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Muhammad Rizwan Safdar (M.phil Scholar Department of Sociology, GC University, Faisalabad)

Falak Sher (Lecturer Department of Sociology, GC University, Faisalabad)

Shabbar Iqbal (M.phil Scholar Department of Sociology, GC University, Faisalabad

Khaliq Ali Shakir (M.phil Scholar Department of Sociology, BZ University, Multan)

Wasif Ali (Lecturer Department of Sociology, GC University, Faisalabad)

Malik Muhammad Sohail (M.phil Scholar Department of Sociology, GC University, Faisalabad)

Sidra Saeed (M.phil Scholar Department of Sociology, GC University, Faisalabad)

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Abstract

This paper examines the theoretical approaches of educated people about the role of information technology in the development of education sector, with particular context of Pakistan. Quantitative (measured scale) variables and qualitative thematic variables generated from open-ended responses were analyzed by applying statistical measures, i.e. SPSS, to find out the outcomes. About 91.7% of the respondents signify information technology as vital for educational development; as information technology paves the way for the economic development of a society/state. The outcomes suggest organizing and publicizing an effective campaign to aware the people about the advantages of information technology for their well being and prosperity, ultimately.

Author(s)

Muhammad Rizwan Safdar
M.phil Scholar Department of Sociology, GC University, Faisalabad

Falak Sher
Lecturer Department of Sociology, GC University, Faisalabad

Shabbar Iqbal
M.phil Scholar Department of Sociology, GC University, Faisalabad

Khaliq Ali Shakir
M.phil Scholar Department of Sociology, BZ University, Multan

Wasif Ali
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Malik Muhammad Sohail
M.phil Scholar Department of Sociology, GC University, Faisalabad

Sidra Saeed
M.phil Scholar Department of Sociology, GC University, Faisalabad

Introduction

Information technology is the use of computer and software to manage information. Microelectronics-based combination of computing and telecommunications is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information is called information technology (Longley et al, 1985).

Use of information and communication technologies in higher education has been promoted by a variety of stakeholders for at least two decades. Critiques of the often over-hyped and tendentious nature of this promotion identify a range of interests in operation, from private sector producers of technology, through academic and media commentators, to policy makers more interested in efficiency than in

learning benefits (Woolgar, 2002; Selwyn, 2007).Technology has become a powerful tool for enhancing educational settings. Increasing reliance on technology is modifying student-teacher interaction with the passage of time (Candace, 2004). It is important to note that what type of audio-visual material is presented to students and what is its quantity. Modern technologies give teachers and students easy access to the means of production and manipulation of images in classroom.

Nations are built on which basic requirement is education as it generates highest returns as compare to any other avenue. Young minds enable themselves to absolve surrounding information for informed decision making at any later stage in life and they are enlightened to accept new ideas, expose creativity, and develop critical thinking. Computer is not very valid for Pakistan as Pakistan cannot afford it due to its underdevelopment stage. Gradually with the common use of computer and availability of desktop and lap tops and usability, low cost of computer has increased the importance of computer (Fox, 2008).

In recent years – both nationally and internationally – the speedy, effective, and global communication of knowledge has created a new foundation for co-operation and teamwork by the information technology. Educated people use computer and internet for learning different programs – project based, differentiated, or remote – as it is an easy way of learning in which tutors don't give lecture but give students' problems to answer, for example online lectures. Internet helps the students to find the solutions of their questions at their own home without the help of a teacher/tutor. Thus, computer/internet gives students the easy way to research about their questions (Wiki-educators, 2009).

In the education sector of Pakistan, information technology increasingly played a vital role since 1990s. This widespread technology gave wider pluses to the education sector, thus the role of information technology has resulted in the widening of educational access, giving people the chance to study for a qualification or a new career in their auxiliary time. Information technology (IT) has played a major role in extending the grasp of the education sector. More people who are educated, can now access career trainings and even degree courses online. Most universities now suggest lecturers to place their teaching materials online so that students can access them outside of regular lectures and tutorials. Anyone who has a computer and the will to learn can study for a degree and/or a career change (Jeffels, 2010).

The students are going to be educated by the use of information technology in educational institutes because information technology provides more creative teaching plan, lesson plan, and instruction to enhance the knowledge of students. Search engines on internet make the research easier and provide up-to-date information and quick search with only a mouse click. The internet also ensures the student that he/she will have accurate and viable information (Randash, 2010).

