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Mishra, Monisha and Panda, K C. Prof(Dr), "Information Use Skills of Users At Five State Agricultural Universities: A Study" (2021). *Library Philosophy and Practice (e-journal)*. 6407.
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Information Use Skills of Users at Five State Agricultural Universities: A Study

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INFORMATION USE SKILLS OF USERS AT FIVE STATE AGRICULTURAL UNIVERSITIES: A STUDY

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Abstract:

Purpose: *The present study mainly focuses on the ICT and information use skills among the three core class of library users in different Indian State Agricultural Universities. As the first State Agricultural University was established in the year 1960 at Pantnagar, the other Universities considered for the study were also established between 1960 and 1970.*

Methodology: *Simple random sampling technique is used for the study. The scope of the study covered myriad aspects like library literacy skill, basic computer operating skills, knowledge of library resources and services including print and electronic resources and online databases, etc.*

Findings: *The current paper reflects the Information literacy skills of the agricultural students, research scholars and faculties and also to include the concept of “information literacy” to be an indispensable part of current university curriculum.*

Key words: Information skills; State Agriculture University; information literacy; Reference Source; Database; ICT skills.

Introduction:

In the past, the agriculture education was imparted as a subject in some of the traditional universities. The Agricultural graduates thus obtained, formed the main part of the administrative set-up of the Agricultural departments. “Agriculture” at the university level as a subject was introduced only in the early 20th century when five Agricultural Colleges

were opened in 1907^[8]. In the year 1926, under the Chairmanship of Lord Linlithgo, the Government of India appointed a Royal Commission on Agriculture (RCA) to study the conditions of agriculture and economy in rural areas of India. The Commission proposed the establishment of a Royal Agricultural Research Council (RARC) whose major task was to look into the Agricultural research across India. The Government of India accepted this recommendation and as a result, the Royal Council of Agricultural Research was established in May 1929. It was later renamed as Indian Council of Agricultural Research (ICAR) which is the apex body in the field of Agricultural education in the country. Hence, it was the post-independence era, the Government of India took several initiatives, and one of the goals was to create ICAR. India's agricultural education and research tour was established in 1950 with only 19 agricultural colleges, three veterinary colleges and 57 agricultural engineering colleges ^[9]. The National Agricultural Education System (NAAS) is administered by the ICAR.

Though the University libraries are considered as the backbone of the academic curriculum as well as the knowledge society, but the use of library and its resources by the academic community is far from satisfactory with some exceptions. The studies on ICT use skills of stake holders in an Agricultural information system often finds that, the reading habit of Agricultural students and research scholars are slowly bastardizing day by day. The Carnegie Foundation Report (1986) aptly observed that: "The quality of a college is measured by the resources for learning on the campus and the extent to which students become independent, self-directed learners. And yet we found that today, about one out of every four undergraduates spends no time in the library during a normal week, and 65 percent use the

library four hours or less each week. The gap between the classroom and the library, reported on almost a half-century ago, still exists today” [6].

With the emergence of digitization and real-time information handling, there is a paradigm shift in the concepts like “Education for All” to “Information for All”, and ultimately to “Information Literacy for All” as Christine Susan Bruce, of Queensland University of Technology explains that: “Information literacy is a natural extension of the concept of literacy in our information society, and information literacy education is the catalyst required to transform the information society of today into the learning society of tomorrow” (Bruce, 2004). In the academic environment, there is a tremendous growth of the e-resources in the form of CD-ROM databases, online journals, audio and visual materials, e-books, institutional repositories, and so on. Those resources have a great impact on the all-round development of a student or a research scholar and for accomplishment of their degree and need based services rendered by the libraries that acquire and create a vast array of heterogeneous resources for their potential users. However, a very few librarians pay attention on the optimal use of their most valuable learning resources. Therefore, the only solution which would address the required skills of the library clientele to use these valuable e-resources and such skill is often termed as “information literacy”. Thus, librarian should motivate the students, staff, faculties and research scholars of their respective parent organizations as how such skill impacts the whole learning process and facilitate the Librarian to play the role of a Teacher or Educator, but not merely as a Custodian of learning resources. Accordingly, the 21st century Librarians who work in a digital and real-time environment should take the responsibility of designing and implementation the Information Literacy Programmes (ILPs).

