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COMPUTER LITERACY AMONG RURAL COLLEGE STUDENTS

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Abstract - The whole world has witnessed rapid and drastic transformation in educational structure, pedagogy and teaching methodology since the inception of computer and world wide web. Computer has become an essential audio visual tool for classroom teaching and a central pre-requisite for online distant mode of learning. It has completely changed the meaning, methods and techniques of teaching and has made it more learners based and student centric. Whatever it be, normal condition for distance learning or online learning in current scenario of pandemic, knowledge of computer and its different applications is a must for every instructor and learner. The aim of the present study is to assess level of computer literacy of undergraduate college students. In India accessibility of computers and laptops is still very low. The same is true for internet connection. For the present study 175 undergraduate students of Varanasi district were selected to examine their perceived computer literacy levels and different factors that affect it. Findings confirmed that student's perceived computer literacy level is low. The factors affecting computer literacy reported by students were slow internet, unavailability of computer, lack of training and motivation.
Keywords: Computer literacy, perceived difficulties, Rural undergraduates.

1 INTRODUCTION

Modern era is a time of specialized knowledge and skills. Education is the key instrument which equips a person with these two ornaments that in turn decides the success story of the person. Understanding the importance of knowledge generation, national Knowledge Commission (2005-10) visualised a knowledge based society in which information and communication technology work as weapon of transformation. Today's society maybe described as information driven society as its infrastructure is essentially founded on information, technology, computer and electronic communication system (Godard, 2002). Digitalisations of services and techniques, smooth flow of information and technological advancements have brought amazing changes in every spheres of life. Education is also not an exception of it. Communication techniques, use of computers, World Wide Web, multimedia approach and virtual education are some examples of use of technology in education. As a result of this some new concepts like computer literacy and media literacy have gained significant attention of the educators. Computer literacy is generally defined as computer using skills (Korkmaz and Mohiroglu, 2009); and the ability of controlling computers and programs to achieve various goals (Lee and So, 2014). It is also an ability to achieve desired outcomes via a computer (Saadi, 2007). Computer literate person uses its various tools and applications for a perfect errorless outcome in less time and labour. It is the best tool to remain updated about the fast changing world. Computer literacy connotes capability of an individual to make use of computer and allied tools for processing and retrieving information (Monowaluilou, 2008). Computer has revolutionised work ethics and working techniques in every sphere of life. That is why it firstly became a desirable and then turned into an essential tool for entire education system. Today a variety of e resources, learning tools and assessment tools are available to strengthen students' knowledge and skills. Computer literacy has become important component of higher education (Tella and Mutula, 2008}. Knowledge of computer connotes self study, increases self confidence, generates incite and compliments classroom teaching. Computer literate individual, in addition to knowing, how to use computer for its different applications and internet access make use of increased learning opportunities, provided by such technology. Computer has opened new doors of success, widened window of research and enlarged areas of specialisation. It has created demand of

specialised labour. It is well known that the growth of a nation depends on its human resources. Education is the tool which develops human resources by making them more competent and skilled. Importance of skilled labour can be understood in the following statement World Economic Forum (2011) "The economic growth of a country depends on qualified labour and it is necessary that the university graduates are literate of technology for this labour to be used in 2020". If you talk about India it is a big developing nation with wide socio economic diversities. Rural area of the country still lack many facilities. Internet connection and its slow speed are few of these. As per September 2020 ratings India ranks 131 out of 138 in the global mobile internet speed rankings (Sarkar, 2020). Similarly India has massive online community yet its internet penetration sits at 41 percent (Ang, 2020). In this scenario it is important to understand the level of computer literacy of college students and the perceived difficulties by them so that online education and e learning can be made more accessible all over India.

2. REVIEW OF RELATED LITERATURE

Attitude or perception of a person towards a thing determines the way he acts towards it. Self perception signifies how a person perceives his strengths and limitations. A positive self perception increases self confidence and boosts morale of the individual. The same is true for positive perception towards a thing or an activity. Computer literacy is very important in the present techno-savvy world. Perception of students' towards their level of computer literacy is crucial as well as very important. Bataineh and Baniabdelrahman (2006) studied Jordian EFL students' perception of their computer literacy. Students reported that they feel expertise in basic computer skills but not in advance computer skills. Some studies focused upon the computer literacy level of language students and most of them found that computer literacy level of language students was not up to the mark. In a study Alavi et al (2016) found that EAP students did not have adequate computer literacy levels t use computer applications which can be used for EAP learning. A study done on medical students with an aim of assessing computer literacy and attitude towards e learning revealed that a majority of medical students possess sufficient computer skills and acknowledge the advantages of interactive and multimedia enhanced learning (Link & Marz, 2006).

