Attitude and Influence of Teachers towards Information and Communication Technology

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Abstract – ICT has been a part of our lives for the past few decades, impacting both our culture and our private lives. ICT that is still commonly used in the field of education. Teacher, Teacher, Administrator and other citizens interested with schooling are popularly using ICT. The learning method was highly affected by rapid developments in information & communication technology (ICT). This paper addressed the attitude of teachers towards information & communication technology with variables that affect the attitudes of teachers and the role of ICT in 21st century teacher education.

Keywords - Information and Communication Technology, Attitude, Factors that Influence Teachers' Attitudes, Role of ICT in 21st Century's Teacher Education

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INTRODUCTION

Information and Communication Technology (ICT) has set about a transition in every aspect of life today. Throughout fact, technology has been an important part of schooling, and its influence on teaching & learning is generally recognized. ICT plays an important role in the development of every nation. ICT comprises computers, the Telephone, and automated communication devices such as phones, televisions, & projectors, among others, and is commonly utilized in today's area of education. Teachers have a key role to play in the introduction and application of ICT in education; however, studies indicate that teachers lack the requisite expertise and skills in ICT.

MEANING OF ICT

ICT is a concept that covers both knowledge processing and communication technologies. The phrase is often used in choice to information technology, especially in two groups: education & government. ICT practically covers every means for capturing details(magnetic disk/ tape, optical disk, CD/DVD), flash memory etc; technology for broadcasting information Radio,(Television) TV and technology for communicating through voice and sound or images- micro phone, camera, loud speaker, telephone or cellular phone. It include the wide variety of computing hardware (PCs server); personal device, MP3 players and of course internet. A Personal Computer (PC) associated to the internet has converted into the imperative tools for communicating now a day. The internet has open up many opportunities, from findings out information, conducting communications globally. The reality of new ICTs is that anyone is able to get in touch with anyone else, anywhere at any time. ICT is technology that supports activities involving information. These activities shall involve the compilation, sorting, preservation and presentation of data. Collaboration and collaboration are now frequently included in these practices. IT has been ICT (Information and Communication Technology). ICT has been, in a very limited period, one of the fundamental building blocks of contemporary society. In either educational system, the amount of resources accessible puts constraints on the degree that any new topic may be incorporated into the curriculum of the school, particularly when only the most minimal facilities have been given to date. ICT is of such significance to the future industrial and economic health of a nation, therefore, that expenditure in facilities, teacher education & support resources required for the successful implementation of ICT-based curricula should be high on every list of policy priorities.

ATTITUDE

Attitudes are discovered predispositions to facets of our environment. They can be oriented favorably or negatively at other individuals, problems or organizations. An attitude may involve prejudice, in which we pre-empt the issue without presenting evidence. Unless one is biased against a person who is convicted of a crime, he or she can be considered guilty irrespective of the facts. One may even be prejudiced in favour of anyone. However, where the term "prejudice" is used without justification, it typically applies to a derogatory

decision made on insufficient grounds. The personality is generally known to be made up of three fundamental components-thinking, sensing and responding. The first aspect pertains to belief; it involves the thoughts a person has about the topic in question. The second aspect is related to value; here we are talking about whether the person feels attracted, repelled or is neutral regarding the topic in question. The third element is a predisposition to behavior.

The availability of technology equipment in schools does not provide assurance that teachers will use them effectively. The teacher is critical in determining how technology is used in a classroom. As a consequence, teachers will have the correct mindset about technology and its use in teaching & learning. Yusuf & Balogun noted that scholars have described attitudes as "one's positively or negatively opinion on a particular issue" (Yusuf and Balogun, 2011, p. 19). In this sense, they observed that the interpretation of evidence on the impact of an activity based on its negative or positive effects was responsible for deciding one's attitude. Studies have observed the strong association between other mindset of the instructor and the usage of technology in teaching & learning.

Studies linking positive attitudes towards technology to high rates of use in learning and teaching. For example, recent work by Enayati, Modanlo and Kazemi has shown that the mindset of teachers towards "the usage of technology in education is optimistic" (Enayati, Modanloo and Kazemi, 2012, p. 10958). At the other hand, poor attitudes toward using technology among teachers have led to low levels of technology in learning & teaching.