Advancement of ICT and digital technology has made information storage, processing, and communication at a faster pace, thereby making the entire universe of information available in a single platform. This unprecedented change has made information literacy skill of contemporary users imminent to avail the benefits of ICT optimally.

Stratum of State Agriculture Universities in India

At present there are 63 State Agricultural Universities in India, out of which GBPAU&T, Pantnagar is the oldest one which was established in the year 1960. The status of the five oldest Agricultural Universities of the country are briefed as follows ^[7]

GBPUA&T, PANTNAGAR (1960)

After independence, development of the rural sector was considered as the primary concern of the Government of India. Thus, in 1960, the first agricultural university of India, UP Agricultural University came into being by an Act of legislation (UP Act XI-V of 1958) having seven constituent colleges. ^[1]

ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY (OUAT), BHUBANESWAR (1962)

It is the second oldest agricultural university after GBPVA&T. The University took its birth on 24th August, 1962 and was inaugurated by Prof. John K. Galbraith, the then U.S. Ambassador in India. It has 11 constituent colleges catering to different disciplines such as Agriculture, Veterinary Sc., Agriculture Engineering, Forestry, Fishery, Community Science, Pure science etc. ^[2]

UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE (1964)

University of Agricultural Sciences Bangalore, a premier agriculture educational institution and research in the country, began as a small agricultural research farm in 1899 on 30 acres of land. The Government of Mysore headed by Sri. S. Nijalingappa, the then Chief Minister, established the University of Agricultural Sciences on the pattern of Land Grant College System of USA and the University of Agricultural Sciences Act No. 22 was passed in Legislative Assembly in 1963. Dr. Zakir Hussain, the then Vice President of India inaugurated the University on 21st August 1964 with four constituent colleges under its territorial ambience.^[3]

JNKVV, JABALPUR (1964)

JNKVV (Jawaharlal Nehru Krishi Vishwa Vidyalaya) is situated in the Centre of Madhya Pradesh and named after the architect of modern India, Jawaharlal Nehru Krishi Vishwa Vidyalaya (JNKVV) having one constituent College of Agriculture at Jabalpur. It is one of the seven Agricultural Colleges of the University, established by Government of India with the assistance of Government of Madhya Pradesh based on the recommendations of Radha Krishnan Commission (1949). Smt. Indira Gandhi, the then Minister for Information and Broadcasting inaugurated the Jawaharlal Nehru Krishi Vishwa Vidyalaya on 20th October 1964 with six constituent colleges.^[4]

ASSAM AGRICULTURAL UNIVERSITY, JORHAT, ASSAM (1969)

The embryo of the agricultural research in the State of Assam was formed as early as 1897 with the establishment of the Upper Shillong Experimental Farm (now in Meghalaya) just after about a decade of creation of the Agricultural department in 1882. The Assam Agricultural University was established on 1st April, 1969 under the Assam Agricultural

University Act, 1968 with the mandate of imparting farm education, conduct research in Agriculture and allied Sciences and to effectively disseminate technologies so generated. It has six constituent colleges.^[5]

Scope of the study

As a result of the massive use of digital technology in library practice at a much faster rate, the traditional Agriculture University libraries in India are facing a significant challenge to keep up with the times since the introduction of information and communication technology, digitization in library practice is no longer an image building, but has become a necessity. As a result, the current study focuses on the availability of ICT resources in university libraries, as well as the investigation of information seeking behaviour and existing ICT skills of agricultural students at India's five oldest State Agricultural Universities.

Objectives of the study:

The major objectives of the study are to assess ICT literacy skills of the Agricultural students and research scholars of five oldest State Agricultural Universities established between 1960 to 1970. Specifically, the study intends:

- To examine the existing ICT facilities and resources available in SAU's libraries;
- To assess the information seeking behavior of agriculture students and researchers;
- To assess the level of ICT literacy skills of library users of SAU's.; and

- To identify strategies for enhancing acquisition of ICT literacy skills of the library users in SAU's.

Methodology

For the purpose of data collection, structured Questionnaires were distributed among the users of State Agricultural Universities. A total of 350 questionnaires were distributed, 70 each to the individual Universities taken into account. The elicited responses then were transmitted in tabular form and were analyzed using Microsoft Excel and few statistical applications relevant to the study like t-test, Anova and Z-test to unplug the association among the variables exists, if any.