It is quite necessary that students not only use computers in schools but also at their home so that they can get used to different applications. Messineo and deOllos (2005) reported that computer competency was observed to be different especially among those students who use computers for their own personal and course related task. Lockley (2011) found in his study that students are not competent in many aspects of ICT. He also found that students do not learn to use some software in school but they do not use them in actual situations. Same results were found by Murray and Blyth (2011). They investigated perception of university students about their computer literacy level and found that students were not competent in using several computer apps like word, spreadsheet and software tools. Kumar and Mahajan (2013) investigated the relationship between computer literacy and student demographics in India. It was found that among the respondents less than half acquired adequate computer competency to search for information from electronic resources or database. Dincer (2016) examined the computer literacy levels of individuals graduated from the university. According to the results of the analysis conducted, the basic computer literacy levels were found to be low. In today's world mobile phones have taken the place of computers and have been proved to very useful for leaning activities. In a survey it was found that 67 percent of America college students use their mobile devices to complete all or some of their course related activities. But 21 percent of students have not used their mobiles and do not want to do so also {Clement, 2018}.some studies showed positive attitude of students towards web based learning.

Dashtestani (2015) examined computer literacy, self efficacy and attitude of EAP students of four different disciplines towards web based assessment and found positive attitude of students towards it. Borup (2004)

reported that among first year students 46 percent of the men were in the favour of replacing traditional teaching with use of computer while only 22 percent agreed with the statement. This kind of gender difference in computer literacy was also observed by Mutula (2008).

3 METHODOLOGY

3.1 Research Design

Present study employs a quantitative approach to determine level of computer literacy of the students. Survey method best fits for this purpose. General survey model is the survey arrangement carried out on the population itself or the sample got out of it, in order to make a judgement regarding the population having a great number of people (Karasar, 2010).

3.2 Sample

The study is limited to government colleges situated in rural areas of Varanasi district. A total number of 200 questionnaires were made, out of which 175 responses were received.

3.3 Instrument

A survey questionnaire was developed to collect responses from undergraduate students. The questionnaire was prepared both in Hindi and English. The design of the questionnaire was backed up by review of literature linked to computer literacy as well as feedback received from students and teachers prior to the conduction of the study. First part of the questionnaire was related to demographic information; second part had 18 items related to students' perception of their computer literacy and third part having seven items dealt with factors that limit computer literacy level of students. In total questionnaire comprised of 29 items. The format of the questionnaire was 4 point Likert type scale.

3.4 Data Analysis

Data of the study was analysed with descriptive statistical techniques. Mean and standard deviation were calculated for each item.

4. RESULTS

Questionnaire data was organised and analysed carefully. The results obtained for all the three sections were tabulated.

4.1. Demographic characteristics of the respondents:

Table 4.1 shows the demographics characteristics of the sample.

Table 4.1 Demographic characteristics of the respondents

S.N.	Profile		Number	Percentage
1	Residence	Rural	175	100
		Urban	-	-
2	Sex	Male	55	31.43
		Female	120	68.57

Out of 175 respondents 120 were female and 55 were male. All the students were of undergraduate level and belonged to rural area of Varanasi district.

4.2 Perception of students for their level of computer literacy:

The second section of the questionnaire had 18 items to judge the perception of students. The obtained mean and standard deviation of scores for each item has been presented in table 4.2.

Table 4.2 Mean and standard deviation on computer literacy scale

S. N.	Statement	Mean	S. D.
1	Using internet for assignment/ projects	2.98	0.84
2	Developing website	2.08	0.52
3	Using online assessment apps	3.36	0.64
4	Downloading videos	3.43	0.72
5	Using e-mail	2.58	0.78
6	Using online meeting platforms like Zoom/Google meeting	2.53	0.79
7	Downloading files/pictures	3.41	0.81
8	Solving simple software problems	1.08	0.52
9	Using chatting apps	3.51	0.69
10	Creating power point presentation	2.50	0.82
11	Using e-learning resources	2.72	0.81
12	Use of wiki	2.14	0.41
13	Typing	1.78	0.96
14	Using proper search engine	2.23	0.78

15	Creating and using Blogs	1.02	0.97
16	Copying and deleting files	2.69	1.06
17	Saving material in pen drive	3.14	0.52
18	Using scanner	1.56	0.58

The total mean for this section equals to 2.48 which shows that students perceived themselves a little proficient in using computers.

