



Attitude Towards Use of ICT and Online Teaching In Secondary Schools: A Review

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Abstract: The use of information and communication technology (ICT) in the classroom has the potential to alter the teaching and learning process. ICT may help educators organise and execute their work more effectively, while also improving the learning experience for students and, as a result, improving their academic success. The purpose of this research was to determine the attitudes of secondary school teachers concerning the integration of information and communication technology into the educational process. With the development of information and communication technology, learning outcomes are now being affected by the use of technology to improve the delivery of instruction and the increased comprehension of learning concepts on the part of the students. In light of the government's acceptance of ICT modules in instructional delivery, the present research explored teachers' attitudes on the use of information and communication technology (ICT) for high-quality instructional delivery in secondary education. ICT has the potential to influence learning and instructional delivery techniques; the use of ICT has sparked a great deal of academic curiosity, which is reflected in both the existing literature and the present research. When the present research looked into its implications, it discovered that instructors had a favourable attitude toward the use of information and communication technology (ICT) for high-quality instructional delivery.

Keywords: Information and communication Technology (ICT), Online Teaching, Attitude Towards Use of ICT

I. Introduction

In this twenty-first century, information and communications technology (ICT) is a catalyst for many changes, possibilities, and facilities for the growth of students and instructors. The integration of information and communication technology (ICT) into the sphere of teaching and learning processes results in a significant shift and improvement in the teacher's competence in the field of education in both developed and developing countries. ICT contributes to the creation of a pleasant atmosphere and the chance to transfer knowledge in a more efficient manner, which benefits both instructors and students in the development of their academic limits. One of the most important goals of teaching using information and communication technology is the development of teaching abilities among instructors at all levels. Teachers must be appropriately trained in order to have a better understanding of the use of information and communication technologies (ICTs) both conceptually and practically, so that they can better deal with the challenges of diversity and heterogeneity in the classroom. The use of information and communication technologies (ICTs) is critical in developing curriculum that meets the requirements of students and society. On the other side, it facilitates meticulous preparation, resource management, and ongoing professional support for instructors in academic settings. When developing an ICT-based curriculum, more attention should be paid to the results of educational research, which is something that ICT can help with. When it comes to learning, the aim is to assist students in acquiring and constructing knowledge and developing skills that will assist them in improving their life prospects. It is also the goal to equip students with the knowledge and skills necessary to contribute to national growth and development for the welfare and prosperity of society and nation, with the role of information and communication technologies (ICTs) never being underestimated. Individual growth and sustainable development for the community and society are therefore made feasible by the integration of information and communication technologies (ICT) into the teaching-learning process. Higher educational institutions and training programmes have as their major goal the preparation of teachers with relevant, vivid knowledge and skills, in which information and communication technologies (ICTs) play an important role. The profession of teaching has evolved into one of the most difficult in the twenty-first century, since information continues to increase at a fast

pace, and much of it is made accessible to students and instructors alike through the internet at the same time. Currently, the notion of learning has evolved from the acquisition of information to the building of knowledge, with professors taking on the role of facilitators and allowing students to exercise complete autonomy in order to foster autonomous learning.

Due to the epidemic, known as COVID-19, education has been severely hampered globally, with schools, universities, and colleges being forced to close almost entirely since March 2020. All educational institutions have been closed in order to disrupt the transmission cycle of the new virus COVID-19. The novel virus Covid-19 has spread over the whole planet, forcing human civilization to maintain social distance, remain at home, and work from home to protect themselves. It has caused major disruption in the teaching and learning of school kids. According to expectations, this shut-down would have a significant influence on the educational process. However, this is not the case in reality. The employment of technologically advanced tools or applications in the sphere of education is entirely to be credited with this achievement. A variety of tools, such as WhatsApp, YouTube, and Zoom courses, among others, have been utilised to educate the pupils from the comfort of their own homes. Teachers that work from home prepare their lessons and share them with their students using technologically advanced programmes such as WhatsApp, YouTube, and others. Because to the lockdown, all schools, colleges, and universities have been forced to cancel their usual lessons, monthly assessments, and other activities and instead use online platforms. Teachers and pupils were first befuddled and unsure of how to deal with the pandemic scenario created by this unexpected catastrophe, which resulted in the suspension of all instructional activities for a short period of time. Nonetheless, after some time, they realised that the Covid-19 lockdown had created numerous challenges and opportunities for them, including the need to strengthen their knowledge and infrastructure, as well as the need to completely transition to online modes for their regular classes and examinations. Teachers established WhatsApp groups for students and guardians in order to exchange material and resolve difficulties that children were experiencing. The outbreak of COVID-19 has created a slew of challenges and negative consequences for education, including a reduction in educational activity, an impact on employment, teachers and students who are unprepared for online education, increased parental responsibility for the education of their children, and students who are malnourished as a result of school closures, among other things. In today's world, we live in an age of e-learning or online learning, and it is critical that students understand the significance and value of online learning or e-learning. As a result, the current research will assist in determining how students responded to and thought about online learning, as well as their overall attitude about it. As a result of the above debate, it is obvious that good comprehension of e-learning among school students is required. Because they represent the nation's future, they must be developed in a technologically advanced manner in order to compete in the demanding environment. As a result, school pupils should be familiar with the concept of E-learning, often known as online learning. Additionally, it is necessary to establish appropriate tactics that may help them increase their knowledge and abilities in the area of e-learning. As a result, the investigator is interested in knowing about secondary school students' attitudes on e-learning. In addition, owing to time and financial constraints, the investigator has limited her investigation to the Jhajjar District of the state of Haryana.