Review of Literature

Literature review has always been of paramount importance in the field of research. It has its own significant role as it has the capacity to define and limit a particular topic of research. By conducting the literature review, one can have an idea about the work done on a particular topic previously so that the researcher can focus upon the areas which had been left undiscovered. However, conducting a proper literature survey also helps in avoiding duplication of research.

Here mostly seven no. of reviews of literature regarding information literacy has been taken into account. Those studies mainly deal with the different aspects of information literacy of the agricultural students, like information searching skill, impact of e-literacy on teachers and students, limitations of the usage and effect of ICT tools and also the teaching of information literacy course to students at different agricultural universities. Hence the literature taken into account for review is mainly focused on the user community of state agricultural universities.

Munavalli & Kumbar (2017) in their study attempt to address the importance of measuring the level of information literacy skills among the undergraduate science students of Pillai College of Arts, Commerce and Science, Navi Mumbai.

Gupta and Pant (2017) in their study analyzed the impact of information literacy on students at G.B. Pant University of Agriculture & Technology: Pantnagar. They used survey method to recognize, trace and access the skills and knowledge of their library users. Besides, the study also made an attempt to unmask the awareness of students about diverse information sources, their information searching skill, knowledge on library consortia, and Internet.

Bhat et al. (2016) in their study described learning a viable and consistent procedure that identifies with student's dispositions, sentiments and approach towards the subject of learning. This study focuses on data proficiency competency of Post-graduate students of Pharmaceutical Sciences at Manipal University, Manipal. This investigation led before and after an Information Literacy Instruction (ILI) program at the Health Sciences Library of Manipal University and surveys various parts of data competency for usage of data assets. The study also unplugs information about the ability of the students to utilize library list, bibliographic databases and open access assets; certainty level identified with inquiry abilities of students during examination. The outcomes demonstrated that the data proficiency guidance impacted powerful learning of data education aptitudes of the students.

Bilawar and Pujar (2016) in their study unfold the impact of e-Literacy on the University level teachers in Maharashtra. The authors found that, knowledge of e-resources and getting proper training had a tremendous impact on information seeking behavior and also empowered the users to understand the use of information more effectively. The study,

therefore, emphasized on imparting training about the e-resources available and proper guidance to the faculty members for effective and optimal utilization of the e-resources in the least possible time.

Singh (2015) in his study stressed on evaluation as an essential measure to ascertain the responsibility and learning results of any workshop since it helps to know the users' need better. The study observed that, Information literacy programs are very useful to search, peruse, find, assess and disseminate the relevant information in right manner. The author's core aim was to examine the member's reaction about the Information Literacy Program (ILP) sorted out for agricultural science college students of Banaras Hindu University. The authors found that user's feedback and inputs of the workshop are quite helpful to change and rebuild the ILP program for optimal utilization of learning resources.

