Impact of Technology on Students' Way of Perceiving Education

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***Abstract.** Education is one of the most essential tools for any modern nation to achieve social, economic and political objectives for a meaningful national development. The scientific and technological basis of the world is dependent upon the quality of the higher education provided by the nation. Understanding students' ideas are a key step towards meaningful learning. Perception and attitudinal studies in education have been used to unravel crucial aspects about a particular issue, concept or an idea. Technology is a construct little explored in the Indian context. It is evident that information technology has affected changes to the methods, purpose and the perceived potential of education. This paper explores how students studying at a higher education institution use learning technology in their self-directed learning. The study has been conducted through three different methods, i.e., observation, interview, and document review.*

Keywords: Self-directed Learning, E-learning, Technology Use, Digital Library of Panjab University Chandigarh

1. Introduction

Technology surrounds us and influences our lives in profound ways. It would be impossible to imagine a world without technology. Educational experiences and training in diverse knowledge and skills prepares one to face challenges. Over the years the Indian scenario has undergone considerable changes in a very short span of time due to the influx of many technologies that have had an impact on human lifestyles.

2. Definition Of Information Technology

The word '*Information Technology*' is a combination of two words. One is '*Information*' and the other is '*Technology*'. Information means knowledge, can be a bit or a para or a page. Technology refers to the use of computer and communication technologies for gathering, processing, storage, retrieval and dissemination of information.

It is a generic term used to denote all activities connected with computer based processing, storage and transfer of information. It involves computers, electronic media, satellites, telecommunications and reprography.

The development in Information and communication technology (ICT) has revolutionized the modes and methods of information storage and retrieval. The developments of the Internet and World Wide Web have made a tremendous impact in the society as a whole, shrinking the world into a global village. The proliferation of large databases available for access over telephone lines and the increased use of computers as tools for the management of information is a fact of life in the developed countries.

3. Objectives Of The Study

University campuses often have a rich and varied assortment of technology and electronic resources available for research use by the academic community. The purpose of this study is to investigate the role that IT plays in the information seeking process of researchers who are engaged in a research project.

Furthermore, it is important to gather information about the electronic resource use such as how often online resources are used, why they are chosen, and what type of information researchers are seeking in order to better gauge the usefulness of providing electronic resources and to improve the match between the users' needs and desires and the systems' capability.

4. Review Of Literature

An important and crucial aspect of a research project is the survey of related literature. Survey of related literature means to locate, to read and to evaluate the past as well as current literature, concerned with the planned investigation. The time spent in such a survey invariably is a wise investment. Bearing this in mind, the investigator made a survey of related literature and could find out some of the relevant materials, which is being reproduced here.

Mutula (2000) states that at the end of the twentieth century and the dawn of the twenty first century, a new revolution has just begun to shape the context of human civilization, it is called the information revolution. He further states that the information revolution is the result of a convergence between information and communication technologies.

Becker (1994) stated that various technologies deliver different kinds of content and serve different purposes in the education. For example, word processing and e-mail promote communication skills; database and spreadsheet programs promote organizational skills; and modeling software promotes the understanding of science and math concepts. It is important to consider how these electronic technologies differ and what characteristics make them important as vehicles for education.

5. Limitations Of The Study

The scope of the present study is confined to Panjab University Library, Chandigarh. Hence, the researcher has limited the study to the Panjab University Library, Chandigarh. The study population limited to 60 researchers of Social Science faculty. Which consist of the research scholars working in the departments like Library Science, Sociology, History, Political Science, Public Administration, Psychology, Philosophy, Economics, and Women Studies, etc. of Panjab University Chandigarh. The data collected are self reported, based on the answers given by the researchers.

6. Research Methodology

Keeping the above-cited objectives and scope in view, the research plan was drawn, and to collect the comprehensive and relevant data, structured interview method has been adopted. A structured interview questions, designed according to the objectives, were personally distributed to the research scholars of the Panjab University Library, Chandigarh. Only M.Phil. and Ph.D level students were approached to answer the questions that were engaged in writing dissertations and are expected to use various sources of information almost similar to Ph.D. students. Observation method was also applied when required for authentic and detailed information.

7. Methods Of Data Collection

In the present study, the use of both the primary and secondary sources has been made to collect the data. The secondary data for the said study were obtained from the published books, journals, magazines, newspapers, periodicals, seminars and conference proceedings, annual reports of the university library and, research papers.

8. Tools And Techniques

The tools and techniques used for the present study are as under:

1. Literature Survey: In order to know the current status of said study were obtained from the published books, journals, magazines, newspapers, periodicals, seminars and conference proceedings, annual reports of the university library and also research papers.

2. Interview Method: Structured Interview Method was used to collect the necessary data from the research scholars of Panjab University Chandigarh. The data thus collected was interpreted appropriately in order to highlight the findings

9. A.C. Joshi Digital Library

The Digital Library of A.C. Joshi is equipped with 1 Server, 1 Network printer and 8 Desktop Systems. The library users have access to e-journals, Indian standards, database access, etc. A.C. Joshi Library is a member of INDEST Consortium (Indian National Digital Library in Science and Technology Consortium), under the aegis of the MHRD, provides On-line access to a large number of full-text journals from various publishers. The library also provides online access to major e-journals database through UGC-INFONET E-journal Consortium. The library being a member of DELNET (Developing Library Networks) provides on-line access to a large number of databases through the Internet. A.C. Joshi Library holdings are accessed by a computerized Online Public Access Catalog (OPAC).It allows searches for materials by key-words, or through several access points like author, title, subject, call number, publisher, and year of publication. Library user-friendly Web OPAC enables searches to be conducted with ease and speed. As databases became more readily available, end users were given the opportunity to search for themselves. Thus, the literature reflects this shift with examinations of0 resource use by intermediaries, end users, and both groups.