Attitudes of teachers towards the usage of technology in teaching

Al-Zaidiyeen, Mei, & Fook conducted a research with 650 teachers randomly selected in Jordan to evaluate "the degree of ICT utilization among teachers & issues related to the attitude of teachers to ICT use" (Al-Zaidiyeen, Mei and Fook, 2010).

Their research showed that teachers "have a small degree of ICT usage for instructional purposes, that teachers have favorable attitudes towards ICT usage, and that a strong positive association has been established among the extent of ICT use of teachers & their attitudes towards ICT" (Al-Zaidiyeen, Mei and Fook, 2010). They inferred that teachers would give high importance to the use of technology in teaching. Within the same , Palak and Walls (2009) described three issues relating to the use of technology among students. For the analysis, they used an applied mixed-method methodology. The analysis revealed the following:

- Teachers have embraced the usage of technology in the areas of planning, management & administration

- Teachers have seldom used technology to encourage constructivist thinking, except among teachers who hold the same opinion

- Teachers in specialized technology schools have used technology to support their own still established conventional values.

Attitudes of teachers towards the usage of technologies in teaching & learning and teaching the confidence of teachers

Scholars observed that owing to the availability of technological resources in most classrooms, the need to consider instructor attitudes towards technological acceptance in learning & teaching has gained importance.

Bakr conducted a survey of Egyptian teachers to examine their attitudes towards computers in teaching & learning. The research composed of 118 public colleges, male and female. Findings also shown that "the behaviors of Egyptian high school teachers towards computers have been optimistic" (Bakr, 2011).

New reports have shown that teachers have developed optimistic views about the usage of technology in studying & teaching. The transition can be due to shifts of mindset because most pre-service teachers follow a student-centered attitude to teaching and learning.

Enayati & collaborators was using a survey of 380 teachers utilizing stratified polling focused on the Morgan table (Enayati et al., 2012). The research sought to investigate the mindset of teachers towards the application of teaching technologies. In addition to the T studies, the research used a concise approach to evaluate data and current results

Factors that influence the attitudes of teachers

Several schools across the world have adapted ICT technology to education. Nonetheless, Buabeng-Andoh observed that while extensive expenditure has been made in "ICT technology, equipment and skill development to enhance education in several countries, ICT implementation & inclusion in teaching and learning were minimal" (Buabeng-Andoh, 2012). The study looked at influences that had an effect on the teaching mindset towards the usage of technology. This included "personal, institutional & technological factors which promote the need for computer technology by teachers in teaching & learning

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processes" (Buabeng-Andoh, 2012; Tsai, P., Tsai, C., & Hwang, G., 2010).

The report also described such reasons as "teacher-level, school-level and system-level variables that discourage teachers from utilizing ICT" (Buabeng-Andoh, 2012). Finally, the article classified barriers to the use of technology among teachers as "lack of ICT teaching skills, trust, pedagogical training, appropriate educational software, limited access to ICT, rigid structure of traditional education systems & restrictive curricula" (Buabeng-Andoh, 2012).

It was essential to understand the severity that these factors influenced the attitude of teachers & use of technology in order to establish efficient ways of addressing them (Teo, 2011; Afshari et al., 2009).

Role of ICT in 21st Century's Teacher Education:-

ICT allows students to educate both in-service & in-service instructors. ICT lets teachers communicate with pupils. It allows them to practice their training, and have input. ICT also provides teachers with access to colleges and universities, NCERT, NAAC NCTE and UGC, etc. This also aims to allow good use of ICT tools and instructional equipment – the learning process. It helps develop teaching capabilities and assists in creative teaching. It aids in the productivity of the school. It also aims to strengthen the personal growth and instructional training of teachers and promotes the productive learning of trainees. It's replacing outdated technologies now. When we realize now, students have a competitive mind on a day. And the instructor needs to have the awareness of the subject. This may be achieved by ICT. ICT helps teachers prepare for teaching. Various approaches and techniques are implemented in order to incorporate ICT in pre-service teacher education. Various tools are used, such as text processing, email, spreadsheet, etc. Numerous technology-based programs are used to support teachers with their classroom work. ICT trains teachers to use their expertise in a true classroom scenario and therefore helps students job and social life in the future. ICT is used as a 'assisting tool,' e.g. when assigning tasks, communicating, collecting data and documentation, and conducting research. Typically, ICT is used independently of the subject matter. ICT as a medium for learning and teaching. This is a resource for teaching and learning itself, a means by which teachers can teach and know. It exists in a number of ways, such as training and practice drills, models and educational networks. ICT as a popular tool for organizing and managing institutions. Teachers will have technical assistance for learning through motion image, animation, simulation instruction, which has allowed students to pose a pattern. When the instructor is really prepared with technology, the pupil should always be prepared with technology. It replaces the conventional teaching approach and trains teachers to implement new teaching methods.

