library may build a good collection of such books to be used by the teachers who are preparing for such competitive exams.
- Inter-library loan service among the international school libraries may be arranged as a good number of teachers borrow the required materials from wherever available, if the school library does not have them. Document Delivery Service may be planned for the school of Chennai city.
- The school library resources are to be organized properly using suitable schemes of Classification. The problem of disorganization as a problem in seeking information in the library should be set right with proper bayguides, stack guides, instructions etc.
- The library should be spacious. Enough furnitures with proper seating should be ensured. A minimum recommended space plan may be drafted for international school libraries.
- The library should possess multiple copies of textbooks for the use of teachers. One set of textbooks may be issued to the teachers to be used for the whole semester / year.
- The free or specimen copies given to the school by the leading publishers may be collected, organized and issued to the teachers to supplement their teaching resources.
- The school libraries may go for building e-resource collections slowly. The freely available open access resources for school education may be compiled, published or circulated among the teachers.
- One day seminar may be organized to create awareness among the teachers of international schools on the availability of open access teaching resources for school education.
- The school librarian should keep himself / herself abreast with latest news about school education and he/she should inform /instruct the teachers on the arrival, availability and use of various e-resources.
- The teachers may be oriented towards various search techniques like plain search, phrase search, truncation search, proximity search, federated search, search filters etc.
- A semester-long session / course may be organized for the teachers to improve their skills in operating physical devices like computers, printers, photocopier, fax



machine, scanner etc. so that they will not face the problem of operating physical devices while accessing e-resources.

- The teachers should be encouraged to attend seminars / workshops / conferences on teaching and learning being organized both nationally and internationally.

## 7 CONCLUSION

The study on information seeking behaviour of the teachers working in international schools of Chennai has brought into light many interesting findings. While both male teachers and female teachers have same feeling and thoughts in few areas, they have varied opinions and realization in many of the facets of their information seeking behaviour. The findings of the study will provide an input to the school libraries as to what next to be done to satisfy the information requirements of male and female teachers. The library should become the knowledge hub of the school and should embrace ICT tools and techniques to acquire, organize, store, disseminate and preserve all varieties of information resources and organize and render all kinds of information services to quench the information thirst of their male and female teachers.

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