With education becoming more oriented towards practical aspects rather than the theoretical, and with competition among education providers intensifying, institutions across the world are investing heavily in technology to provide their students with faster, clearer and up to-date information. And, in this internet age, when the competition amongst educational institutions has also gone global, Pakistan's educational institutions do not want to lag behind. Most of them now use the latest technology, gadgets and software solutions to enhance and enrich the overall learning experience for students; serve the other stakeholders like parents, effectively; and manage their tangible and intangible resources, efficiently (Pandey, 2011).

Methods and Procedures

Participants and Procedure

Study participants were selected as a subsample of 120 students (male/female) drawn from four departments (30 from each) out of 35 departments of the GC University, Faisalabad. The average number of students in each department of the university was around 200 students. This subsample received the qualitative open-ended questions as part of a face-to-face interview. Data were collected on multiple student characteristics and responses

about the role of information technology in the education sector of Pakistan including their age, gender, sexual orientation, religious affiliation, participation in educational activities, family socioeconomic status (SES), and enrollment status.

Analytic Approach, Instruments, and Data Collection

The aim of collecting open-ended text narratives was to identify stable thematic categories generated inductively from text narrative responses to specific focus questions. This approach gives voice to the "insider" views of study participants. The structured 1-hr interview schedule consisted of 9 sections and included items regarding the student's educational background, as well as the use/importance of information technology in their learning process. Tested and translated versions of this survey and open-ended questions were developed for use with study participants who spoke either English or Urdu.

Open-Ended Questions: Normative Beliefs about Family and Rural Lifestyle

Thirty eight open-ended questions, which were constructed in an interview schedule format, were presented to each respondent individually. By means of this methodology, each participant's responses constitute independent observations/experiences that allow a statistical analysis of responses. Although participants were provided these specific questions in a concrete format, they were encouraged to offer their own personal views whether in agreement or in disagreement with the question posed.

Translation and Transcription

For each open-ended question, the original written text was transferred from the survey forms into a text file. Responses from the Urdu-speaking participants were translated to English. Then the translated Urdu-language version was back-translated. Inconsistencies in the two versions were then reviewed and reconciled by a committee of four bilingual reviewers. For all cases, the thematic analysis of text was conducted in English.

Qualitative Text Analysis

First, we used the software program SPSS to conduct the qualitative text analyses, using a four-step methodology; (a) identifying excluded words, (b) creating aliases, (c) generating automatic categories, and (d) iterative analyses to attain an optimal solution. First, a set of excluded terms was established to eliminate words that occur at high frequencies but lack substantive meaning, such as the articles "a," "an," "the," and so forth. Second, words having similar meaning, or "aliases," were identified (e.g., town, small city). Third, an initial set of categories was generated using the program's auto-categorization feature. As each participant (case) responded to a given question with one or more sentences (response[s]), the unit of analysis was the case/response of text narrative. Fourth, iterative analyses were conducted as guided by two criteria. Criterion 1, full content, Criterion 2, uniqueness, was aimed at generating categories having the highest percentage of unique responses (i.e., cases/responses representing only a single category).

Results and Discussions

Analysis and interpretation of data are the most important steps in scientific social research for drawing authentic and concrete conclusions. Without these steps, generalization and prediction cannot be made which is the target of a scientific social research. Generalization and conclusion are drawn on the basis of characteristics of the respondents and their attitude towards the phenomena being investigated. Primarily, the focus of the study in hand was on the measurement of the role of information technology in the education sector, with particular context of Pakistan.
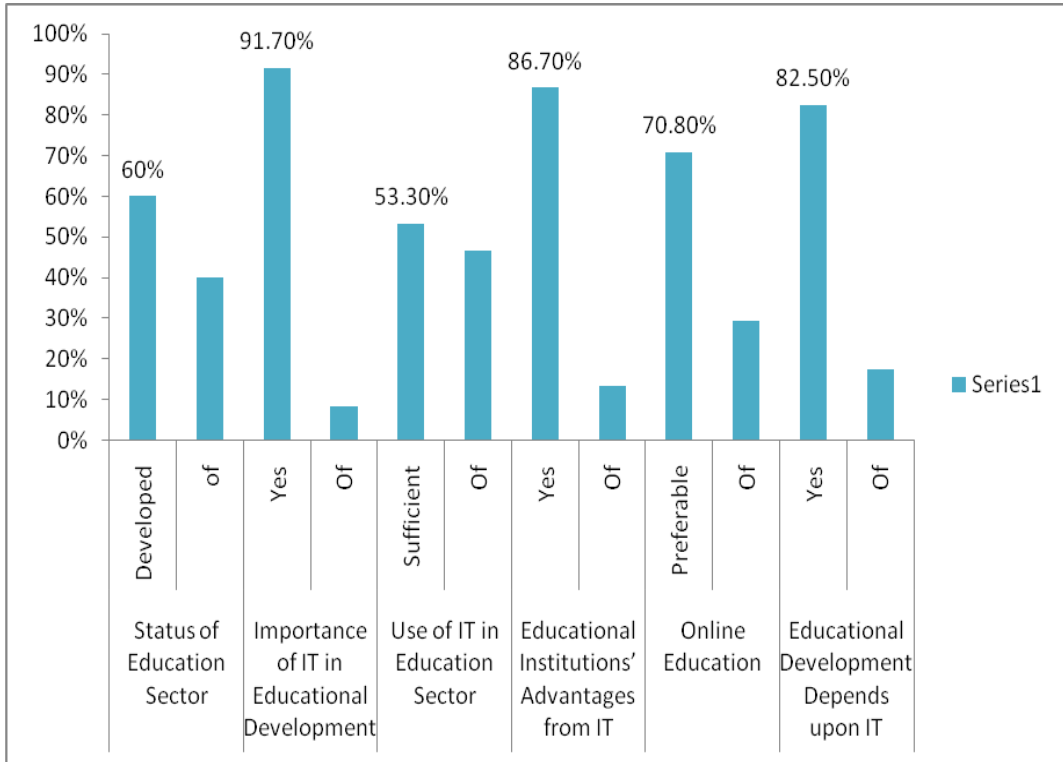
Graphical Explanation of Results

