ProScholar Insights (PSI)
Volume 3, Issue 1 (2024)
Pages: 66 – 77

PROSCHOLAR INSIGHTS

ISSN (Print): 3006-838X
ISSN (Online): 3006-7723
DOI: 10.62997/psi.2024a-31016

Research Article **Open Access Journal**

Effects of Information Communication Technology (ICT) on Instructional Competences of Teachers

Hazira Qomi [1], Safar Khan [2], and Zarina Akhtar [3]

[1] MS Scholar, Department of Teacher Education, International Islamic University, Islamabad, Pakistan.
✉ hazira.msedu410@iiu.edu.pk

[2] Lecturer, Department of English, University of Makran, Panjgur, Balochistan Pakistan.
✉ safarqoumi27@gmail.com

[3] Assistant Professor, Department of Teacher Education, International Islamic University, Islamabad, Pakistan.
✉ zarina.akhtar@iiu.edu.pk

This article may be cited as Qomi, H., Khna, S., & Akhtar, Z. (2024). Effects of Information Communication Technology (ICT) on Instructional Competences of Teachers. *ProScholar Insights, 3*(1), 66-77. https://doi.org/10.62997/psi.2024a-31016

Abstract: Information Communication Technology (ICT) is the current expansion and advanced innovation of today's informative world, becoming a functional tool that manufactures the world into a virtual reality. The study focuses on understanding the need to enlarge teachers' education about ICT and its effects on teachers' instructional competencies. It is important to develop alternative approaches for teachers' preparation that reflect a holistic and integrated approach which addresses students' concerns for technology training and teachers' preparation programs due to the changing nature of the learning and teaching process in universities. Moreover, the research was a survey method and quantitative in nature. The research population were 63 teachers from the Faculty of Social Sciences at the International Islamic University, Islamabad, Pakistan. However, objectives of study were to identify the effective instructional competencies of teachers in using Information Communication Technology and to find out the effects of Information Communication Technology in enhancing teacher's instructional competencies at university level. Further, to collect data, closed-ended questionnaires were used, and descriptive statistic was used to analyse the data. The result discovered that it's easy to teach by using ICT, and teachers can create a positive and healthy atmosphere in the classroom by using Information Communication Technology. Teachers have the freedom to design their own teaching aids, but unfortunately, lack of ICT access prevents teachers from using them. The researcher recommended that university management should conduct seminars and workshops on ICT training for teachers so that they can teach their students with the help of Information Communication Technology.

Keywords: ICT Utilization, Instructional Competences, University Management

Corresponding Author:
Hazira Qomi
MS Scholar, Department of Teacher Education, International Islamic University, Islamabad, Pakistan.
✉ hazira.msedu410@iiu.edu.pk

Introduction

Students are considered the backbone of any nation, and making students able enough to survive and struggle for the bright future of their nation, teachers play an essential role in teaching and guiding the right faith to students (Suárez et al.,2018). However, to teach appropriately, a teacher should be skilled in different teaching methods and subject commands. Information Communication Technology (ICT) refers to furnishing possibilities for teachers and students to work, accumulate, utilize, fetch knowledge, motivate unrestricted, dynamic teaching and learning activities, and liability for gaining knowledge that encourages educators and learners to carry on learning even when one is not engaged in any institution or organization (Adelokun & Akinola, 2015). Moreover, ICT also helps teachers make lesson plan materials and distribute provisions, efficiency and suggestions.

Meanwhile, instructional competencies of teachers refer to practical strategies and planning of a teacher for a particular class (Akarawang et al., 2015). Perhaps, the appropriate use of ICT in the classroom is very essential in transmitting knowledge for learners to learn and work to gain information. According to Alazzam et al., (2012) ICT is a flexible tool that has the ability to connect students in instructional and academic activities to enlarge their knowledge and also support them in clarifying multiple difficulties to increase their cognitive skills. Fact cannot be denied that teachers or educators are the core of the curriculum and program of studies, and they manage the teaching and learning process (Becirović & Akbarov, 2015). That's why, teachers have been able enough and make sure that the young generation or the upcoming generation build a knowledgeable community where the competency of using ICT, to obtain and transfer information and knowledge, is necessary. Anyhow, the the usage of ICT at university level is very important and helpful for students in the learning process and helps in developing students' interest and engagement in class activities (Bukaliya & Mubika, 2011).