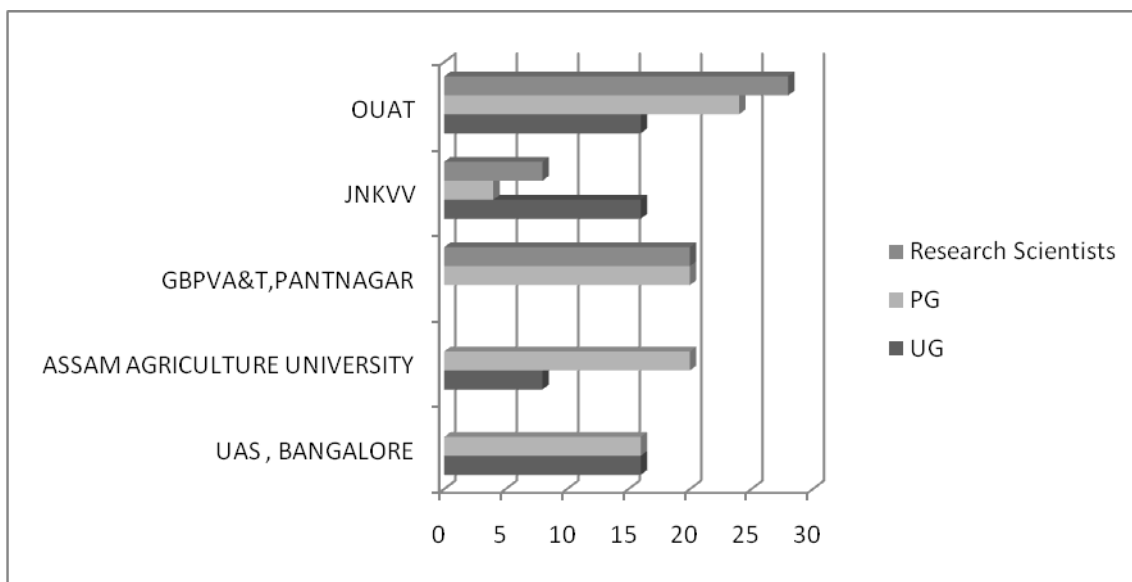
Nallusamy et. al. (2015) studied on the limitations of the usage and effects of ICT tools in the classroom teaching-cum-learning set-up in Agricultural education. Research studies show that for massive deployment of ICTs, the student community needs to expose themselves to various courses of computer skills and application software. The study also identified some of the impediments in the widespread ICT deployment amongst agricultural community. Apart from the poor or inadequate availability of interactive multimedia, self-learning modules and online class courses in agricultural domain, the study has unmasked that poor signal strength of Wi-fi that pose as barrier in inhibiting the adaptability of ICT tools in countries like India. The study suggests that the students should foster their information awareness, develop competence in ICT, and the teaching faculty should determine appropriate methods and steps for how to use ICT to achieve information literacy in Agriculture field.

Goria (2014) in his study discussed about the information literacy course “BHS-610: Storage & Retrieval of Scientific Information” which had been taught to Post Graduate students of GBPUAT (G.B. Pant University of Agriculture & Technology), Pantnagar as a non-credit course in each semester. The study was carried out and found out that there was a significant influence of information literacy course on PG students for the successful utilization of information resources.

Analysis of User Data and Discussion:

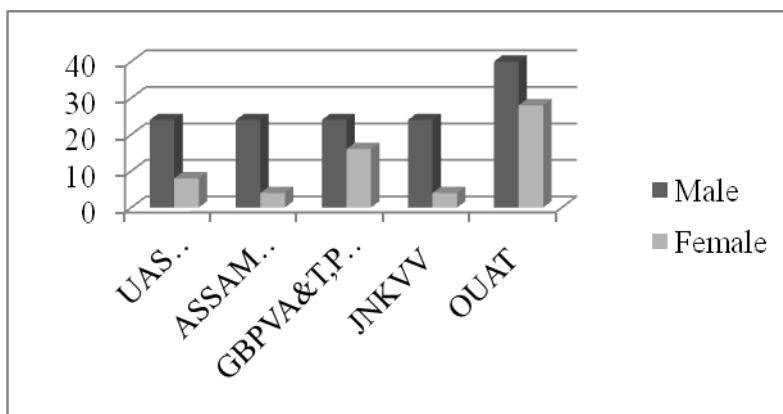
Table 1 – General information on Universities

Sl. No.	Name of the Agricultural Universities	UG	PG	Research Scientists	Gender		Sample received	Sample distributed	Percentage (%)
					Male	Female			
1	UAS, BANGALORE	16	16		24	8	32	70	45.71
2	ASSAM AGRICULTURE UNIVERSITY	8	20		24	4	28	70	40
3	GBPUA&T,PANT NAGAR		20	20	24	16	40	70	57.14
4	JNKVV	16	4	8	24	4	28	70	40
5	Ouat	16	24	28	40	28	68	70	97.14
Total		56	84	56	136	60	196	350	56



Graph 1 – Distribution of Respondents

The above graph shows that out of the three categories of respondents, the Post-graduate students have responded the most with 42.85%, followed by the UG students and Research scientists with 28.57%. each.



Graph 1.1 – Distribution of respondents (gender wise)

The above graph shows that the percentage of male respondents is more than the female respondents in all the five Agricultural Universities. Total 136 male and 60 female have responded out of a total of 196 which comes to 69.38% and 30.61% respectively.

