Impact of Digital Skills on Faculty in Teaching and Research: A Case Study of GC University Lahore, Pakistan

Khurram Shahzad[1]

Abstract

Purpose: To know the impact of digital skills and related barriers on faculty of Government College University (GCU) Lahore in their teaching and research.

Design/methodology/approach: Survey research method is adopted for this study. Population comprises the faculty members working in GCU Lahore. Using simple random sampling technique, a quantitative questionnaire is adopted after validation by relevant experts. SPSS is used for statistical data analysis.

Research limitation(s): This study is limited to the regular faculty members of GCU Lahore thus excluding visiting faculty.

Key finding(s): Findings of the research show that most of the respondents prefer information in print format. They use internet for locating specific information. They have the facility of HEC online databases. Digital resources are a blessing for the researchers. Majority of the respondents are satisfied with the services of the library and attitude of library professionals.

Practical implication(s): Though the faculty members use IT for teaching and research purposes, however, they lack proper information searching skills. They need to be provided with modern library, latest computers, fast internet connectivity, and the latest digital information resources. Computer training and latest ICT-based courses should be introduced to enhance their digital skills.

Contribution to knowledge: Findings and recommendations of the study are useful for the administrative authorities of all sister universities in the region to conduct ICT programs for the faculty so that they may do teaching and research more efficiently.

Research type: Research.

Keyword(s): Digital skills; IT skills; Faculty; Government College University (GCU); Lahore, Pakistan.

---

[1] Government College University, Lahore, Pakistan. Email: khurramm@gcu.edu.pk

Introduction

Digital Competency is buzzword of the present era. Many researchers have described this term by their own ways. This is known as a set of skills, learning, behavior that is required to manage certain tasks related to digitization. This competency proves very beneficial in solving problems. It helps in making content available easily and users' information and research needs are satisfied by using digital competencies. Digital Competency has become a basic need of every library professional and library practitioners can't proper their libraries without having adequate expertise of digitization.

Digital competencies provide many benefits. These bring revolutionary changes in the society. These competencies are grabbed through constant work and experiences. There are no set rules for developing digital skills. Koo (2007) stated in his study that there was a huge gap between studies and field-practices. Market place skills differ from curriculum.

Teachers join teaching profession and start research; however, they often lack basic information technology skills. Thus, the inability to use technological systems such as www, e-databases, appropriate search terms, adequate digital techniques to find out the relevant and required information through internet results in the waste of time and money.

Bechet and Eva (2012) stated that technology enhanced teacher education. IT had brought ample of opportunity in the field of education and teaching. Students had become more innovative due to the advent of information and communication technologies (ICTs). Teachers needed to provide quality education. They should deliver updated lectures through the latest technology. They needed to check assignments through the help of different softwares. Technology had brought a great facility in the teaching methods of teachers and research culture was being increased and teachers should adapt all these changes accordingly in order to lead from the front in this age of information and communication technologies.

Faculty members often consult digital resources for teaching and research purposes. The searching, finding, organizing, sorting, keeping, and evaluating information and knowledge are crucial for their profession and integrity. Therefore, it is very important to explore the digital competencies which they have in the present scenario as the mastery of digital skills is indispensable for their professional development.

The rapid changes in information society confront with new challenges. During the course of time, the faculty members need to be more and more responsible in order to get the mastery of online

information resources in this digital environment. Promotion of the faculty members demands sufficient research publications and for producing quality research, the usage of digital resources is highly important. Therefore, in order to survive in an information and knowledge society, it is important that faculty members learn the required attitude and digital skills. Before this study, no such research has been conducted in GC University Lahore. This study is highly valuable as it will enhance digital skills of the faculty members so that they can bring completion of set objectives efficiently.

Objectives of the Study

Research objectives of the study include:

1. To find out the impact of digital skills upon faculty teaching and research.
2. To reveal the problems of digital skills being faced by faculty members.

Literature Review

Patalong (2003) conducted study on using the virtual learning environment WebCT to enhance information skills teaching at the Coventry University, UK. Result of the study highlight that IT has brought a great revolution. It has made teachers' works easy. Virtual education was getting popularity in the present age. Traditional methods of teaching and learning were being ended from the institutes. It brought effectiveness and efficiency in teaching.