However, it is not easy for all teachers to use ICT in their classroom for learning and teaching activities. Rather, teachers face lots of difficulties in the appropriate usage of Information Communication Technology (ICT) (Suárez et al., 2018). According to Akarawang et al., (2015) some teachers believe using ICT in class is a wast of time because they find that teaching time period is not enough for them to use the ICT for teaching and learning purposes. Teachers, who have knowledge of using technologies can easily present their own teaching aids with the help of the ICT but it can only be effective when teachers have instructional competences (Almerich et al., 2016). Often teachers are unaware about the effectiveness of ICT in their instructional competences that with the help ICT they can make teaching effective (Buabeng, 2012). Moreover, the instructional competence of teachers is equally important as the usage of ICT in class, sometimes even more, but it is a great matter of fact that many teachers lack instructional competencies in their effective teaching strategies (Tømte, 2015).

Problem Statement

ICT is one of the highest current expansion and advance innovation of this fast moving and informative world and as well as it has become a functional tool that has the way of manufacturing the world a virtual reality. Additionally, ICT has both good and bad significance for pupil in various stages of life at various time. However, this research aims to highlight the effects of ICT on instructional competences of teachers at university level. This study focuses on understanding the need to enlarge teacher education about ICT and its effects on their instructional competencies. Fact cannot be denied that there is a noteworthy challenge for teachers, who not only have to better support their students to more efficiently utilize digital facilitates in their classrooms, but must also support them to understand and create a concern for vast considerations about technology use, and its impacts so for that this study focus to bring in to the note the issues related the effect of ICT in instructional competences of teacher at university level. Anyhow, the purpose to choose this topic is to highlight the significant association of teachers and the usage of ICT, like what problem they face how effectively they show instructional competences to deal with it and how they tackle if any circumstance occurs? While there is general perspective about the need to develop and implement alternative approaches for teacher preparation that reflect a holistic and integrated approach that addresses students' concerns of a disconnect between their technology training and the rest of their teacher's preparation program due to the changing nature of learning and teaching in universities, there is a growing need for professional development for lecturers and tutors teaching and disciplines.

Moreover, the usage of ICT and having instructional competencies are considered to be some of the great skills a teacher should have. Many teachers still face problems dealing with technologies and have lack instructional competencies so this study helps to understand the effects of ICT on instructional competences of teachers at university level. Apparently, the study will be useful for teachers at the university-level to how they can improve their instructional competence with the help of ICT use in their classrooms and know the effects of ICT on their instructional competencies in the teaching process. Additionally, the study also suggest one should keep in mind the class timing when using ICT in their lecture to manage and complete their lesson plan with appropriate use of ICT and properly balance and tackle everything happening in class when they are using ICT in their lecture.

Research Objectives

The objectives of the study are:

1. To identify the difficulties faced by teachers in the usage of ICT in teaching.
2. To identify effective instructional competencies of teachers in using ICT in the classroom.
3. To find out the effect of ICT in enhancing teacher's instructional competences at university level.

Literature Review

Information Communication Technologies (ICT) refers to a broad range technological tools and resources that are used to transmit, store, create, share or exchange information (Adelokun & Akinola, 2015). These tools include computers, Internet, and visual technologies such as television, projectors, etc. Audio technologies such as cassette tape, radio, etc. In education, ICT is used to enhance the quality of teaching and learning and engage students in class activities. According to Becirović and Akbarov (2015), using ICT in the classroom motivates the students to study and involve them in different activities happening in class. The students become active learners instead of being passive through the use of ICT (Almerich et al., 2016).

