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ICT Competence and Attitude among Faculty members related Review of Literature from the period 2012-2021

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ABSTRACT:

The Information and Communication Technology (ICT) has become a common place in all areas of life. It is a necessary part of today's world. It provides the opportunity to accelerate, enrich and expand your skills; motivates and engages learners in learning. In fact, culture and society must be adapted to the challenges of the age of knowledge. The spread of ICT has resulted in rapid technological, social, political and economic transformation, which has emerged in a network society organized around ICTs.

The 21st Century is the age of ICT. Throughout the world, there is a tendency to use ICT in teaching learning processes. Educator and learner must gain access to technology to improve learning skills and academic development. The ICT in teaching learning process involves the use of computers, computer software and other devices for processing, transmitting and retrieving data and related services. In this paper it is emphasized on the previous studies conducted on ICT competence and Attitude of faculty members towards using ICT in teaching and learning activities in higher education institutions.

Key words: ICT (Information Communication Technology), Technology, E-Resources

1.0 Introduction:

The technology has changed the world and continues to change things, so it brings not only huge benefits but also difficult challenges. Information and Communication Technology (ICT) is one of the most important elements of today's technology, which is increasingly accepting and developing the world. Growth is partly determined by the ability to develop synergies between

technological innovation and human values. The interaction between ICT and the teacher is an important factor that can improve development especially in the education sector.

The use of information and communication technology (ICT) in education plays an essential role. Integrating ICT into both teaching and learning processes is one of the most practical solutions to educational reform. Many countries have successfully integrated ICT into education by creating both students and teachers with careful planning and ICT competence standards.¹

The main role of teachers is not just being to transmit information and culture but also acts as experts and leaders to motivate learning. This paper highlights the implantation of ICT tools and E-resources in Govt. First Grade College teachers and further explores the impact of ICT in teaching, learning in research papers published within period of 2013-2021 followed with benefits and challenges of ICT Competence, accessing the E-resources and attitude of faculty members.

2.0 ICT competency of Faculties in GFGC of university of Mysore :

Information and Communication Technology competency of faculties in University of Mysore is affiliated to 67 Govt. First Grade Colleges. Those colleges Faculties having good competency and used different ICT Tools for development of teaching, learning and also they are showing different attitude towards the ICT faculties in colleges. Some GFGC colleges having good infrastructure and ICT facilities and also some colleges have less infrastructure and ICT facilities. Faculties also used the smart phones, laptops and Desk computers for Class room PPT presentation, making video study materials, ICT tools, searching the journals, social media, etc.-

3.0 Related work :

The literature review is conducted using LISA, EBSCO, Google Scholar, Shodhaganga, Research gate and other online databases from 2013 to 2021 on Competency and attitude towards using ICT among faculties of higher education and also made critical analysis of literature review of said period. Following are the reviews of relevant research papers published during 2013 to 2021.

M PrashanthKumari and D Chandran(2013) have conducted “User attitude towards Electronic information resources in the university libraries of Andhra Pradesh” the results of study showed

that the Information and Communication Technology tools for providing better services to the Students, Research Scholars and Teachers and the activities which were carried out manually in libraries with so much of pain and strain are being carried out smoothly with the help of Information and Communication Technology².

Deepa Bisht(2013) has studied on “Integration of ICT in Teacher Education for Enhancing Competency Based Teaching” the finding of the this study reveals that ICT is becoming an integral element for educational reforms and innovations at secondary schools, this situation calls for an enhancement of pre-service education on ICT for prospective teachers. The paper focuses on the use of integration of ICT into pre service level for both trainees as well as for teacher-educators³.

Danner, R. B.& Pessu, C.O.A. (2013) the findings of the study showed a low level of ICT usage by the respondents. The lack of access to computers and Internet connectivity within the faculty is worrisome. From the findings, it is clear that the critical factor of institutional provision of ICT infrastructure has not yet been reached. One not only needs the infrastructure available, but also the personal skills in order touseICT⁴.

