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RESEARCH PAPER

Perception towards the Use of Information and Communication Technologies among University Teachers and Students in Pakistan

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ABSTRACT

The study aimed to discover the perception of teachers and their students about the use of Information and Communication Technologies (ICTs) at university level. The study was phenomenology in nature; a qualitative survey method was used through semi-structured interview protocol developed by the researchers. The sample comprised of eight faculty members and sixteen prospective teachers selected through purposive sampling technique from University of the Punjab. Data were analyzed through thematic analysis technique with the help of open coding. The study findings revealed that multimedia, projectors, computers, laptops, and LEDs are used in at University level to enhance teaching-learning process. Teachers believe that ICTs can promote through training whereas prospective teachers said that every student should use these technologies in classroom. It is concluded that multimedia, projectors, and laptops are used for giving presentation during in classroom by the teachers and their students. ICTs can be promoted effectively through training of teachers as well as students by conducting seminars. It is suggested that government should take steps to enhance the usages of latest technologies in education system to compete the modern world

Introduction

The traditional teaching-learning process has been changed due to extensive use of Information and Communication Technologies (ICTs) in education. In 21st century many educational institutions use ICTs for providing knowledge and skills to students. There are various benefits to use ICTs as an educational tool. ICTs helps learners visualize conceptual thoughts and make it simple to find out reliable information (Qing, 2007). ICTs may be utilized to find

out, expand, examine and present information. Mercier and Higgins (2013) believed that usage of ICTs improves learner's educational achievement. Holcomb and Beal (2010) said that teachers can easily make mutual actions for learners on the web. Voogt (2010) believed that educators who employ technologies duringteaching tend to have a high level of assurance in pedagogical abilities and focus on learner-centered approach. They are engaged in proficient actions and association with colleagues than educators who don't use technologies.

Watson (2005) stated that ICTs perceived as channel for change in learning approaches, teaching styles and accessing the information. Traditional ways of learning have changed due to the use of ICTs; recommends want to reorganize education in terms of existing situation (White, 2005). ICTs may help to provide alternative prospects for education. Education is considered the best key area for ICTs applications (Casal, 2007). The function of ICTs in education is usually to disseminate learners with works and usages of computers (Khan, Bhatti, & Khan, 2010).Selwyn (2007) said that ICTs essential for university teaching and learning, the fact remains that a lot of university learners and faculty members make only partial academic use of ICTs during study.

Olakulehin (2007) said that ICTs becomes the basic building blocks of contemporary society within a short time. Educational field has been affected through ICTs, which have undeniably affected on teaching-learning (Yusuf, 2005). Many countries have successfully integrated ICTs to education by careful planning and establishing ICTs competency standards both to the students and teachers. In Pakistan, usage of ICTs is becoming an essential part in education. The incorporation of ICTs in teaching-learning processes is one of the most practical solutions towards educational reform. The usage of ICTs has been found to: ICTs used as a tool for learners to determine learning topics, solve problems, and give solutions to the problems in the learning process (Brush, Glazewski, & Hew, 2008). Sanchez and Aleman (2011) believed that learner soften engaged in the consequential use of ICTs. They construct new information during accessing, choosing, organizing, and interpreting information. Learners are more competent to assess the learning materials from internet through ICTs. ICTs build up learners' new thoughts in their areas of learning.

ICTs enables students to communicate, share information, and work collaboratively anywhere, any time (Mustafa, 2005). Martinovic and Zhang (2012) conducted a study on pre-service teachers' perceptions about the availability and usage of ICTs. They found that pre-service teachers were not sufficient comfort with ICTs usage; prospective teachers accessed ICTs partially in schools. Al-Zaidiyeen, Mei, and Fook (2010) found that teachers had low level of ICTs usage for educational function, teachers hold positive attitudes towards the usage of ICTs. Peeraer and Van Petegem (2011) found that teachers used ICTs limited during teaching practice, mostly replacing conventional teaching practices.

Alazam, Bakar, Hamzah, and Asmiran (2013) found teachers' ICTs skills were at moderate levels; majority of teachers were moderate users of ICTs. Ndibalema (2014) concluded that teachers had positive attitudes towards the usage of ICTs but they did not integrate it in their teaching efficiently. Majority of the teachers found problems in using ICTs as a pedagogical tool. Nisar, Munier, and Shad (2011) conducted a research study on the usage and Impact of ICTs in Education Sector. They concluded that the availability and usage of ICTs enhance the knowledge and skills of learners.