Importance of ICT

Technology development has made education very accessible. Due to its advancement, it has made life easier for people. In today's world learners are developing in a world marked by technological advancement and change. According to Suárez et al., (2018) there is no doubt that technology has a big impact on teaching tools and the need to provide students with the knowledge, skills, and experiences that will enable them to participate actively in the global community has been acknowledged by educators. Therefore, it is generally accepted that ICTs can empower and foster change in teachers and learners and help people in developing the skills necessary for the twenty-first century (Alt, 2018).

ICT in Enhancing Pedagogical Practices

According to Ghavifekr and Rosdy (2015) the use of ICT in education has changed how instructors present material, moving away from traditional pedagogies and toward more participatory, student-centred approaches. Research indicates that the use of ICT tools improves teachers' instructional practices greatly. Examples of these tools include learning management systems (LMS), interactive whiteboards, and online resources. With the aid of these resources, educators may impart complex knowledge in ways that are visually engaging for students, improving comprehension and retention. Moreover, those educators who routinely used ICT in their lessons reported greater levels of originality and creativity (Shah, 2022). Teachers can create new instructional tactics that accommodate different learning styles by integrating technology into their lessons. In a similar vein, Kler (2014) pointed out that ICT promotes peer-to-peer learning and increases student engagement by facilitating more collaborative learning environments.

ICT and Teacher Professional Development

ICT literacy-focused professional development programs are essential for improving teachers' instructional competencies. According to Bukaliya and Mubika (2011) with the use of ICT, educators can stay current on pedagogical approaches and technological advancements by participating in communities of practice, webinars, and online courses. The value of ongoing professional development in ICT integration argues that in order for teachers to successfully integrate ICT into their work, they require ongoing resources and assistance (Suárez et al., 2018). It is unlikely that ICT would fully achieve its potential to improve teaching and learning without proper training.

ICT in Promoting Differentiated Instruction

The potential of ICT to facilitate differentiated instruction is one of its main advantages. By using ICT tools, educators can customize classes to each student's needs and provide a variety of resources to suit different learning styles and skill levels. This helps teachers become more proficient educators by enabling them to use inclusive teaching practices,

which in turn improves student results. According to research by Tondeur et al., (2017) educational software and adaptive learning platforms are two examples of tools that teachers can use to differentiate instruction with the aid of technology. With the use of these tools, educators may provide more individualized instruction to their pupils, better meeting the requirements of all students, especially those who struggle academically or need more advanced content.

ICT Integration and Teacher Instructional Competences

Teachers' instructional competencies are significantly impacted by ICT, which makes it possible for them to include innovative techniques for student evaluation and material delivery. Teachers can assess student performance in real-time and modify instruction based on the information they receive via technology, which includes virtual simulations, online tests, and e-learning platforms (Ghavifekr & Rosdy, 2015). Research by Fuente and Biñas (2020) showed that teachers who included ICT in their lesson plans on a regular basis reported being more competent in evaluation and feedback. According to the study, teachers were able to more effectively identify students' learning gaps and give more focused support when they used ICT-enabled formative assessments.

Barriers in Effective ICT Integration in Instruction

ICT can be useful in the classroom, but there are a number of obstacles that prevent it from being fully which includes lack of infrastructure, restricted access to digital technologies, poor technical assistance, and few possibilities for professional development are among the difficulties faced by teachers (Shah, 2022). Research shows that educators are less inclined to use ICT in the classroom if they are uncomfortable with it or encounter technical difficulties. According to Fuente and Biñas (2020) a teacher's self-efficacy, personal experiences, and ideas about technology all have a big impact on whether or not they use ICT in their lesson plans.

ICT and Teacher Self-Efficacy

Teachers' confidence in their own abilities is directly related to how well they integrate ICT into their lesson plans. Educators who possess self-assurance in their ICT skills are more inclined to integrate it into their lessons and experiment with novel approaches to instruction. According to research by Dzhurylo and Shparyk (2019) a key element in deciding how much technology is used in the classroom is teacher self-efficacy in ICT. Additionally, teachers who participate in ICT professional development programs are more likely to see gains in their own self-efficacy, which translates into more efficient use of technology in the classroom (Ghavifekr et al., 2014).