Ansari (2006) conducted study on Internet use by the faculty members of Kuwait University. Study was carried out through a questionnaire. Findings of the study reveal that most of the teachers use internet. They utilize web sources for various purposes. They use electronic mails. They use reference chat as well. They keep in touch with professional colleagues through web 2.0 technologies. They also face the problems of internet speed and lack of technical support in accessing authentic information from internet. The study recommended the need of formal training courses regarding IT for the faculty members of Kuwait University.

Bullock (2011) conducted study on Teaching 2.0: (re)learning to teach online. Findings of the study reveal that technology has brought great innovations in teaching. It has redefined the concept of instruction. It has brought a great ease in teaching. Teachers find technology as a comfort zone when they use that effectively. They perform their respective tasks easily. They get maximum knowledge of their field due

to the latest web methods. Information is in their hands. Only major hurdle which they find is to differentiate authentic information from unauthentic. They need to become skilled while using technology so that they may effectively utilize web resources. Due to technology, information can now easily be accessed even through mobile phones by a single click.

Stagg and Lindy (2012) conducted study on Research skills development through collaborative virtual learning environments. Results of the study show that respondents use IT for valuable learning. They use information technology for bringing easiness in their works. They make completion of respective tasks well in time. They teach efficiently through the help of Information Communication Technologies (ICTs).

Thomas (2012) conducted research on Using new social media and Web 2.0 technologies in business school teaching and learning. Findings of the study reveal that many innovations have taken place in the present age of information and communication technologies. Faculty members are learning new technologies. They are using latest gadgets to meet their information and research needs. They like to teach off campus as well through the latest information technology. They find no barrier in delivering their lectures. They are technology-minded. They like to work in a virtual environment. They are not afraid of bringing change in their job routine. They have awareness of IT.

Keiser, Betsy and Brian (2014) conducted research on growing teachers for a new age: Nurturing constructivist, inquiry-based teaching. Findings of the study reveal that faculty needs sound concepts to utilize information technology. Faculty members and students need to be creative in their minds. They must embrace new technologies happily. They must have a welcoming attitude towards emerging technologies. They must attend refresher courses. They should have an optimistic approach towards new innovative technologies.

Arshad and Ameen (2015) conducted a study to assess the usage patterns of a university library website to analyze user behavior of monthly use, its top most used resources and services and search phrases used to reach the library website at the University of Punjab, Lahore. They found that a significant number of users frequently used the library website and accessed free scholarly e-journals, subscribed e-journals, e-books and personal collection on top priorities. However, free scholarly journals were used more than subscribed e-journals accessible on-campus only. They desired accuracy, economy, and quickness in their

works. They frequently utilized online resources for fulfilling their needs.

Online journals are getting familiarity among the faculty members of the universities. They are becoming habitual of utilizing online resources keenly. They have realized the fact that the adoption of IT is the only survival in the present era of Information and Communication Technologies (ICTs). Tahira and Ameen (2016) conducted a quantitative study on the information needs and information-seeking behavior of Science and Technology faculty members of the University of the Punjab (PU). The results of this study showed that the faculty members were making an effective utilization of e-resources. They frequently located e-journals and other e-content by using technology. Arshad and Ameen (2017) explored the academic use of e-journals at University of the Punjab. The sample population of this study was the on-campus academic staff of 12 faculties of University of the Punjab. The findings showed that a significant number of faculty members had excellent skills in searching e-journals through search engines and full-text databases. The university provided access to full-text databases of e-journals, Emerald, Elsevier, and Science Direct, through HEC Online Databases. Overall academic faculty members used electronic journals more frequently than print journals to fulfill their scholarly needs. They preferred to use e-journals to keep themselves up-to-date, to write research articles, research reports and to teach and instruct students.

Mubarak and Nycyk, (2017) conducted study on Teaching older people internet skills to minimize grey digital divides: Developed and developing countries in focus. Research showed that older people face challenges in adopting IT skills. They feel nervousness of utilizing IT. They don't want to enhance technological skills. They like traditional methods. They don't have an innovative approach towards new trends. They face challenges in utilizing IT.

Murawski and Bick (2017) conducted study on Digital competences of the workforce. Results of the study show that digital competencies are highly valuable. No faculty member can go ahead without having grabbed proper IT knowledge and skills. One needs to develop IT skills in order to lead from the front. A number of benefits may be availed through digital skills. Research projects may be completed well in time. Incentives may also be availed through digital skills. In the present highly competitive age, development of digital skills is highly essential. Without digital skills, faculty members may not achieve set goals of the organization.