10. Analysis Of Data According To Respondent's Interview

This study examined the impact of technology for information seeking process and resources use of research scholars in the social sciences who were conducting research for a required M.Phil/ Ph.D. Resource use categories developed during the study were the previous use of resources, first time use, the resources utilized for finding information, the reasons for use or non use of these resources, the usefulness of the resources, and how the resources were discovered.

11. Research Process

1. What are the steps in the research process?

2. How do you choose your topic?

In general, the process followed by research scholars included: selecting a topic, using resources to find resources physically retrieving and selecting appropriate sources, reading the sources, organizing the information, and writing the paper. The research process was highly interactive and some of these steps took place many times. Most often reading the sources led to finding more and different sources.For the most part, scholar did not reflect much in the interviews about the process they used for conducting research. They tended to follow the same patterns they had always used. It is not too surprising, however, that they also tended to focus on sources, rather than resources. For this reason, perhaps, scholars are less likely to alter their methods or try new tools, as long as they are able to find enough information to satisfy their needs.

3. How do you devise a plan for conducting the research?

Research plans spanning the whole project did not really seem to be prevalent. Scholars had an overall sense of what they needed to accomplish, but mainly preceded one step at a time. Although they may well have possessed notions in their heads about the nature of the process, it was not clear what effect this had on their research. Perhaps, in this kind of research, it is unnecessary to have a plan beyond the basic steps.

4. What setbacks or problems occur during the research process?

The main problems that the scholars mentioned in information seeking were not actually related to the finding part of the process. Namely, they were that desired materials were not available and time management was difficult. Most scholars did not specify what they did when they could not get the materials they wanted. Having too much

material was also a problem for some respondents, in that it was problematic to organize it effectively. In addition, they did not feel that they had enough time to go through the materials thoroughly enough.

5. Resource use:

What are the most used resources?
How useful are the resources?
What are the most useful resources?

The most used and most useful resources were: online databases (28 respondents), scholars (15), and bibliographies (10). Browsing/surfing the internet was also popular (7), although it probably was not explicitly mentioned as often as it was utilized. It is likely that this was the case because it was not viewed as a 'real' mechanism for finding sources. The online databases were familiar to almost all respondents and constituted the single most important tool. Only one or two scholars did not actually use the online databases to find sources for their final topic, but everyone used them at some point in their project.

6. How do you learn about resources?

Participants mainly learned about resources in a formal way in a bibliographic instruction (BI) session, library workshop, or research courses, or because they were listed on a handout given by a BI instructor, professor, or teaching assistant. Students also heard about resources from other scholars or discovered their existence themselves in some fashion.

7. Why are resources chosen to be used?

Scholars overwhelmingly used familiar, convenient, and easy resources. In fact, only fifteen respondents employed unfamiliar resources. The most commonly voiced reason for this was the perception that there was no time to learn new things. Respondents also found that generally they could get what they needed from the resources they already knew and so had no incentive for seeking out new tools.

8. How useful are the technologies?

Majority of researchers indicated that they used technology for conduct searches through the Internet, locating relevant information held on computers worldwide; check contents pages of relevant journals using online databases; locate papers that cite seminal works using online citation indexes; in some fields, search pre-prints and electronic journals online and donor full text of papers; learn of forthcoming conferences, and retrieve electronic coherence papers from institutions world-wide; join special interest computer discussion groups and swap ideas; and search any computerized library catalog in the world using online public access catalogs.

9. Is technology making an impact on education?

Technology is making a significant, positive impact on education. Important findings indicate that:
Education technology has been found to have positive effects on student attitudes toward learning and on student self-concept. Students have increased self-confidence and self-esteem when using computer-based instruction. This was particularly true when the technology allowed learners to control their own learning.

Students trained in collaborative learning, had higher self esteem and student achievement.

Positive changes in the learning environment brought about by technology are more evolutionary than revolutionary. These changes occur over a period of years, as teachers become more experienced with technology.

10. What are the benefits and advantages of technology for research?

Regarding the benefits and advantages of technology for research fairly good numbers of respondents reported that technology offers speedy access; remote access; access to unlimited information from numerous sources; wider coverage of information that is flexible to all individuals hence satisfying their requirements; facilitates the reformatting and combining of data from different sources and also offers increased flexibility in teaching, learning, research and extension.

12. Conclusions and Suggestions

Each technology is likely to play a different role in students' learning. Rather than trying to describe the impact of all technologies as if they were the same, researchers need to think about what kind of technologies are being used in the research and for what purposes.

These findings reveals that positive and consistent patterns when students were engaged in technology-rich environments, including significant gains and achievement in all subject areas, increased achievement in university through college for both regular and special needs students, and improved attitudes toward learning and increased self-esteem.

Researchers indicate that computer technology can help support learning and is especially useful in developing the higher-order skills of critical thinking, analysis, and scientific inquiry at the same time; some researchers emphasize the ability to access, interpret, and synthesize information.

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