Different usage of ICTs has become expected for teachers and learners in teaching-learning process. Students can take back essential information within a short time by using modern ICTs. They may access electronic information from e-books, e-journals etc. Learners may enhance their knowledge through using different contemporary ICTs in form of wireless networks, internet, search engines, databases etc. In this regard, the researchers designed a study to find out the usage of ICTs at university level in Pakistan.

Material and Methods

Qualitative approach was adopted to conduct the study. The study was phenomenology on the status of Information and communication technologies (ICTs)at university level in Pakistan. The population was comprised of all the faculty members and their students of University of the Punjab, Lahore. Purposive sampling technique of non-random sampling was used to conduct the study. One faculty member and two students from were selected. Eight faculty members and sixteen prospective teachers were the subjects of the study. Semi-structured interview protocol consisted of six questions related to usage and effectiveness of ICTs was developed by the researchers. One question was related to the availability, two questions were associated with usage of ICTs; and three questions were related to the effectiveness of the ICTs. The validity of the instrument was assured through continuous discussion (meetings and emails) with assessment experts. Educationalists opinions were also considered to validate the semi-structured interview protocol. After finalizing the research instrument, the researchers visited at University of the Punjab to conduct interview from teachers and students for collecting data.

Results and Discussion

The data were collected from eight faculty members and sixteen students of University of the Punjab. Semi-structured interview protocol was administrated by the researchers to find out the usage of Information and Communication Technologies. The researchers personally conducted the interviews for data collection. The data analyzed through thematic analysis technique with the help of open coding. The researchers analyzed the data manually.

Analysis of Teachers' Interviews

The researchers collect data from faculty members of Institute of Education and Research (IER) about the usage and effectiveness of Information and Communication Technologies (ICTs) through semi-structured interview protocol.

1. What do you know about ICTs?

The responses of this question indicated that four interviewees out of eight thought that ICTs is the Information and Communication technologies. One male teacher said, *"ICTs is Information and Communication Technologies. That is used to improve instructions and teaching"*. Similarly, three participants said that these are technological devices that were helpful in effective teaching. ICTs as communicational electronic devices used in teaching replied by two teachers out of eight. One female teacher said, *"ICTs is electronic Communicational devices use in teaching (i.e. Multimedia, smart boards, projectors, etc)"*. Likewise, two respondents believed that ICTs is a new emerging concept in education. One male teacher said, *"ICTs is newly emerging concept in education that is helpful for effective and efficient education"*.

2. What are the different usages of ICTs at universities to enhance teaching-learning process?

In response of different usage of ICTs at university level to enhance teaching-learning process, four participants out of eight believed that multimedia used as a communication technology to enhance the teaching-learning process. Two interviewees thought that teachers and students used computers and laptops as ICTs. One male teacher said, *"Students and teachers use multimedia, computers and laptops at* universities *as ICTs"*.

Similarly, four teachers out of eight said that ICTs used for online searching material. Teachers delivered the lectures with the help of ICTs assumed by four respondents. One male teacher said, *"Students and teachers use electronic devices for searching material from the internet. These devices are available in library and computer labs"*. These technologies were used for communicating with others said by four teachers. Two respondents believed that students used these technologies to copy material from internet and made their assignments. One male teacher said, *"Students use ICTs (computers, laptops and smart phones) for making assignments; they copy material from online resources"*. Two respondents said that these technologies were used for lesson planning whereas two teachers thought that smarts phones were also used as ICTs. One interviewee replied that the smart boards and LEDs were also used to enhance the teaching-learning process. One female teacher said, *"Students and teachers use Smart Boards and LEDs for presentation. These are helpful for teaching-learning process"*.

3. How students use the latest technologies in University?

In response of how students use the latest technologies during the study. Majority seven interviewees replied multimedia used for giving the presentation. One female teacher said, "*Students and teachers use multimedia for giving presentations in the classroom. Students also use laptops and LEDs*". Students used computers in the library and laptops in computer labs said by five teachers; these technologies used for communication purposes assumed by five respondents. One female teacher said, "*Students use computers in library for searching books, journals and articles. They also use laptops in the computer labs during the study*". Similarly, four interviewees thought students used smarts boards and LEDs during the classroom. Students safe their works in the computers and laptops replied by three teachers. One male teacher said, "*Students use computer and laptops for saving the e-material for the future uses*".