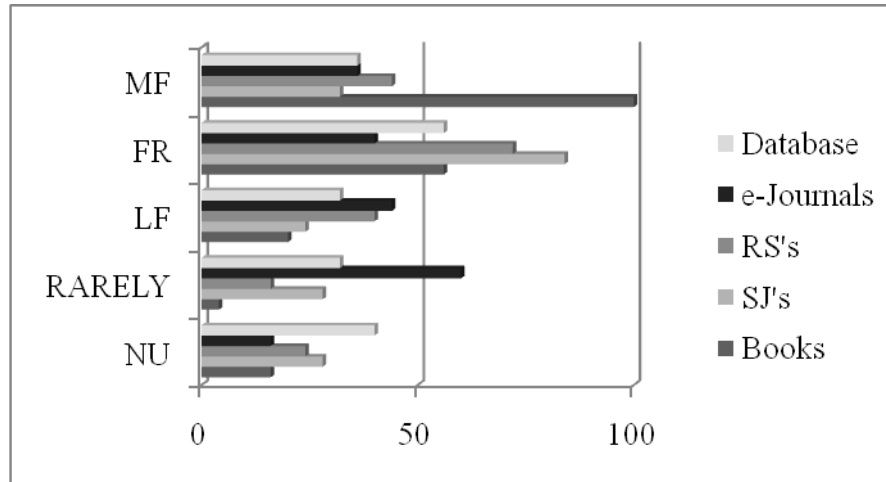
Table 2 –A BASIC PROFILE OF UNIVERSITIES STUDIED

SL.No.	Name of the Agricultural University	Yr. of establishment	No.of constituent colleges	Total user population
1	UAS , BANGALORE	1964	4	2758
2	ASSAM AGRICULTURE UNIVERSITY	1969	6	1007
3	GBPUA&T,PANTNAGAR	1960	7	5386
4	JNKVV	1964	6	950
5	OUAT	1962	11	1389

Table-2 shows that the oldest among the five Agricultural Universities is GBPVAT, Pantnagar, was established in the year 1960 with highest number of populations of 5386; followed by OUAT in the year 1962 with a population of 1389. UAS, Bangalore and JNKVV, Jabalpur were established in the year 1964 with a population of 2758 and 950 respectively. Similarly, AAU was established in the year 1969 with a user population of 1007.

Table 3 – Priority of using Library resources

Resources	Never Used	Rarely	Less frequently	Frequently	Most Frequently
Books	16 (8.16%)	4 (2.04%)	20 (10.2%)	56 (28.57%)	100 (51.02%)
SJ's	28 (14.28%)	28 (14.28%)	24 (12.24%)	84 (42.85%)	32 (16.32%)
RS's	24 (12.24%)	16 (8.16%)	40 (20.4%)	72 (36.73%)	44(22.44%)
e-Journals	16 (8.16%)	60 (30.61%)	44 (22.44%)	40(20.40%)	36 (18.36%)
Database	40 (20.40%)	32 (16.32%)	32 (16.32%)	56 (28.57%)	36 (18.36%)



Graph 3 –Use of Information resources

Both table 3 and graph 3 shows that the most frequently used library sources are the books i.e. 51.02%, followed by reference sources (RS) of 22.44% and serial journals (SJ) of 16.32% respectively. Thereafter e-journals and databases are used with a percentage of each 36.

Table 3.1 - Anova application

Summary of Data						
	Treatments					
	1	2	3	4	5	Total
N	5	5	5	5	5	25
$\sum X$	124	140	160	308	248	980
Mean	24.8	28	32	61.6	49.6	39.2
$\sum X^2$	3472	5680	5536	20112	15552	50352
Std.Dev.	9.9599	20.9762	10.198	16.876	28.5096	22.301

Table 3.2 – Anova result

Result Details				
Source	SS	df	MS	
Between-treatments	4972.8	4	1243.2	$F = 3.57077$
Within-treatments	6963.2	20	348.16	
Total	11936	24		

The f -ratio value is 3.57077. The p -value is .023587. The result is significant at $p < 0.05$

Here is an attempt to find any relation among the usage of the subscribed resources of the Universities. The author used the Anova application (statistical tool) and the result identifies that there is a significant relation between the library resources and their utilization (Table 3.1 & 3.2).