Filipi (2018) stated that digital skills bring many benefits for the faculty university's faculty members. Teachers enhance their knowledge through web resources. They make completion of research projects without any delay. They find information off campus as well. They use latest methods to access required pieces of information. They manage class room efficiently using effective digital skills. They conduct examinations easily. They assess students' performance without facing any problem. They can check plagiarism from students' assignments through online softwares easily. They perform their work more efficiently with the help of digital skills.

Alenzuela and et.all. (2019) conducted study on Building information research skills in the Pacific region: The University of the South Pacific Initiative. Results of the study reveal that information literacy searching skills are getting more and more popularity among the faculty members of universities. Usage of information technology brings comfort in various works. Faculty members having IT skills gain a number of benefits and certain incentives. They teach their students and guide researchers easily. They prepare class room lectures quickly. They avail several information resources. They get maximum knowledge and updated information of their field. They however sometimes face problems in accessing required information due to IT skills problem.

Methodology

Survey research method is adopted for this study. The study is quantitative in nature. The population of this study comprises 400 faculty members working in GC University Lahore. They include professors, associate professors, assistant professors, lecturers and visiting faculty members. Convenience sampling technique is used. The updated list of academic faculty members who were the part of study is available on the university website. The instrument was validated via experts of the field of library science. Faculty who responded to the questionnaire totals 294. After collection of data a numerical analysis using SPSS was performed to present the data into tangible results.

Findings of the Study

The following section presents findings of this study and their interpretation.

Table 1. Impact of ICT Skills, Information Use and Access (n=294)

Sources of information	S.D. F(%)	D F(%)	N F(%)	A F(%)	S.A. F(%)
Digital literacy skills empower me in teaching and research.	5 (1.7%)	8 (2.7%)	36 (12.2%)	177 (60.2%)	68 (23.1%)
Digital skills have made it easier for me to create and share knowledge.	2 (0.7%)	5 (1.7%)	35 (11.9%)	175 (59.5%)	77 (26.2%)
ICT skills reduce my dependence on print materials.	7 (2.4%)	21 (7.1%)	57 (19.4%)	146 (49.7%)	63 (21.4%)
ICT skills keep me updated with latest happenings in the profession.	00	9 (3.1%)	47 (16.0%)	160 (54.4%)	78 (26.5%)
Using Internet is easier for me in information searching and retrieval.	2 (.7%)	10 (3.4%)	36 (12.2%)	158 (53.7%)	88 (29.9%)
Digital skills are effective in my research.	2 (.7%)	14 (4.8%)	34 (11.6%)	170 (57.8%)	74 (25.2%)
HEC online databases enhance my capabilities of information searching and gathering	5 (1.7%)	15 (5.1%)	36 (12.2%)	160 (54.4%)	78 (26.5%)
Internet helps considerably in finding my required information.	2 (.7%)	8 (2.7%)	32 (10.9%)	172 (58.5%)	80 (27.2%)
The availability of electronic information resources has the positive impact on my information searching.	1 (.3%)	12 (4.1%)	37 (12.6%)	166 (56.5%)	78 (26.5%)
Subject databases enhance my capabilities of information gathering.	2 (.7%)	7 (2.4%)	40 (13.6%)	159 (54.1%)	86 (29.3%)

(S.D.=Strongly disagree, D=Disagree, N=Neutral, A=Agree, S.A.=Strongly agree)

Table 1 reveals that there are five (1.7%) respondents who strongly disagree with the statement of having the impact of digital literacy skills in their teaching and research, eight (2.7%) respondents disagree, 36