4. From your point of view, what are the advantages of ICTs in education?

The responses of this question showed that five participants out of eight believed that ICTs was effective technologies for teaching-learning process. Likewise, five teachers said that these technologies were helpful in searching material from internet (i.e. journal, articles, and e- books etc). One male teacher said, "*Students can search journal and e-books material by ICTs devices*". Five participants said that teachers and students used these technologies for presenting information in classroom. ICTs kept up to date with latest information as well as technologies replied by four participants. One male teacher said, "*ICTs has more beneficial for effective and fast learning to keep up to date with modern technology and knowledge*". Similarly, four interviewees thought that these technologies were beneficial for the visual description of the information. ICTs were meaningful for communication with students and colleagues respond by three interviewees. One male teacher said, "*ICTs use for communication, students and teachers use these devices for conveying ideas as well as information*". Two respondents said that ICTs were helpful for the rapid preparation of the learning material while one interviewee believed that these technologies were worthwhile for education.

5. What are the disadvantages of ICTs in education?

In responses about the disadvantages of the ICTs in education, five participants out eight thought some students used ICTs to copy the material from internet. Likewise, four interviewees said that students used these technologies unethically specially the smart phones. Students taken away from the books due to the extensive used of these technologies believed by four participants. One male teacher said, "*Due to the extensive use of ICTs students take away from the book reading. They copy material from internet*". However, three instructors assumed that these technologies were not useful for the writing abilities. When technical fault accrued in these technologies than students' precious time could be wasted said by two interviewees. One female teacher said, "*Sometime technical fault occurs in these*

technologies; due to this students' precious time waste". Two teachers thought that these technologies have no disadvantage in education.

6. How can we effectively promote the usage of ICTs in University?

The responses of this question indicated that majority seven interviewees believed that these technologies should promote through the training of teachers and students. Four teachers said that ICTs may promote by giving better and relevant information regarding these electronic devices. One male teacher said, *"ICTs can effectively promote by providing better and relevant information about the latest devices. We can promote the use of these technologies by giving training to students and teachers"*. Three participants thought that we can uphold ICTs by educating the students. Similarly, three interviewees believed that usage of ICTs can endorse through the workshops and refresher courses. One interviewee said that ICTs may promote by giving laptop to every student. One male teacher said, *"Use of ICTs in universities can promote through workshop and seminars. We can promote the usage of ICTs by giving laptop to student"*.

Analysis of Students' Interviews

The researchers collect data from sixteen future teachers of Institute of Education and Research (IER) about the usage and effectiveness of Information and Communication Technologies (ICTs) through semi-structured interview protocol.

1. What do you know about ICTs?

The responses of this question showed that nine participants out of sixteen replied ICTs was the Information and Communication technologies. Similarly, six interviewees said that ICTs was for communicating and connecting learners with peers and teachers. One prospective teacher said, *"ICTs means the Information and Communication Technologies which is use in learning process. It is necessary for education"*. However, two interviewees considered that ICTs was the electronic devices; one participant said that these technologies as the software and hardware used in the computers. One female student said, *"ICTs is innovation in microelectronic. ICT is hardware and software telecommunication devices"*.

2. What are the different usages of ICTs at Universities to enhance teaching-learning process?

The responses about the different usages of ICTs in universities to enhance teaching-learning process, nine participants out of sixteen believed that ICTs used in the foam of multimedia for giving presentation during the class. Five interviewees said that overhead projectors were also used to enhance teaching-learning process. Likewise, five respondents thought that students used laptops for getting information. One male prospective teacher said, *"Students give presentation*

by using these technologies in classroom. They use multimedia, projectors and laptops during the study in universities". The responses from two participants showed that ICTs devices used in classroom as well as in the computer labs. Two respondents said that smart boards were also used in universities to enhance learning of future teachers. Similarly, two interviewees assumed these technologies also used for e-learning education; one prospective teacher believed that smart phones and microphones were also used in universities for learning. One male student said, *"Students use laptops in the computer labs. They use LEDs for giving presentation. Learners also use smart phones for getting information related to their study"*.