National and International Research on ICT

Information and communication technology can be utilized in several ways to assist both teachers and students in learning about their respective subject areas (Tondeur et al., 2008). Technology-based teaching and learning provide a variety of fascinating ways, such as educational videos, stimulation, data storage, database use, mind-mapping, guided discovery, brainstorming, music, and many more, to make the learning process more effective and meaningful (Bukaliya & Mubika, 2011). Students also gain from ICT integration because they are not constrained by a limited curriculum and resources rather, hands-on activities in an ICT-based course are designed to help them stimulate their understanding of the subject. It also assists teachers in developing effective, creative, and engaging lesson plans. This improves the students' learning abilities and makes them active participants (Galanouli et al., 2004). However, education is one of the tools for transferring knowledge from generation to generation and acknowledging human beings as the brighter side of life. It has been realized that time-to-time education is getting a newer and more skilful shape to be understood in a much easier way by the world (Alt, 2018). Becirović and Akbarov (2015) mentioned that it is the responsibility of every country education system to deal with modern-era education, which covers the knowledge of current circumstances. Different rules and policies are applied by teachers and education experts to give students greater access to education in a much easier way. Modern areas deal with a system of technologies through which knowledge is shared in educational institutions, class management, and classroom activities (Suárez et al., 2018).

According to Tasir et al., (2012), information technology has a very high impact on students in developing knowledge skill for students to understand the lesson more easily. Additionally, if we have a glance over a case study on the relationship between teachers and ICT competency, confidence level and satisfaction toward ICT training programs then according to Tasir et al., (2012) worked on importance of Information Communication teachers (ICT) to analyze Malaysian teachers' competency, confidence and satisfactory toward ICT training programmed. As Tasir et al., (2012) explained the term "ICT", which means confident and critical use of electronic media for work, leisure and communication.

A report by Tezci (2009) estimated that there is a huge increase in the use of technical education by every country to use developed skills of ICT for education purposes. It was entitled by every country's UNESCO report to ensure that there will be progressive development of teachers' training programs and bringing out their best skills in classroom activities. As per the Tezci (2009) report, teacher training programs vary from country to country, in South Korea, 3897 teachers were trained in-serves per year, while in India, the ratio of trained teachers was 230540 from 35 cities per 6 serves of 29702, another side Malaysian reported to trained 15000 teachers to date. It is also estimated in the UNESCO 2003 report that the number of hours for ICT training programs vary from country to country. In Malaysia, Intel programmed is estimated to be 40 hours, while in South Korea, hours vary from the length of the program (60 hours, 30 hours, 15 hours). According to Tasir et al., (2012) the main goal of this research was to analyze how information ICT researchers target population in this research, were teachers, the school teachers from the education faculty at the University of Johar State. The researchers used a sampling method in which 184 questionnaires were distributed to teachers for data collection, and later, the data were analyzed through SPSS. Throughout the research, it was found that Malaysian teachers have high competency (3.95) in their confidence in using ICT (mean=4.01), and satisfaction towards ICT training program estimated at (mean=4.02). According to Tasir et al., (2012) a result shows that the correlation coefficient between teacher's ICT competencies and teachers' confidence levels using ICT was high (r=.749) and both correlation coefficients between teachers' competencies (r=.496) and teachers confidence level in using ICT (r=.571) and teacher satisfaction level using ICT is so difficult.

According to Becirović and Akbarov (2015), if a teacher is satisfied with the ICT training program, then it is certain that the response in ICT training will be fully informative and satisfactory for the responded teachers to learn. Moreover, the point to be noted that Falloon's (2020) article on the conceptual framework of Teachers' Digital Competence (TDC), which also refers to teachers' ICT use and its effect on teachers' instructional competencies and how this effective and skilful technique brings out the best outcome of complex knowledge. TDC has interdisciplinary characteristics that help fulfil the objectives of technical education competence. Basically, the term 'digital literacy' first emerged in 1997 in Paul Glister's book, in which it is stated that "it is a set of skills to get the approach of the Internet, searching, managing and editing digital information; joining communication, online communication and communication network. Digital literacy is a process of learning through different digital tools and resources (Tezci, 2009).