(12.2%) remain neutral, 177 (60.2%) respondents agree while 68 (23.1%) respondents strongly agree. The data also reveal that majority of the respondents agree to the statement that digital literacy skills empower them in their teaching and research based activities. There are two (0.7%) respondents who strongly disagree with the statement that digital skills have made it easier for them to create and share new knowledge, five (1.7%) respondents disagree, 35 (11.9%) respondents remain neutral, 175 (59.5%) respondents agree while 77 (26.2%) respondents strongly agree to the said statement. There was no (0%) respondent who strongly disagrees with the statement that ICT skills keep them updated with the latest happenings in their profession, nine (3.1%) respondents disagree, 47 (16.0%) respondents remain neutral, 160 (54.4%) respondents agree while 78 (26.5%) respondents strongly agree to the statement. The data reveal that majority of the respondents agree to the statement that ICT skills keep them updated with the latest happenings in their profession. There are two (0.7%) respondents who strongly disagree with the statement that use of Internet is easy for them in information searching and retrieval, 10 (3.4%) respondents disagree, 36 (12.2%) respondents remain neutral, 158 (53.7%) respondents agree while 88 (29.9%) respondents strongly agree to the statement. There are two (0.7%) respondents who strongly disagree with the statement that digital skills have impact on their teaching and research, 14 (4.8%) respondents disagree, 34 (11.6%) respondents remain neutral, 170 (57.8%) respondents agree while 74 (25.2%) respondents strongly agree to this statement. There are five (1.7%) respondents who strongly disagree with the statement that HEC online databases enhance their capabilities of information searching and gathering, 15 (5.1%) respondents disagree, 36 (12.2%) respondents remain neutral, 160 (54.4%) respondents agree while 75 (26.5%) respondents strongly agree to this statement. The data reveal that majority of the respondents agree to the statement that HEC online databases enhance their capabilities of information searching and gathering. There are two (0.7%) respondents who strongly disagree with the statement that Internet helps them considerably in finding their required legal information, eight (2.7%) respondents disagree, 32 (10.9%) respondents remain neutral, 172 (58.5%) respondents agree while 80 (27.2%) respondents strongly agree to this statement. There is one (0.3%) respondent who strongly disagrees with the statement that the availability of electronic information resources have positive impact on their information searching, 12 (4.1%) respondents disagree, 37 (12.6%) respondents remain neutral, 166 (56.5%) respondents agree while 78 (26.5%) respondents strongly agree to this statement. There

are two (0.7%) respondents who strongly disagree, seven (2.4%) disagree, 40 (13.6%) neutral, 159 (54.1%) agree while 86 (29.3%) strongly agree against the statement that subject databases enhance their capabilities of information gathering.

Table 2. Barriers in Utilizing Digital Resources (n=294)

Problems/Barriers	S.D. F(%)	D F(%)	N F(%)	A F(%)	S.A F(%)	Mean	SD
Lack of technological skills	7 (2.4%)	30 (10.2%)	47 (16.0%)	170 (57.8%)	40 (13.6%)	3.70	.91
Lack of ICT trainings in the profession	6 (2.0%)	23 (7.8%)	43 (14.6%)	160 (54.4%)	62 (21.1%)	3.85	.91
Non-availability of subject related digital resources in Library	23 (7.8%)	190 (64.6%)	60 (20.4%)	16 (5.4%)	5 (1.7%)	2.29	.76
Lack of time	17 (5.8%)	64 (21.8%)	73 (24.8%)	107 (36.4%)	33 (11.2%)	3.26	1.10
Lack of knowledge in using digital resources	12 (4.1%)	37 (12.6%)	63 (21.4%)	132 (44.9%)	50 (17.0%)	3.58	1.04
Lack of time	20 (6.8%)	74 (25.2%)	48 (16.3%)	121 (41.2%)	31 (10.5%)	3.23	1.14

(S.D.=Strongly disagree, D=Disagree, N=Neutral, A=Agree, S.A.=Strongly agree)

Table 2 shows that there are seven (2.4%) respondents who strongly disagree with the statement that lack of technological skills is a barrier in research, 30 (10.2%) respondents disagree, 47 (16.0%) respondents neutral, 170 (57.8%) respondents agree while 40 (13.6%) respondents strongly agree. The data reveal that majority of the respondents agree to the statement that lack of technological skills is a barrier in their research with the mean value of 3.70. In response to another barrier in their research (lack of ICT trainings in the profession), six (2.0%) respondents strongly disagree, 23 (7.8%) respondents disagree, 43 (14.6%) respondents remain neutral, 160 (54.4%) respondents agree and 62 (21.1%) respondents strongly agree. The data reveal that majority of the respondents agree to the statement that lack of ICT training in the profession is another barrier in their teaching with the mean value of 3.85. There are 23 (7.8%) respondents who strongly disagree with the statement that non-availability of related digital resources in library is a barrier in their research, 190 (64.6%) respondents disagree, 60 (20.4%) respondents remain neutral, 16 (5.4%) respondents agree and five (1.7%) respondents strongly agree. The data reveal that majority of the respondents disagree to the statement that non-availability of related digital resources in Library is a barrier in their research with the mean