1.1 Definitions of Key Terms:

Attitude: The response of instructors to the use of information and communication technology (ICT) in the teaching and learning process is referred to as attitude. The term "attitude toward ICT" refers to the responses of instructors to the importance of ICT in the educational process, as measured in the current research.

Education is aided by information and communication technologies (ICTs), which refer to the use of various digital communication and technology in the area of education. It deals with every facet of educational technology that is utilised in schools to make teaching more efficient and learning more enjoyable for students.

Online Learning: Online learning may be defined as a kind of learning that takes place via the internet and is sometimes referred to by a variety of other names, such as e-learning, web-based learning, and computer-assisted instructions. Some online learning and teaching experts believe that it is a method of teaching in which multiple integrations of technology are sought, whereas others believe that it is a substitute for distance education, which is facilitated by the use of the internet, which is considered to be an effective means of rapid communication by its users.

II. Literature Review

Aydin, M. K., and Aymerci, A. Semerci and Aydin (2018), The purpose of this research was to examine the views of high school teachers concerning the use of information and communications technology (ICT) in education. In this context, we investigated if there were statistically significant differences in attitudes among instructors based on their gender, age, teaching experience, ICT experience, ICT abilities, and ICT training. There were 353 instructors who worked in various high schools around Ankara during the 2016-2017 academic year who took part in the study. The findings of the study revealed that teachers have a generally positive attitude toward the use of information and communications technology (ICT) in their classrooms; however, there is no statistically significant difference between teachers' ICT willingness based on their gender, age, teaching

experience, ICT experience, ICT skills, or ICT training. However, depending on their ICT experience, ICT abilities, and ICT training, people exhibit considerably diverse negative attitudes (ICT anxiety) against the use of ICT in educational settings.

C. Buabeng-Andoh, C. Buabeng-Andoh, C. (2019), Technology is often regarded as a critical motivating component in today's educational environment. Because the Ghanaian government recognises the importance of information and communication technology (ICT) in education, the government is funding ICT initiatives in secondary schools. The majority of professors, on the other hand, are adamant about not incorporating ICT into their classes. As a result, the goal of this research was to evaluate the variables that impact secondary school teachers' use of information and communications technology (ICT) in the classroom. Three hundred and seventy-six instructors from twenty-four public and private schools took part in the study. The descriptive statistics and analysis of variance techniques were used to examine the information gathered from the participants. The findings revealed that instructors' use of information and communication technology (ICT) was still limited to basic and conventional tasks such as information search, class presentation, and so on. A variety of internal and external variables were discovered to have an impact on teachers' ICT use. In addition, female instructors claimed that they utilise information and communication technology (ICT) more than male teachers. In summary, this research has added to the body of knowledge on secondary school teachers' pedagogical use of information and communication technology (ICT), as well as about gender inequalities in the use of ICT.

The authors (**Michael Chen, C. Zhou, Cheng, C. Meng, and Dai Wu**) have published a paper titled (2019), Teachers' capacity to incorporate information and communication technology (ICT) into their classrooms in China is far from satisfactory, according to a recent study. Previous research on teachers' capacity to integrate information and communication technology (ICT) into their classrooms in China disregarded the elements that influence teachers' ICT application and lacked a comprehensive study of the components. It is necessary to investigate ICT applications in a methodical manner since they are influenced by a variety of elements. Teachers from Chinese primary and secondary schools were polled as part of this study, and researchers used an environment-based design, exploratory factor analysis, confirmatory factor analysis, and structural equation modelling to analyse the factors influencing teachers' use of information and communication technology (ICT) to develop teaching activities. They also developed and proposed a model of the influencing factors of ICT usage. Teachers' desire to use ICT to generate high-quality teaching activities, as well as their frequency of use, ICT-based teaching skill, helpfulness degree, and application context, according to this model, are the five primary elements that impact their use of ICT to develop such activities. According to the current state of teachers' ICT application in China, the findings of this research indicate that teachers' motivation to use ICT should be strengthened, and that ICT application settings should be expanded. The findings of this research will be reviewed, as well as their implications.