Alt (2018) stated that digital literacy is the ability to make, embody and share sense in different modes and set-ups, to form, collaborate and communicate successfully and to understand in what way and when digital technologies can best be used to sustain these methods. Digital literacy is the ability of an individual to organize a digital environment for learning purposes. Falloon (2020) stated that teachers' educators refer to those educators who serve their entire life motives to guide teachers and to support teachers of the future generation in utilising their skills for classroom activities and classroom management. Falloon (2020) further explain that 'teachers' educators' are those who educate future teachers with multiple training and not those who provide professional development for teachers practising. According to Falloon (2020), this frameworks or models used to guide teachers' educators. These frameworks, with the help of technological tools, build systematic development in classroom activities and give a deep understanding of the pedagogical content and technological knowledge. According to Gruscynska et al., (2013) all literacy, like internet literacy, computer literacy, information literacy, media literacy and multi-model literacy, are directly associated with the digital resources used in teaching and learning. While the term digital literacy has been

further criticized by Gruscynska et al., (2013) that these literacy approaches are disparaged for their narrow skills concentration, absence of validity, catastrophe to take account of different sociocultural frameworks for technology practice, and their unproductive reductive strategy.

However, there are multiple types of research in which technological tools give a narrow focus during classroom assessments to enable the students to understand the lecture clearly. There are multiple researches in which technological tools given a narrow focus during classroom assessments enable students to understand the lecture clearly (Gruscynska et al., 2013). According to Raja (2017) these technological learning helps to strengthen students' confidence and attitudes towards learning environment and understanding a skillful knowledge of computational hardware and software. Falloon (2020) results show that teachers' capability is to generate a well-organized idea into a great presentation or argument to justify the audience. It is one teacher's responsibility to be effective and confident in speaking during presentations. Falloon (2020) further suggested that a true presenter without much knowledge of digital tools can also give a good presentation instead of knowing the use of software without presentation skill but true presenters know the cycle taste of the audience, so manage to organize presentation slide in a sequence that reasonably understood by the audience. The result shows that educating young people to understand the ethics, value, sustainability of digital education in classroom activities will help to guide future teachers to play import part for the advancement of technical education. Falloon (2020) further suggested that it is the fundamental duty of faculty members to implement a great TDC framework to provide a great opportunity for guiding teachers for future classrooms.

No doubt, ICT play a hug role especially in western countries where all schools and university enrich students with basic technologies for learning that is the reason that their people are mostly well skilled (Bukaliya & Mubika, 2011). According to Al-Ansi (2021) due to covid, many countries turned to blended learning and such countries like Pakistan, where teachers were in the habit of traditional teaching and learning process especially this duration, the role of ICT in the worldwide educational system played a tremendous role in helping teachers to teach their students. He also added that before teachers were not train or it can most of teachers worldwide were not used to technologies but after covid almost all teachers learn how work by the help of ICT and now they learned the skilled of using ICT however they want. The fact cannot be denied that education institutions and their teaching strategies are incomplete without ICT.

The presence of ICT in schooling is considered a better approach for students' learning and educators. E-learning or web-based learning is turning out to be progressively famous and with different uncommon occasions occurring in human lives, this doesn't just open doors for schools to guarantee that understudies approach educational plan materials while in the study hall yet additionally permits them to guarantee understudies outside the study hall, for example, at home or even in clinics can learn (Alazzam et al., 2012). The advantages of ICT in schooling are off to such an extent that understudies in the study hall can all gain from the educational program material. Understudies with unique necessities are no longer in a difficult spot as they approach fundamental material and extraordinary ICT devices can be utilized by understudies to utilize ICT for their own instructive requirements (Becirović & Akbarov, 2015). Regardless of this, it opens up new issues connected with the 'advanced partition' and giving admittance to ICT instruments and assets for the individuals who are less lucky, according to Bukaliya and Mubika (2011), one of the critical abilities for the 21st century which incorporates assessing, arranging, checking, and reflecting to give some examples.