Jamal Siddiqui (2013) has conducted a study on Usage of ICT products and services by faculty members and research scholars of Shobhit University, Meerut, India and the paper recommends proper training and guidance for use of ICT-based technologies for the optimum utilization of these services by the users. Shobhit University is situated in the rural area of western part of India where students are not aware about ICT application in library services. The study will provide them with guidelines and procedure regarding the available ICT and its application in information transfer⁵

Adeyemi I. Idowu and Mary Esere(2013) in their article ICT and higher educational system in Nigeria they opined that Information and communication technologies (ICTs) have become inseparable entities in all aspects of human life. The use of ICT has fundamentally changed the practices and procedures of nearly all forms of endeavor within business, governance and civil service. In education, ICT has begun to have a presence but the impact has not been as extensive as in other fields of endeavor. The moving of the world to digital media and information has made the role of ICT in education to become more important and this importance will continue to grow and develop in the 21st century. Information and communication technology (ICT) is an indispensable part of the contemporary world. In fact, culture and society have to be adjusted to

meet the challenges of the knowledge age. Undoubtedly ICT has impacted on the quality and quantity of teaching, learning and research in tertiary educational institutions in Nigeria. The various constraints to ICT utilization as a change agent for higher education must received prominent attention, for the ICT to continue playing its lofty role as a change agent for Nigerian tertiary institutions⁶.

Amuche, Chris Igomu & Iyekekpolor, Solomon, A. O. (2014) have conducted a study on “ICT Competence among Teachers of Federal Unity Colleges in North Central Geo-political of Nigeria, the findings of the study revealed that most teachers have personal computers/laptops but have little or no competence in the usage of ICT. It is apparent that the main skill acquired by the teachers is in Word processing which can be attributed to typing of examination, test questions, student record and so on by the teachers. Again, access to internet by the teachers was mainly private indicating inadequacy of the facility in the college. Majority of the teachers rated their ICT competence as low. This indicates that FUC teachers are not sufficiently equipped to integrate ICT into the school system. Finally, it was concluded that major challenges to ICT usage among FUC teachers were related to funding of ICT training, availability of facility and workload on the part of the teachers⁷

Aniebietinyang Ntui (2014) made a study on Information and Communication Technology (ICT) Usage and Undergraduate Students Study Habits in Universities in Cross River State, Nigeria. The study found that Cross River State; information literacy should be taught as a general course in first year in universities in Cross River State; parents should endeavour to provide ICT gadgets with internet connectivity for their children at all levels of education and also monitor them to be sure that these ICT gadgets are used positively; students should learn to use social networking sites constructively; mobile phones in the classroom should not be banned but should be welcomed with open arms and used as a teaching tool and not a means of distraction as so many teachers perceive them to be; use of University of Caliber e-library by students should be cost-free⁸.

Parameshwar S and Shankar Reddy Kalle (2015) have studied on Use of Internet and ICT Competency among the Teachers of University of Horticultural Sciences, Bagalkot, Karnataka State, India This study is conducted to assess the use of Internet, purpose of use, level of satisfaction with internet based resources and ICT competency among the Teachers of University of Horticultural Sciences, Karnataka State, India. Online questionnaire were designed

using Survey Monkey free application software. Questionnaire was sent to the email IDs of the 220 teachers, who are working in university affiliated colleges in the month of March, 2015. 108 (49.09%) teachers are responded to the online questionnaire. Responses were collected in the month of May, 2015. Findings of the study indicate that majority of the teachers use computer daily and M S Word is most used office application among them⁹.

Fakhra Aziz (2015) has conducted a study on Teacher's Information, Communication Technology Competence and Their Attitude toward Use of Computers in University Of The Punjab. The study results showed that basic and advanced level ICT training is necessary for the teachers in the university to improve their ICT competence & promote their attitude towards use of it. It is suggested that further in depth research studies should be conducted to explore the correlation of ICT competence & teachers attitudes and to find out the factors that lies behind the correlation of both variables¹⁰.

T.Sureshkumar and Geetha V (2015) conducted a study on Usage Of Electronic Resources Among Science Research Scholars In Tamil Nadu Universities. The researchers of the study opined that electronic Information resource plays an important role in the field of science, engineering, medicine and humanities. Electronic access to technical journals has become an important and a valuable tool for researchers, students and faculty. In this view the full time Research Scholar in science prefers to use electronic resources available in the different forms in the universities library. Also there is a constructive suggestion for developing an automated electronic library system and increased electronic resources with improved library services¹¹.