3. How do you find the usage of ICTs during the study?

The responses of this question indicated that five participants out of sixteen replied that ICTs found in the foam of multimedia in classrooms; five students believed that they found laptops in the computer labs. One female prospective teacher said, *"Students find multimedia in classrooms. They find computer in library and laptops in the computer labs"*. Two interviewees thought that ICTs found as Audio-Video cassettes. One respondent believed that ICTs found in the foam of smart board. Likewise, one student replied that ICTs found in the foam of smart phone and I-pads.

4. From your point of view, what are the advantages of ICTs in education?

In responses about the advantages of ICTs in education, eight participants out of sixteen believed that ICTs was helpful for the study; eight interviewees said that these technologies were valuable for getting knowledge related to their discipline. One female teacher said, *"ICTs is helpful for getting knowledge from internet. These technologies are valuable for study"*. Four prospective teachers replied that these technologies were supportive to communicate with teachers and peers. These devices were useful to see the visual expression thought that two future teachers. One female student said, *"ICTsis supportive for communication with peers and teachers. These devices are useful to see the visual expression"*. Similarly, two respondents assumed that these technologies were useful for storing data and explaining information. These technologies kept up to date with the new knowledge replied by two interviewees. One respondent said that ICTs was helpful for searching information from internet. One male student said, *"ICTs is useful for storing data. These technologies keep up to date with new knowledge"*.

Likewise, one prospective teacher said that these technologies were valuable for time saving during learning; ICTs was beneficial to reduce the paperwork. One participant replied that ICTs was helpful for making assignments as well as presenting the presentation during the courses work. One male student said, *"ICTsis valuable for time saving and beneficial to reduce the paperwork. That is helpful for making and presenting the assignments"*.

5. What are the disadvantages of ICTs in education?

The responses to this question explained that five participants out of sixteen believed that some students used these devices unethically to produce the irrelevant data. Four interviewees said that prospective teachers wasted their precious time on social networking messengers (Facebook, WhatsApp, etc.) by using ICTs devices. Due to the extensive used of ICTs students were detached from book, unaware from the hard foam material available in the books said by three respondents. One female student said, "*Sometime students misuse these devices to produce the irrelevant data. Students waste their precious time on social networking (i.e. Facebook, Whats App, etc.). Students detach from books due to the extensive use of ICTs*".

Two participants thought that these technologies have no disadvantage in the field of education. One respondent assumed that these technologies were expensive, when the light off students and teachers could not use these technologies. ICTs showed the abstractions not the real objects thought by one interviewee. Likewise, one participant had opinion that these technologies are complex in operating whereas one respondent said that ICTs used to copy the material from internet; due to these learners had lost their effective writing abilities. One female prospective teacher said, "*ICTs devices are expensive. These technologies are difficult in operating*".

6. How can we effectively promote the usage of ICTs in University?

The researchers collected information regarding the effective ways to promote the usage of ICTs in IER. The results showed that seven prospective teachers out of sixteen believed that direct use of ICTs by every student in classroom can be promoted the usage of ICTs. Four interviewees said that we may effectively promote ICTs by giving lecture on the importance of ICTs. One male prospective teacher said, "*Available devices should use by every student during the study. Teachers should give lectures on the importance and usage of ICTs*".The teacher should use ICTs during the classroom thought by three interviewees. Similarly, two future teachers said that teacher should have extensive knowledge regarding the different usage of ICTs. One participant considered that we can promote ICTs effectively by giving training and laptops to students. One female teacher said,"*ICTs can promote effectively by giving training to students. Laptops should give to every student*".

Conclusions and Recommendations

Information and Communication Technologies (ICTs) are considered essential for educational process. Teachers play an important role in adoption and integration of ICTs in educational process. The present study was aimed to investigate the usage of ICTs at University level in Pakistan. It is concluded that multimedia is used for giving the presentation during the classroom by teachers and students. Prospective teachers use computers in the library and laptops in

computer labs. The results of this study showed that ICTs is helpful in searching material from internet. These technologies keep up to date teachers and learners with latest information. These technologies are beneficial for visual description of information and picture. These technologies can promote through the training of teachers and students.

- It is recommended that government should take steps to improve teaching-learning process by the use of latest Information communication technologies in educational institutes. Teachers should be trained to understand the use of communication technologies.

- The present study was conducted on University of the Punjab, so it is recommended that further studies should be conducted on others teacher training institutions to enhance teaching-learning process.

- The researchers in this study used semi-structured interview protocol for teachers and students. It is recommended that future researchers should investigate the usage of ICTs through other tools.

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