The viable utilization of ICT in training requires abilities, for example, making sense of and supporting the utilization of ICT in creating answers for issues. When ICT is coordinated into illustrations, learners participate more in their work. This is on the grounds that innovation gives various chances to make it more tomfoolery and pleasant with regards to showing exactly the same things in various ways. As an outcome of this expanded commitment, it is said that students actually want to hold information all the more successfully and proficiently (Alazzam et al., 2012)**.** It is when ICT is unavoidable and pervades all enterprises in the economy, whether it very well might be well-being, training, climate or assembling (Tezci, 2009). The meaning of ICT in the Australian economy was accentuated in the

new article by Alan Patterson, CEO of the Australian Computer Society (ACS), in his articulation that the "ICT industry currently matches mining regarding the commitment to the economy" (Akarawang et al., 2015). It is by and large accepted that ICTs can enable instructorsato and students, advance change and cultivate in 21st cent. However, information to help these innovations are as still restricted (Peralta & Costata, 2007). There is the broad conviction that ICTs would be able and will engage educators and students, changing educating and educational experiences from being profoundly instructor ruled to understudy focused, and that this change will bring about expanded learning gains for understudies, setting out and considering open doors for students to foster their inventiveness, critical abilities to think, enlightening thinking abilities, relational abilities, and other higher-request thinking abilities.

Methodology

The study was conducted to explore the effect of ICT on instructional competences of teachers. This section discusses the study design, population, sample size, instrument, data collection method and data analysis.

Research Design

This study comes under positivism paradigm. Quantitative approach was used and the nature of the study was descriptive design. The researcher collected data directly from respondents

Population of the Study

Population of the study were the teachers of International Islamic University Islamabad Female Campus. The population of female teachers were selected from Faculty of Basic and Applied Science. However, Faculty of Basic and Applied Science was consisted of five departments and overall number of permanent female teachers of these departments was seventy-five.

Table 1

No. of Departments and Teachers of Faculty of Basic and Applied Science

Departments	Teachers
Environmental science	13
Physics	7
Mathematics and Statics	17
Computer Science and Software Engineering	21
Biological science	17

Sample and Sampling Technique

Keeping in mind the population of study, sample of study were selected from Faculty of Basic and Applied Science teachers through Random Sample Technique. According to L.R Gay (2012), the sample size of the study was 63.

Instrumentation

Questionnaires were used to collect data from teachers. Close ended questionnaires were used to collect data. Questionnaires were made on the basis of literature. However, access of questionnaires statements was from open source and it was public. Close ended questionnaires were used to collect data and questionnaires were construct on the basis on *five-point Likert scale* (A sort of psychometric reaction scale in which responders determine their degree of consent to an assertion normally in five points). Those are (1) strongly disagree and it is symbolically written as SD (2) disagree as D (3) neutral as N (4) agree as A (5) strongly agree as SA and those questionnaires were consist of statements regarding the effects of ICT on Instructional Competences (IC) of teachers at university level.

Data Collection

Data were collected by the personal visit of researcher. Quantitative data were collected through questionnaires from the teachers. Researcher personally distribute the questionnaires to all teachers from the eight departments of Faculty of Basic and Applied Science.

Data Analysis

After data collection from teacher, descriptive statices was used to analyze the collective quantitative data. The result was drawn accordingly, on the basis of data evidences, the findings, conclusions and recommendation were formulated.

Findings And Results

Table 2

Teacher's Responses on Effects of ICT on Instructional Competences and its Use for Teaching Purpose

No.	Items	SA	A	N	D	SD	Mean
1	I find it easier to teach with using ICT.	39	21	1	1	1	4.83
2	I am aware of the great opportunities that ICT offers for effective teaching	29	27	5	1	1	4.30
3	Lack of ICT access, prevent me from using it in teaching.	24	31	5	2	1	4.19
4	Time management is difficult when I use the ICT for teaching and learning purpose.	14	30	11	6	2	3.76
5	I have the freedom to design my own teaching with the help from the ICT.	19	26	15	2	1	3.95
6	I find the usage of ICT in teaching and learning a time consuming	13	26	15	8	1	3.66
7	I choose effective technology to increase learners' confidence in learning	16	30	11	5	1	3.87