Velmurugan V. Senthur, Dr. Amudha G(2015) have made a study on Use of ICT Based Resources and Services Among the Users of Arts and Science Colleges in Virudhunagar District: A Study. The paper explains about the ICT resources and their use by the faculty members, research scholars and students in the Arts and Science colleges of Virudhunagar District. Developments in ICT have made significant impact on all spheres of human life. The data is collected through a questionnaire to study the information need for the faculty members, research scholars and various students in Arts and Science colleges of Virudhunagar District. This paper describes the use of ICT based resources and services by the faculty members, research scholars and students. This paper discussed the awareness adequacy, purpose, usefulness, and satisfaction level of using ICT based resources among the users of arts and science colleges in Virudhunagar District. ICT has introduced new methods

of teaching and conducting research in education facilities for online learning, teaching and research collaboration. This paper has revealed that the ICT available in Arts and Science Colleges in Virudhunagar District are more helpful in fulfilling their information needs¹².

Kpolovie, P. J. & Awusaku, O. K. (2016) from their study they have mentioned that ICT Adoption Attitude Of Lecturers studied ICT facilities are significantly more accessible the Federal university (University of Port Harcourt) than the State university (Rivers State University of Science and Technology). University management should motivate and encourage lecturers to participate in ICT training programs, lecturers especially highly experienced should be well motivated to develop their ICT competence. This new communication tends to lessen the sense of segregation and open access to knowledge because ICT offers access anytime and anywhere by making possible asynchronous learning possible. Online course materials, for example, can be accessed 24 hours a day, seven days a week. ICT-based educational delivery like educational programming broadcast over radio and television, dispenses education without the need for all learners and the instructor to be in one location¹³.

Abimbola Oyedele Ojeniyi and Airen Edale Adetimirin (2016)⁵ explored the impact of Information and Communication Technology (ICT) literacy skills on electronic information resources (EIR) use among lecturers of two private universities in Oyo State, Nigeria. Their research reinforced the fact that availability and utilization of electronic information resources is the gateway to information seeking and acquisition which in turn support teaching and research. The study rejected the null hypothesis and concluded that ICT literacy skills had a positive influence on utilization of electronic resources by faculty members. It also implied that ICT literacy skill of lecturers is directly proportionate to the rate of electronic resources use. The authors recommended that with disrupted power supply and good internet connectivity, EIR can be facilitated further¹⁴.

R. Vadivukkarasi and Kavitha S (2016) have conducted a survey on Utilization Of ICT Among The Faculty Members And Students Of Dental Colleges Affiliated To MGR Medical University In Chennai: A Study. The study is at the 'microlevel' and the seekers of information are the undergraduate, post-graduate students and teachers of the selected colleges and Universities of Chennai. They generally search for information/literature to follow up their classroom lectures, to prepare for discussions and seminars on specific issues and of course, to write up assignments

and project reports. They might also look for information in general and subjects of special interest to them. They might also be preparing for competitive examinations in search of a fruitful career¹⁵.

Omotunde Oluwatobi. I, Ajieifeoma Abigail (2017) has studied on Information Communication Technology Training Needs of Academic Staff in Universities in Ekiti State, Nigeria and this study shows that the use of electronic resources has in recent time been adopted by most higher learning institutions in Nigeria. However the appropriate training for academic staff on how well to integrate it into their research output, learning and teaching process is at a worrisome state. Hence, the aim of this study was to investigate academic staff training needs on the use of information communication technology¹⁶.

Arpita Sharma (2018) has studied Information Communication Technology (ICT) utilization pattern By university teachers. The survey was carried out in 2018 on University teachers of GBPUA&T, Pantnagar. Simple random sampling was used for the study. A total of 40 University teachers were selected for the study. A semi-structured interview schedule was developed to study the utilization pattern of ICTs. Data revealed that 42.5 per cent of respondents were Professors followed by Associate Professors (30 per cent) and Assistant Professors (27.5 per cent) ¹⁷.