Kaur, M., and Singh, B. (in press) (2018), The goal of this study is to examine the attitudes and views of secondary school teachers concerning the use of information and communications technology (ICT) in the classroom. One hundred and fifty secondary school teachers from schools in the Indian state of Punjab are taking part in the research. Teachers' attitudes and opinions about the use of information and communication technology (ICT) in teaching and learning were investigated using a survey. Semi-structured interviews were also conducted with the goal of gaining a deeper understanding of the key motives and beliefs held by instructors. The results indicate that teachers' attitudes regarding the use of information and communications technology (ICT) are quite favourable, but that the usage of ICT in classrooms is insufficient. Overall, the key issues and challenges that were discovered to have an impact on teachers' use of ICT tools were limited accessibility to the internet, a lack of modern infrastructure, a lack of technical support, a lack of effective training, a lack of time, a rigid curriculum, traditional methods of evaluation, a focus on certificates and degrees, and a lack of teacher competencies in the use of ICT tools. Furthermore, the findings of the t - test reveal that there are no disparities in the usage of ICT by instructors based on gender. The findings also imply that new approaches to teacher training are required in order for instructors to make effective use of information and communication technology (ICT) technologies.

F. Islahi, F. Islahi, F. Islahi, F. (2019), The attitude of teachers must be taken into account while attempting to reap the advantages of technology in education. Teachers' attitudes play a significant part in directing and forecasting future effective usage of technology in the classroom. As a result of the increasing feminization of the teaching profession, as well as studies indicating that men and women have different perceptions of the usefulness and ease of use of technology, the current study was conducted to examine the attitudes of teachers toward the use of technology in teaching from a gender perspective. The findings of this study were published in the journal Educational Technology. On the basis of the Attitude toward Information Technology scale, a survey was performed on 482 secondary school teachers from India. The attitudes of the respondents were evaluated on four dimensions: relevance in one's life, usefulness to pupils, productivity in the classroom, and interest and acceptance by the teachers. T-tests and ANOVA were used to analyse the quantitative data, which was collected using acceptable statistical procedures. The findings imply that there are no gender specific variations in attitudes toward information technology when considering several characteristics such as training, school location, language of instruction, and marital

status. It is possible to infer from these findings that all instructors, regardless of gender, should be expected to make successful use of technology in the classroom.

Punia, P., Sangwan, A., Sangwan, A., and Sangwan, A. (2021), Developing an attitude scale for online teaching and learning for higher education instructors is the goal of this project, which is now underway. Six hundred and eighty-seven participants (77 Professors, 67 Associate Professors, and 543 Assistant Professors) represented a diverse range of colleges and universities across India. In this study, the researchers looked at the readiness of higher education professors in India during a time of lockdown owing to the Covid-19 outbreak, and they came up with this instrument. Following a search of relevant literature, an initial set of 37 questions relating to the attitude of instructors toward online education was constructed. According to the experts' recommendations, 11 elements were amended and four were removed from the final version. The Google forms were used to gather data from teachers after the draught scale, which consisted of 33 questions, was given to the instructors. The t-value and the R-value were used to do the item analysis. The Cronbach Alpha value (0.88) and split-half correlation coefficients were used to establish the reliability of the scale (0.82). A total of 30 scale items were reduced to 30 as a result of item analysis, and four factors were identified as a result of factor analysis (Principal Component Analysis). It has been shown that the validity and reliability of this scale have been established; as a result, it may be utilised in the assessment of instructors' attitudes about online teaching and learning.

Tandon, U. (2001). (2021), A theoretical model is developed in this study, which emphasises the factors that influence the adoption of online learning during the time of the outbreak of COVID 19 in South Africa. An online survey was used to collect empirical data from 643 school instructors, who were then analysed. Experimental investigation of the suggested conceptual framework was carried out with the use of confirmatory factor analysis (CFA) and structural equation modelling (SEM). As a result, both performance expectation and enabling settings were shown to have favourable effects on both behavioural intention and attitude, according to the results of the research. Teachers' acceptance of online learning, on the other hand, was not influenced by their expectation of effort. However, social influence showed a non-significant link with attitude but a substantial relationship with behavioural intention, as seen in the following table. In both behavioural intention and actual usage, attitudes had a substantial influence on outcomes. By developing and verifying a theory-driven framework that highlights the elements that influence online education during pandemic outbreaks, this research adds to the literature.