ICT has an significant part in the assessment of pupils. ICT is the storehouse of an educational organization as all knowledge about schooling can be preserved securely by ICT. ICT allows the Instructor to interact effectively with their pupils. ICT closes the distance between instructor and pupil. ICT allows the Instructor to transfer knowledge on to students in a really little period. ICT lets the instructor create an instructional setting. ICT allows the Instructor to recognise innovative children in an educational system. ICT lets teachers inspire students and increasing their engagement in learning. ICT provides the Instructor with operational criteria (vision, strategy and culture). It also allows the Instructor to assist his workers (knowledge, mentality, skills). ICT is important for technological specifications (infrastructure). ICT is useful for the creation of learning circumstances that are required both for vocational education and for the preparation of prospective teachers (in teaching institutes). Teacher training organizations should create their program using ICT. With the support of ICT Teacher Training Institutes, a contact network can be established. Teachers know from their specific networks (teaching from the others) with the aid of ICT.

LITERATURE REVIEW

Yadav, Vivek (2012) studied about awareness and use of ICT by secondary school teachers. The awareness to ICT was originate to be high but use of these tools or practical knowledge found to be low. They are aware and use traditional tool but they are still lacking in utilize of computers and internet. Awareness and use was seen to be influenced by amount of exposure obtained in government aided and non aided schools. Study emphasizes that many teachers are still not serious about the use of ICTs in classes.

Sharma, B. (2010) studied the effect of ICT on academic achievement and professional interest of 401 B.Ed. students. The study revealed that there was positive correlation between ICT competency and professional interest of B.Ed. pupil teachers. Negative correlation was found between the ICT competency and achievement of students.

Gupta, Surya Narayan (2010) studied about awareness and use of information and communication technology (ICT) by teacher educators. The awareness towards ICT was found to be high but use of these tools or practical knowledge is found to be low. They are aware and use traditional tool but they are still lacking in the use of computer and internet. Female teachers are more aware and use these tools than that of male teachers. Study lays out that B.Ed. course are good enough to make teachers aware of various ICT tools but teachers are not anxious to use them as they scored low in usage.

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Ndibalema (2014) Study of teacher attitudes towards using ICT as a pedagogical tool in secondary schools in Tanzania. Data collection techniques implicated questionnaires and interviews. Teachers have been shown to have liberal attitudes towards using ICT as a pedagogical method, but haven't been effectively integrated into their teaching.

Hashmei, S.S. (2011) studied how students learn by using new digital tools such as an interactive whiteboard in the classroom & develop, test and implement new teaching methods in the subject of Swedish and mathematics. There was also an interest to study inclusion and how a digital learning environment affects students" motivation. Two schools in the municipality of Uddavella and researchers from the University West formed the sample. The introduction of interactive whiteboard meant a general move towards a more conscious effort on an ICT-enhanced teaching at the two schools. The aim in the subject o Swedish to develop students" textual competence and linguistic awareness has resulted in that students have had the opportunity to meet and develop language in different contexts. Also the teachers have through the lesson material with interactive features and access to current information on the Internet given the students the opportunity to come across texts of different formats and modalities. It has been motivating for both students and teachers to get a new, interactive tool in the classroom, which has begun to be used frequently in teaching and that many students experienced as a tool especially facilitating learning and encouraging to activity and dialogue in the classroom. Both teachers and students have developed digital competencies on several levels in the process of introducing the interactive whiteboard in classroom practice.

Sattam Allahawiah (2015) This analysis was undertaken to research the factors impacting the usage of Knowledge and Communication Technologies (ICTs) introduced by Southern College Teachers in Balqa. The findings of this study indicate that given the fact that the bulk of respondents are using ICT for teaching practices. The insightful findings showed that teachers had an improved degree of knowledge and capacity to implement ICT. In fact, the bulk of respondents had links to devices and the Internet. It has been seen from the findings of this analysis that innovations are being utilized at a large stage. It would be important to render ICT more available to teachers as the most insightful and knowledgeable developer. The results of the relapse test have revealed the aptitude for ICT use reported 3.63 of the degree to which faculty individuals utilized the ICT gap. This finding alludes to the idea that training courses aimed at growing the knowledge of individuals and details on ICT would increase the usage of such technologies.