Ramesh P and Dr. C Baskaran(2018) have found that from their study on Use of electronic information resources on Engineering and technology among the faculty Members in the engineering institutions in Coimbatore district is that with the advent of computer age along with the new technology and applications, libraries and information centers have been blessed with electronic information resources and therefore, the libraries are gradually shifting towards the electronic mode. As such libraries are now increasingly involved in creating and acquiring electronic resources¹⁸.

Dhirensinh Ranjitsinh Matilda (2018) conducted a survey on ICT Skills And Competency Of Library Personnel's In Degree Engineering Colleges Of Gujarat State: A Study, this study was taken up for organizing the critical role that the librarians play in the library for innovation and also recognizing the increased need to understand their behavior towards new ICT's in their professional's life as adopters within the library setting. In this background, the study has been taken up with the primary objective of studying the library personnel's skills and competencies towards information and communication technology¹⁹.

Lokachari, Lakshmipathi; Ponnudurai, R. and Ravichandran, P (2018) have done a study on Use of ICT Resources and Services by the Faculty Members of Engineering Colleges in Chittoor District, Andhra Pradesh: A Study. The study made an attempt to know the use of ICT resources and services by the faculty members of engineering colleges in Chittoor District, Andhra Pradesh. The researcher selected 982 samples in various colleges. Standard questionnaires are used to collect the primary data. The main objectives of this study is to know their attitude about ICT, the type of search engines used, the motivating factors to use ICT resources and services and frequency usage of internet. Result found that most of the respondent have highly use the ICT resources and services²⁰.

M Prasad and Dr. C. Baskaran (2019) have conducted a study on Use of Electronic resources on scholarly information access by the access the faculty members of the state universities in South Tamilnadu. The results of the study revealed that Libraries today, buy licenses for an ever-increasing number of information resources from an array of publishers and providers and use diverse technologies for information delivery. In addition, a trove of relevant resources is freely available on the web for libraries to incorporate into their e-collections and to make them readily available to their users. Materials may be in print and/or electronic form; formally and/or informally published, and freely accessible via the Internet²¹.

Adetola Ayotunde Kehinde and Abubakar LanreFolorunsho (2019) have studied on ICT Competence and The Use Of E-Resources Among Faculty Members In Ilorin Metropolis The study investigated Information and Communication Technology (ICT) competence and the use of electronic resources by university faculty members in Ilorin metropolis, Nigeria The findings generally revealed that there is a significant relationship between ICT competence and the use of e-resources based on the type of e-resources preferred and purpose of using e-resources by faculty members in Ilorin metropolis²².

Hemesha Hebbandi Nagappaand Santhosh Kumar K.T(2020) have conducted a study on Competencies and Attitude in use of ICT among Librarians of Govt. and Aided First Grade Colleges affiliated to University of Mysore. The study revealed that the librarians having positive attitude and also have good competencies towards using ICT resources and also opined that ICT facilities and its applications in the libraries make users to get instant information from variety of information resources and services and made librarians to update on par with the latest developments in its library applications²³.

Muhammad Muhammad Suleiman, AdamuTijjaniYahya & Mohammed Tukur (2020) have expressed their opinion in their article Effective Utilization of ICT Tools in Higher Education. The Information and communication technologies (ICTs) in all facets of life have become ubiquitous institutions. Over the past twenty years, the utilization of ICT has profoundly altered the processes and procedures of almost all aspects of business and governance effort. Education is a highly socially-focused practice and quality education has historically been connected to strong teachers with high levels of personal interaction with learners. Utilizing ICT in higher education lends itself to more learning environments focused on students. With the world rapidly evolving into digital media and information, however, the role of ICT in higher education is becoming increasingly important and will continue to grow and evolve in the 21st century. Efficient utilization ICT in Higher Education, along with the use of ICT in the teaching and learning process; consistency and accessibility of education; encouragement to learn About learning²⁴.