Table 4 – Frequency of Library visit

SL.No.	Name of the Agricultural university	Do you use University Library		How frequently you use the library		
		Yes	No	Daily	Weekly	At need
1	UAS , BANGALORE	24	8	12	8	4
2	ASSAM AGRICULTURE UNIVERSITY	28	0	24		4
3	GBPUA&T,PANTNAGAR	40	0	4	16	20
4	JNKVV	20	8	20		
5	OUAT	68	0	4	56	8

Taking into consideration, the usage of University library, the response of the five universities included in the study is described in table 4. The author has made an attempt to calculate any relation among the positive and negative opinion of the respondent if they exist and found that there is a significant relation between those variables with p value 0.003068.

T-value Calculation

$$s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) = ((4/8) * 376) + ((4/8) * 19.2) = 197.6$$

$$s2M1 = s2p/N1 = 197.6/5 = 39.52$$

$$s2M2 = s2p/N2 = 197.6/5 = 39.52$$

$$t = (M1 - M2)/\sqrt{(s2M1 + s2M2)} = 32.8/\sqrt{79.04} = 3.69$$

The t-value is 3.69. The p-value is 0.003068. The result is significant at $p < 0.05$.

There is a significance relation among the library users of these Universities on their opinion on using of institute library with p value 0.003068.

Table 5 – Background of ICT literacy of the respondent

Name of the Ag. University	Source of learning Computer				ICT equipments at home			
Name of the Ag. University	From Parent	Brother/Sister	Teacher	Friend	Computer	Printer	Server	Internet access
UAS, BANGALORE		12	16	20	12			12
ASSAM AGRICULTURE UNIVERSITY	8	16	20	16	20	8	8	16
GBPUA&T,PANTNAGAR	8	12	20	36	32	16	8	32
JNKVV	4	4	24	12	16	4		8
OUAT		4	60	20	48	16	4	48

The table-5 shows that most of the users have learnt the computer skills mainly from teachers 71.42%, followed by friends 53.06122 %, brothers/sisters 24.48%, and lastly from parents 10.2%. Similarly, regarding ICT equipment at home 65.3% respondents opine that they have their own computers. Overall 59.1% of the total respondents depend on internet surfing. It indicates that the students, research scholars and faculties of Indian Agricultural Universities are browsing electronic resources.

Table 6–Opinion on operation of computer

Name of the Ag. University	Independent operation of a computer			
	No knowledge	Basic Knowledge	Medium Knowledge	Perfect knowledge
UAS , BANGALORE			4	28

ASSAM AGRICULTURE UNIVERSITY			4	24
GBPUA&T,PANTNAGAR			8	32
JNKVV	4	8	4	12
OUAT	4		8	56

Table 6 shows that 56 users (77.55%) of users have perfect knowledge in operating the computer; followed by 14.286% having medium knowledge. The users having basic knowledge or no knowledge on operating a computer constitutes only 4.08% of the total.

Table 7- Independent operation of computer

Independent operation of computer	No knowledge	Basic Knowledge	Medium Knowledge	Perfect knowledge	
192	8	8	28	152	
	4.2	3.4	12.0	65.0	
	95.8	96.6	88.0	35.0	
	3.99306	3.30192	10.534	22.7628	0
		7.29498	13.8359	14.5271	33.296808
		2.70092	3.71967	3.81144	5.7703386
		0.7	8.5	7.8	53.0
	Z=	0.27689	2.29779	2.04625	9.1834217
	p=	.390967.	.010789.	.020368.	<.00001.

Here is an attempt to find the p value with Z score using Z-test on independent operation of computer. Table-7 indicates the relation among the respondents of various Universities and reveals that there is significance relation among 3 sets except one with p value is 0.390967.

Conclusion

The quality of a university is measured by its collection development i.e. the resources it holds for learning and the extent to which students are independent, self-sufficient learners by utilizing those resources. From the study we found that today, about 8.16% of users don't visit university library at all. Similarly, 4.08% of users don't have basic computer knowledge or no knowledge in operating a computer which needs introspection. The e-resources and databases are not used as much as print resources, which is a point to ponder upon. The first step in reducing this space is to make sure that the concept of "information literacy" is to be an indispensable part of current university curriculum. The students should be taught more about the operating computer independently, browsing existing e-resources, along with the web related skills. They must be encouraged to learn the skills of how to become self-reliant in utilizing the e-resources by making them information literate.

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