Liu, Haixia (2017) While pedagogical beliefs have been described as crucial factors in the achievement of technology incorporation, few studies have

recognized them for technology implementation models. The present research updates the Software Acceptance Model (TAM) by adding teaching convictions and measures the reassessed paradigm among university-level English-as-a-unknown dialect (EFL) teachers in China. In particular, the updated model explores how the positive and/or forward-looking teaching beliefs of teachers affect four main TAM constructs: comfort view, accessibility view, disposition towards using, and purpose to use. Reference data were obtained from 202 Chinese EFL teachers and broken down using the route test. The changed layout provided a good match for the platform. The findings revealed that the pedagogical convictions of the teachers evaluated were more constructive-oriented than communicative-oriented, and that the previous form of convictions influenced three of the TAM constructs listed above (saw ease, saw usefulness, and attitude towards use). Teachers' transmitive pedagogical beliefs, again, had no substantial effect on their behaviors about, or understanding of, ICT, while these beliefs had a considerable influence on their expectations of how basic ICT was to be used. The consequences of these results for teacher education and professional preparation are explored.

Ordóñez (2016) Perceptions against ICT are prejudice beliefs regarding the impact of ICT resources over time spent studying. Research have found that attitudes can affect cognitive and learning modes, as well as the encouragement of students. Given its significance, not many methods have been proposed to gage student attitudes, and none of them dissects the factor structure or the factorial invariance of ratings, so the purpose of this analysis is to break down the factor structure of SATICT, another instrument proposed to measure ICT attitudes towards distance university students. The next step is to check the factorial invariance between sexual preference and educational level in the case of 1,080 university students at Madrid Open University using a multi-purpose CFA. The findings offer good support for the proposed factor structure with large loads and sufficient model fit. In any case, the findings have showed that the factor framework should not be interpreted as invariant across collections.

Olokoba, A. A (2014) This research was undertaken to examine the effect of ICT on the administration and implementation of optional teachers in Kwara County, Nigeria. The analysis was motivated by three (3) questions and three (3) hypotheses. Three hundred (300) teachers screened in three state Senate districts, such as Kwara Main, North and South, were used for data collection. The instrument used was the intended 27-item questionnaire developed by scientists and the mean scores were used to evaluate the hypothesis. The results showed that many schools do not have and that teachers do not use ICT devices in their educational activities. It was further revealed that the ICT training(s) did not want to

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have an impact on the use of education. The study suggested that the government should partner with private organizations to provide ICT tools to Kwara State's auxiliary schools, and that an assessment of needs should be made to determine what and what types of training teachers need before they are selected for ICT training.

Haixia Lui (2017) While pedagogical convictions were described as crucial factors in the accomplishment of technology incorporation, few studies have recognized them for technology adoption models. The present study modifies the Technology Adoption Model (TAM) by adding teaching convictions and measures the revised model amongst university-level English-as-a-unknown dialect (EFL) teachers in China. In particular, the re-examined model explores whether the constructivist and/or forward-looking teaching convictions of teachers affect four main TAM constructs: the handiness of seeing, the usefulness of seeing, the mindset to use and the purpose to use. Research data were obtained from 202 Chinese EFL teachers and analyzed using the route test. The changed configuration showed a good match for the platform. The findings revealed that the pedagogical convictions of the teachers evaluated were more constructive-oriented than communicative-oriented, and that the previous form of convictions had an effect on three of the TAM constructs listed above (saw usefulness, saw usefulness, and attitude towards use). Teachers' transmitive pedagogical convictions, again, had no substantial effect on their attitudes about, or understanding of, information and communication technology (ICT), while these convictions had a significant influence on their expectations of how basic ICT was to be used. The consequences of these results for teacher preparation and professional performance was explored.