value of 2.29. There are 17 (5.8%) respondents who strongly disagree to the statement that lack of time is a barrier in their research, 64 (21.4%) respondents disagree, 73 (24.8%) respondents remain neutral, 107 (36.4%) respondents agree and 33 (11.2%) respondents strongly agree. The data reveal that majority of the respondents disagree with the statement that that lack of time is a barrier with the mean value of 3.26. There are 12 (4.1%) respondents who strongly disagree to the statement that lack of knowledge in using digital resources is a barrier in their research, 37 (12.6%) respondents disagree, 63 (21.4%) respondents remain neutral, 132 (44.9%) respondents agree and 50 (17.0%) respondents strongly agree. The data reveal that majority of the respondents disagree with the statement that that lack of time is a barrier in their research with the mean value of 3.58.

Conclusion

Results of the study reveal that majority of the faculty members prefer to have their information in print format. Most of them have personal libraries at home where they perform information seeking activities. They also use computer and internet for retrieval of information while performing research activities. Some respondents are not satisfied with present collections and resources available in the university libraries. Respondents generally complain about the inaccessibility of requisite materials, inadequate provision of computers and internet services in the library. A majority of respondents value the supportive attitude of the library staff for their helpfulness. Respondents have now the facility of specific databases through HEC National Digital Library which has made accessibility of information easy to them. Digital resources are now considered tremendously important for producing research. Young faculty members feel convenient with digital resources. Most of the practitioners point out that information seeking has been made easy by ICT; however, they also point out that required skills are necessary to use digital resources.

Recommendations

Following recommendations can be of great value in enhancing digital skills of the respondents and for the provision of quality library services.

- Pleasant library environment should be provided to the faculty members.
- IT skilled staff should be deputed in the library.

- Courses related to digital skills enhancement should be conducted for the faculty members.
- More digital collections should be built in the library.
- Technological skills should be enhanced.
- Latest lab with maximum computers should be provided.
- Subject related databases should be subscribed.
- Digital repositories should be built.
- HEC online databases should be utilized effectively.

References

Al-Ansari, H. (2006). Internet use by the faculty members of Kuwait University. *The Electronic Library*, 24(6), 791-803.

Alenzuela, R., Fong, E., & Bloss, J. (2019). Building information research skills in the Pacific region: The University of the South Pacific initiative. *Global Knowledge, Memory and Communication*, 68(3), 177-190

Bechet, B. S., & Garin, E. (2012). Using technology to enhance teacher education in Laura. *Cutting-edge Technologies in Higher Education*, 6(2), 235-261.

Bullock, S. M. (2011). Teaching 2.0: Learning to teach online. *Interactive Technology and Smart Education*, 8(2), 94-105.

Filipi, Z., & Rohlikova, L. (2018), Pre-service teachers and active learning in technology-enhanced learning: The case of the University of West Bohemia in the Czech Republic. *Active Learning Strategies in Higher Education*, 1(1), 211-245.

Keiser, M. M., Burrows, B. D., & Randall, B. (2014). Growing teachers for a new age: Nurturing constructivist, inquiry-based teaching in Patrick Blessinger. *Innovations in Higher Education Teaching and Learning*, 2(1), 303-324.

Mubarak, F., & Nycyk, M. (2017). Teaching older people internet skills to minimize grey digital divides: Developed and developing countries in focus. *Journal of Information, Communication and Ethics in Society*, 15(2), 165-178.

Murawski, M., & Bick, M. (2017). Digital competences of the workforce. *Business Process Management Journal*, 23(3), 721-734.

Patalong, S. (2003). Using the virtual learning environment WebCT to enhance information skills teaching at Coventry University. *Library Review*, 52(3), 103-110.

Stagg, A., & Kimmins, L. (2012). Research skills development through collaborative virtual learning environments. *Reference Services Review*, 40(1), 61-74.

Thomas, M., & Thomas, H. (2012). Using new social media and Web 2.0 technologies in business school teaching and learning. *Journal of Management Development*, 31(4), 358-367.