N. Mondal and A. C. Das have published a paper in which they argue that (2021), In the current research, the investigator aimed to determine the attitudes of secondary students in West Bengal about online education by surveying them. A total of 240 secondary school students were selected to serve as a representative sample of the whole student population. The purposive sampling approach was used to choose students from upper secondary schools to serve as a sample for this study. The survey research approach has been chosen by the investigator for this investigation. Using a 40-item attitude scale that was devised by the researchers themselves, the data was gathered and analysed. The investigator employed the mean, standard deviation, t-test, and ANOVA to analyse and interpret the data. According to the findings of the survey, there is no statistically significant difference in attitudes about online education between male and female students. The findings of the survey also indicated that there is a statistically significant variation in attitudes toward online education depending on where the participants live and what they are studying.

Bhatnagar, N., and Das, A. (in press) (2014), The purpose of this research was to investigate the views of secondary regular schoolteachers in New Delhi concerning the inclusion of kids with disabilities in the normal classroom. The survey was completed by 470 teachers who were employed by a private organisation in Delhi and who worked at schools administered by the organisation. In this research, participants completed a two-part questionnaire. During the first section, we collected information on the instructors' personal and professional traits and abilities. Part two consisted of a 16-item Likert scale named, Attitudes Toward Inclusive Education Scale, which measured attitudes toward inclusive education. The study's most significant conclusion was that instructors in Delhi had generally favourable views regarding the inclusion of kids with special needs in their classes. Additionally, this research revealed that the instructors who were more enthusiastic about inclusive education were more likely to be male, younger (less than 40 years of age), less experienced (less than 10 years of experience), and to have postgraduate credentials. As a result, both instructors who had contact with someone who had a handicap and teachers whose pre-service teacher education programmes did not include an emphasis on disability expressed a greater willingness to support inclusive education.

G. Mahajan et al (2016), A result of the widespread use of technology in almost every aspect of life, educational institutions are also responsible for ensuring that their students are well-versed in the usage of technology. That's why technological integration into schools in general, and into classrooms specifically, has been growing at an alarming rate over the last several years. In order to gain the most advantages from the use of technology in education, policy planners must take into account all of the essential circumstances and surroundings that are either directly or indirectly connected to the use of technology. Many educational academics have looked into the many aspects that impact the use of technology in education in one way or another,

and their findings have been published in peer-reviewed journals. Teachers' attitudes regarding computers are one of the most significant elements influencing the effective use of computers in the classroom, and they are one of the most significant aspects. As a result, the current research was conducted in order to determine the attitudes of instructors concerning the use of technology in the classroom. A convenience sampling strategy was used to choose a sample of 100 school teachers from ten schools in the Nurpur and Jawali Blocks of the District of Kangra for the current study. Specifically, the researcher employed a questionnaire that he created himself for the aim of data gathering. According to the findings of the survey, around 25% of instructors had only a positive attitude regarding the use of technology in the classroom. There was no statistically significant difference in attitudes of instructors on the use of technology in the classroom in relation to their gender or years of teaching experience.

F. O. Olafare, L. O. Adeyanju, and S. O. A. Fakorede (2018), Information and Communication Technology (ICT) has altered the worldwide education system in the domains of teaching and learning in order to accomplish the Sustainable Development Goals (SDGs) (SDGs). The use of information and communication technology in the classroom is expected of all College of Education (COE) lecturers. They are also expected to serve as role models for pre-service teachers in their use of technology. This highlights the need of examining professors' attitudes about the use of information and communication technology (ICT) in Nigerian colleges of education. It was decided to use the cross-sectional survey approach for this investigation. Respondents were 1107 lecturers (602 men and 505 females), who were recruited from ten Colleges of Education in the south-western part of Nigeria to participate in the study. A questionnaire developed by the researcher, titled "Lecturers' Attitude and Proficiency in ICT Use," was used to gather information. The findings of the study revealed that lecturers had a positive attitude toward the use of information and communications technology (ICT), that there was no statistically significant difference between male and female lecturers in their attitude, that there was a statistically significant difference between first degree holders and higher degree holders in their attitudes, that there was a statistically significant difference between less-experienced and experienced lecturers in their attitude with the less-experienced lecturers faring better, and that there was a statistically significant difference between first degree holders and According to the findings of the survey, COE instructors had a good attitude toward information and communication technology (ICT) and were somewhat adept in its usage. The consequence is that students who have a favourable attitude and are proficient in the use of information and communication technology (ICT) will be more likely to advocate the incorporation of ICT into their academic duties. It was proposed that provisions be created for the continual training of COE teachers in information and communications technology (ICT).