Yen-Chun Jim Wu (2016) Information and Communication Technology (ICT) methods are commonly used increasingly to promote teaching in educational institutions. This research examined the perceptions of students and teachers regarding the usage of ICT resources in the management of schooling. Immediately after conducting workshops that launched 11 ICT devices used in household environments, questionnaires were given to students and teachers from three Taiwan State-funded universities. The reactions of 242 students and 46 teachers in five ICT resources spaces – criticism, study hall accessibility, dissemination, communication, and internet centered existence – have been split to explore their mindset towards ICT use. The findings revealed that students saw ICT resources for teamwork and online networking as valuable in studying and extending their potential employment; in comparison, teachers saw such ICT resources as beneficial. As a consequence, through incorporating communication and web-based existence into teaching and teaching framework,

teachers can increase student engagement and connect students to their potential jobs.

AlyyaMeerza (2017) The expanded usage of ICT in advanced education has been thoroughly studied in relation to the attitudes of students to ICT use at university. However, the attainment of ICT in every academic environment, even higher education institutions (HEIs), depends on the behaviors of undergraduates to use ICT on a day-to-day basis. The goal of this paper is therefore to investigate the crucial factors influencing the use of ICT among undergraduates in their learning at Kuwaiti universities. The Technology Adoption Model (TAM) was used to complete this study stage. An example of 717 undergraduates was subsequently chosen from both government (state-supported) and private universities in Kuwait. The crucial considerations examined here include the form of university (government or private), the language (vehicle) of learning and ICT help. Blended approaches, in particular quantitative and qualitative techniques, have been used for the analysis of results. Quantitative results suggest that the 'handiness' and 'usability' of ICTs are key components of the attitudes of undergraduates to their use in learning. Another finding showed that the variables surveyed specifically influenced the attitudes of undergraduates. In addition, the qualitative findings indicated that the 'peer learning' aspect had a substantial effect on the attitudes of undergraduates to ICT usage in their university studies.

Placidius Ndibalema (2014) This article introduces the results on the attitudes of teachers regarding the usage of ICT as a pedagogical method in secondary schools in Tanzania. In this wide field, the paper provides a better understanding of ICT as a pedagogical device. The creation of this study was informed by the various perceptions of educational stakeholders about the degree of competence of teachers in the use of ICT as a pedagogical resource. Data gathering techniques involved questionnaires and interviews. A total of 80 students, by randomized training in 10 classrooms, took part in this analysis during the first data collection cycle, and 10 students were collected from 2 classrooms at the next point by means of an unbiased examination. Teachers have been seen to have constructive attitudes about the usage of ICT as a pedagogical method, but have not successfully incorporated it into their instruction. In addition, a low level of familiarity with ICT use as a pedagogical resource among teachers was seen as an concern. The use of ICT as a pedagogical method in Tanzania is a crucial situation among teachers in both accounts. The paper suggests more in-depth inquiries into the eagerness, confidence, inspiration, emotion, reasoning, commitment and practical experience of teachers through study hall studies, including broader instances. In general, the results of the

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analysis are considered to be of special interest to both teachers and instructional approach developers in Tanzania.

Mohit Dixit (2015) Teacher Education Institute is seeking to restructure its educational tech engineers and study hall facilities in order to incorporate the ability of ICT to enhance the quality of teacher education. Information and communication technology as resources within the school setting include the usage of ITC-related expertise for school administration & management, teaching and learning to enhance the delivery of study hall job teaching / learning responsive activities teaching / learning logical reasoning and analytical reasoning abilities, encouraging ingenuity and innovation to be addressed by teak. This research was undertaken to discover the mindset of teachers trainees towards teaching ICT. The sample consisted of 200 teachers-trainees from the Moga district of the state of Punjab. ICT teaching attitude scale (ICTTAS) developed and standardized by T. Pardeep Kumar (2013) was used to collect the details. The mean, standard deviation, t-value was used in statistical techniques. Results have shown that factors such as the locality and sexual orientation of the teacher-trainees influence the attitude towards teaching ICT.

CONCLUSION

Teaching has an important role in culture. ICT lets the instructor learn relevant skills, the opportunity to access modern technology technologies and materials. By utilizing and gaining awareness of ICT, the student teacher can become an successful instructor. ICT is one of the main drivers in the accelerated development of our culture. It will shift the essence of education & role of students and teachers in the learning process. The learning method has been greatly affected by rapid developments in information and communication technology (ICT). But we will utilize ICT in Teacher Training in the 21st Century, as now teachers will just build a promising future for students.

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