While conducting the study in hand, six major areas were focused, i.e. current status of education sector in Pakistan, importance of information technology in educational development, ongoing use of information technology in education sector, educational institutions' advantages from information technology, views of respondents about online education, and the dependency of educational development upon information technology.

Graphical explanation of the results presents an overview of the study objectives and outcomes. X-axis shows the variables studied and Y-axis shows the respondents' responses in percentage. The variables named 'of' are indicating the less responded variables, i.e. the variables having less number of responses. 60% of the respondents were of the view that the education sector is developed; while the remaining said that there is the need of advancements in education sector to cope with advanced and globalized world. As shown in diagram, 91.70% of respondents suggest information technology as the only tool for educational development in the country. These findings support the view that utilization of information technology is increasing in universities all over the world and Students in an online setting take advantage of the flexibility and convenience of studying at their own pace, in their own space and time (Arbaugh, 2000; Marks et al., 2005; Koch et al., 2007). Regarding the current use of information technology in the education sector, 53.30% respond that it is sufficient, but the others said that it is of basic or medium level. 86.70% of the respondents said that educational institutions are benefitting from information technology (IT). These findings support the findings of some previous studies (Thorpe, 2009). It was perceived by the researchers that the respondents' main focus in this regard was on the educational institutions' income. They were of the view that the educational institutions' benefits are materialistic more than the exertion of educational development in the country. Online education is gaining popularity in the country. 70.80% of the respondents show their interest for the promotion of online education in the country as it is easy to access and cheaper than that of institutional. These findings appear to confirm the view that application of IT is essentially amplifying

(Salmon, 2004; Caladine, 2008; Sohail et al., 2012). Educational development depends upon the involvement of information technology in education sector (82.50%). These findings are consistent with the conclusion of a previous investigation that the technology is now found in over 70% of UK class-rooms (Future source Consulting, 2010); its prevalence is rapidly increasing in a number of other countries too, notably Denmark and Netherlands (40%–42% classrooms in 2009), USA, Australia, Ireland, and Mexico (almost 30% classrooms).

Conclusion and Suggestions

The above discussed figures show that information technology is rapidly penetrating into the education sector of Pakistan. Information technology is gaining importance almost in every field of the life including education sector. Without the proper and affective implementation of information technology in education sector, this field can never be developed which result in the underdevelopment of the country, ultimately. Thus, the information technology and educational development are directly proportionate. So, for underdeveloped or developing countries like Pakistan, the techniques of information technology are of vital importance for educational development.

Information technology should be a primary tool for education/learning in the country. For this purpose, the department of information technology should take initials in order to affect upon the status of education sector of the country. Advanced information technology curriculum should be implemented in the educational institutional institutions, i.e. schools, colleges, universities, according to the students' learning level. Government may take multiple steps to upgrade the level of information technology in the educational institutions of the country. For this purpose, the ministry of education should take the educational system of developed countries as a model for educational development in the country. Government should organize and publicize a campaign to aware the organizers of educational institutions about the effective and constructive use of information technology for the development of education sector.

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