III. Benefits of Using ICT In Education

The benefits of information and communication technology (ICT) in education have been lauded in the literature. When ICT is used, it has been discovered that it can: Assist students in obtaining digital material in a timely and efficient manner. Students utilise information and communication technology (ICT) as a tool to explore new learning subjects, solve difficulties, and propose answers to problems that arise throughout the learning process. The use of information and communications technology (ICT) makes knowledge acquisition more accessible, and ideas in learning domains are better comprehended while engaging students in the use of ICT

Encourage students to take the initiative and learn on their own.

According to Castro Sánchez and Alemán (2011), students are now more regularly engaged in meaningful computer usage in their classrooms. They contribute to the creation of new knowledge by gaining access to, choosing, organising, and analysing data and information. Students that learn using ICT are better capable of utilising knowledge and data from a variety of sources, as well as critically evaluating the quality of the instructional materials.

Create a stimulating learning environment for students.

Students' new knowledge in their areas of study is enhanced by the use of information and communication technology (Chai, Koh and Tsai 2010). Different forms of learning queries may be addressed more creatively with the use of information and communications technology (ICT). For example, in a reading lesson, e-books are often utilised in activities such as reading aloud to the class. All sorts of books, from introductory to intermediate levels, are readily available to learners on a variety of devices, including PCs, laptops, personal digital assistants (PDAs), and iPads. More precisely, these e-books may be accompanied with certain reading apps, which may include a reading-aloud interface, appropriate vocabulary-building exercises, games geared toward improving reading abilities and vocabulary learning, and other features. As a result, information and communication technology (ICT) includes applications that are specifically developed to address a range of learning demands in novel ways.

In a distance-learning context, encourage students to collaborate on projects.

According to Koc (2005), employing information and communication technology (ICT) allows students to interact, share, and collaborate from any location at any time. For example, a teleconferencing classroom may invite students from all over the globe to come together at the same time to explore a particular subject in depth. In certain cases, they may be given the chance to examine issues, explore ideas, and construct conceptual frameworks. They may go on to assess ICT-based learning solutions in further depth. Student collaboration is essential not only for acquiring information but also for sharing varied learning experiences with one another in order to express themselves and reflect on their learning.

Increase the number of chances for students to develop critical (higher-order) thinking abilities.

Based on a constructive learning approach, information and communication technology (ICT) assists students in concentrating on higher-level topics rather than less important chores (Levin and Wadmany 2006). According to McMahon's research (2009), there were statistically significant associations between using information and communication technology (ICT) during learning and the development of critical thinking abilities. Students' critical thinking abilities may improve as a result of more time spent in an information and communications technology setting. As a result, schools are heavily encouraged to incorporate technology throughout all curriculum areas and across all learning levels. Students are able to use technology to the achievement of higher levels of cognition in certain learning situations when this is done, and they benefit from it.

IV. Conclusion

The attitude and perception of instructors toward ICT integration played a significant role in the integration of ICT into the teaching process; good attitudes toward ICT integration are likely to promote ICT integration in the teaching process. There is a link between teachers' gender, age group, and views about the use of information and communication technology (ICT) in the classroom. Both male and female instructors consider information and communication technology (ICT) to be a significant component of the educational process. This viewpoint, on the other hand, differs depending on the age range being considered. A clear school policy on ICT integration, teachers' technical know-how, and the existence of ICT facilities in schools all contribute to the degree to which ICT integration is integrated into the teaching process. The use of information and communication technology (ICT) in the classroom has the potential to alter the teaching and learning process. ICT may help educators organise and execute their work more effectively, while also improving the learning experience for students and, as a result, improving their academic success. The purpose of this research was to determine the attitudes of secondary school teachers concerning the integration of information and communication technology into the educational process. With the development of information and communication technology, learning outcomes are now being affected by the use of technology to improve the delivery of instruction and the increased comprehension of learning concepts on the part of the students. In light of the government's acceptance of ICT modules in instructional delivery, the present research explored teachers' attitudes on the use of information and communication technology (ICT) for high-quality instructional delivery in secondary education. ICT has the potential to influence learning and instructional delivery techniques; the use of ICT has sparked a great deal of academic curiosity, which is reflected in both the existing literature and the present research. When the present research looked into its implications, it discovered that instructors had a favourable attitude toward the use of information and communication technology (ICT) for high-quality instructional delivery.

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