S V Symonenko, N V Zaitseva, M S Vynogradova, V VOsadchyand A V Sushchenko (2020)have studied on Application of ICT tools in teaching American English for computer science students in the context of global challenges. It is stated that informal education environments, distant learning platforms, virtual reality environments, artificial intelligence applications and collaboration platforms are to be mastered by Ukrainian undergraduates. Certain peculiarities of choosing and studying British and American English course by students of IT-specialties at three Ukrainian universities are given: the course choice procedure, the reasons for course preference, and the syllabus content. The best technologies, applications and tools for classroom activities and independent learning are substantiated. specific examples of their application for British and American English course learning are presented. The transferability of the skills inculcated in the course participants through implementation of the certain tools is founded²⁵.

The study executed by Adeola Oladele Ogunsanya and Olayinka Buraim (2020) on ICT Literacy Skill and Electronic Resources Utilization among Academic Staffs of Olabisi, Onabanjo University. The study recommended that special notice board through the library should be created across faculties in the university on lists of electronic resources and how to assess them. Not only that, the university management should made fund necessarily available either through TETFUND intervention or other means for subscription of more scholarly

electronic information resources and databases in order to build a strong collection of e-resources in the library for the usage among its clientele including the academic staffs²⁶.

CA Dhaarna Singh Rathore , Anshu Agarwal& Vikram Singh Rathore (2020) have studied on Analysis of Impact with respect to Using ICT Tools in Teaching/ Learning during COVID -19 Pandemic in India. The major aim of this study is to find out factors affecting the use of ICT in education and to provide for future research in the same direction. The study also aims at finding the awareness of ICT tools among the trainers/ educators and students/learners. It was found that due to pandemic and subsequent lockdown, students and teachers have to use these tools to avoid any kind of loss in the teaching-learning progress. Video Conferencing Platform “Zoom” is the most used application during this pandemic and is mostly used by students. The study has given leads to further investigation on ICT usage in the Indian scenario.²⁷

Reuben Akwaowoand Newman Enyioko (2021) have made a survey on Effective ICT Skills and Use of Electronic Information Resources by Lecturers in Captain Elechi Amadi Polytechnic, Port Harcourt, Nigeria. This study examined the influence of effective ICT skills on the use of electronic information resources by lecturers in Captain Elechi Amadi Polytechnic, Rumuola, Port Harcourt, Nigeria The study also found conclusively that effective ICT skills significantly influence electronic information resources used by lecturers in tertiary institutions. The study recommends that the e-library unit of tertiary institutions should exploit the selective dissemination of information to attract all the academic staff to different forms of information resources and databases available on the library portal²⁸.

4.0 Findings:

From above discussion on previous literature on ICT competencies and attitudes of faculty members in higher education institutions, the following findings are made.

1. The literature review revealed that the faculties of higher education institutions are having good ICT competencies.
2. The study also opined that teaching professionals of studied literature are using ICT and its applications daily.
3. It is found from the above studies is that the ICT is playing major role in Higher Education.
4. Higher education Institutions and faculties are adopting ICT tools such as Google meet, Zoom, flip grid, kahoot, webex meet for teaching and learning activities.
5. Faculty member needs proper training programmes on ICT and its applications.

6. Government/Competent authority should provide the necessary ICT infrastructure for higher education institutions to improve the effective learning and teaching activities.

5.0 Suggestions and Challenges:

In recent time recorded enormous increase in ICT in higher education, teachers using technology assisted teaching and learning activities for better learning experience. ICT offers no. of applications and services in teaching and learning field. Hence, teaching community have to get benefit from technology for to create creative and better learning environment and it is essential for today's education system. At the same time teachers make themselves technology friendly persons and they have to use the ICT in their academic activities, it is the major challenge and teachers can overcome this by taking training programmes. Institutions also need to organize proper training programmes on ICT to strengthen the teaching community.

6.0 Conclusions:

ICT facilities and its applications in the higher education institutions make users to get better teaching and learning environment and it also makes faculty members as well as students to get newer information and explores to new learning and teaching methodologies and unconventional learning activities. Using ICT faculty members getting latest information easily and they are using its applications in academic activities. In spite of having positive attitude and good competencies towards using ICT and its applications, teacher should needs further training on ICT for its effective usage in the teaching and learning activities. In this sense, teachers have to be ready to make use of the possibilities offered by Information and Communication Technology in the field of education.

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