The items on which students responded that they were fairly proficient were use of online testing app (3.36), downloading videos (3.43), downloading pictures (3.41), using online chatting apps (3.51) and saving material in pen drive (3.14). On the items like website development (2.08), use of wiki (2.14), using right search engine (2.23), and creating power point presentations (2.50) students responded that they are less efficient. Students reported that they were not at all competent on creating blogs (1.02), using scanners (1.56) and solving simple software problems (1.08).

4.3. Perception of students for factors that limit their computer literacy:

Third section questionnaire focused on the felt difficulties of students that limit their knowledge of computers. The four points on the scale ranged from not important to very important. The mean and standard deviation scores for these items have been presented in table 4.3.

Table: 4.3 Factors affecting computer literacy of undergraduate students

S.N.	Statement	Mean	S.D.
1	Lack of time	2.38	0.64
2	Lack of training	3.46	0.52
3	Lack of motivation	3.28	0.66
4	Lack of computers	3.55	0.61
5	Slow internet speed	3.78	0.56
6	High cost of data	2.78	0.68

It is clear from the table that problems like lack of computers, slow internet, lack of training and motivation were reported as important difficulties while lack of time high cost of data were as little important.

5. DISCUSSION

Analysis of the data shows that rural undergraduate students possess low level of computer literacy. The use of computer is deemed to complete assignments and projects as a wide variety of information can be gathered and summarised with the help of it. Findings of the study revealed that most of the students were not competent in using internet for their projects. It has been proved students can get benefit from creating blogs (Toledo, 2006) and using Wikipedia but contrary to this expectation most of the students perceived themselves very little proficient in this area. Creating power point presentations is yet another important computer skill which is quite beneficial for college students for project presentations and student seminars. The participants perceived their power point presentation skill at a little proficient level. In this time of pandemic when online classes have taken pace of classroom teaching, knowledge of virtual meeting like zoom, Google Meeting, Microsoft teams, online testing apps and chatting apps is very essential for students. Participants reported that they feel themselves as fairly proficient in using online testing apps and chatting apps but in using virtual meeting apps they found themselves a little competent only. E mail is a fast paced method of sending and receiving messages. Every student must be trained in using e mails for establishing asynchronous communication with their teachers. Students understudy reported themselves as little competent in using e mail that is surely not a good sign as without the knowledge of e mail projects, assignments and queries cannot be shared. Same was the case with developing websites, resolving software problems using searching engines and copying and deleting files. If students are not competent in using search engines how could they find required learning material from the world of web. They should know how to create copy and delete a file so that they can manage the information and share it too. They should also have a knowledge resolving small software problems to keep their devices intact. Respondents found themselves fairly proficient in using key resources for learning. This finding is quite satisfactory yet they should be made fully competent in finding and using e resources of learning. In the skill of typing and using scanners students reported that they were not proficient. As far as the perception

about the factors that affect computer literacy level students reported that slow internet, lack of computers, training, motivation and high cost of data play a very crucial role it is evident that in rural areas infrastructure of internet is not very good that limits its speed to a great extent. Most of the rural students come from low financial status that is why they don't have computers/laptops at their home. Computer literacy demands for proper training and guidance to handle the device and using internet properly. Problems like lack of time and high cost of data were considered to be of little importance by the respondents.

6. CONCLUSION

Computer literacy concept of computer literacy has gathered great attention of educators as higher education is going through a lot of changes these days. Technology embedded education prepares students for future world and equips them with techno savvy skills so that they can fit into industries, research centres and corporate world. Findings of the present study reveal that computer literacy skill of rural college students still lies at bottom level. In most of the skills, perceived competence of the students was at little proficient or fairly proficient level. In none of the skills students perceived as fully competent. There are many factors which limit computer literacy level so positive effort should be made to remove these difficulties. There are two dimensions felt difficulties, one is related to internet infrastructure and second is related to proper management. There will be no use of large computer labs and centres in colleges as long as proper computer training is not provided to students. Teachers and administrators must encourage students to use computer and internet for academic purposes. If we want our students to be ready for global demand we have to pay attention towards creating computer literate students instead of creating mere academic literates.

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