According to this table where statistical mean score of statements about that it is easier to teach with using ICT in the classroom were 4.83, which meant that out of 63 teachers, 95% teachers agreed, while only 5% teachers disagreed with the statement that it easier to teach with using ICT and in the same the manner, having a glance over the mean score of statement about the great opportunities that ICT offers for effective teaching students were 4.30, which shown that among 63 teachers, 89% teachers agreed while only 11% teachers disagreed with the statement that they are aware of the great opportunities that ICT offers for effective teaching. Furthermore, the mean score of statement about lack of ICT access, preventing teacher from using it in teaching was 4.19, which exhibits that out of 63 teachers, 87% teachers agreed, while only 13% teachers disagreed with the statement that lack of ICT access, prevent them from using it in teaching and the mean score of the statement about time management difficulties when ICT being used for teaching and learning purpose were 3.76, which revealed that out of 63 teachers, 70% teachers agreed, while 30% students disagreed with the statement that time management is difficult when ICT is use for teaching and learning purpose.

Moreover, looking at the interpretation of another statement, the mean score of the statement about teachers design their own teaching with the help from the ICT was 3.95, which unveiled that out of 63 teachers, 71% teachers agreed, while 29% teachers disagreed with the statement that teachers design their own teaching with the help from the ICT. Additionally, the mean score of the statement about the usage of ICT in teaching and learning considered time-consuming was 3.66, which shows that out of 63 teachers, 61% of teachers agreed, while 39% of teachers disagreed with the statement that usage of ICT in teaching and learning is time-consuming. Last but not the least, the mean score of statement about choose effective technology to increase learners' confidence in learning 3.87, which clarified that out of 63 teachers, 72% teachers agreed, while only 28% teachers disagreed with the statement that choose effective technology to increase learners' confidence in learning.

Table 2

Teachers Responses on Effects of Information Communication Technology in Enhancing their Instructional Competences

No	Items	SA	A	N	D	SD	MEAN
1.	University needs to prioritize the ICT pedagogical training in their continuous professional development	16	28	12	5	2	3.80
2.	I believe teachers need to be encouraged to use ICT in their teaching and training activities.	16	30	10	6	1	3.49
3.	I find that classroom management is out of control if ICT is used in teaching.	13	23	12	12	3	3.49
4.	I find students pay less attention in the classroom when ICT is used in teaching.	13	18	14	16	2	3.38
5.	I find the use of ICT in teaching is a wast of time.	9	19	13	16	6	3.14
6.	I find that students put less effort into their lessons if ICT is used in teaching.	10	22	13	13	5	3.30

Having a glance over the interpretation or result of these tables which is also teachers' responses, it is clearly observed that the mean score of the statement about prioritizing the ICT pedagogical training in universities in their continuous professional development was 3.80, which shows that out of 63 teachers, 69% teachers agreed, while 31% teachers disagreed with the statement that prioritizing the ICT pedagogical training in their continuous professional development. Ahead, the arithmetic mean score of the statement that teachers need to be encourage to use ICT in their teaching and training activities which were 3.49, which indicates that among 63 teachers, 73% teachers agreed, while 27% teachers disagreed with the statement and in the same manner the mean score according to teachers response about the statement then among 63 teachers, 56% teachers agreed, while 46% teachers disagreed with the statement that classroom management is out of control if ICT is used in teaching. Moreover, the mean score was 3.38, and it is a clear sign that out of 63 teachers, 48% teachers agreed, while 52% teachers disagreed with the statement that students pay less attention in the classroom when ICT is used in teaching eventually the mean score which was 3.14, and no doubt it points out that out of 63 teachers, 44% teachers agreed while 56% teachers disagreed with the statement that use of ICT in teaching is a wast of time. Lastly, the mean score of the statement was 3.30, which shows that out of 63 teachers,40% of teachers agreed, while 60% of teachers disagreed with the statement that students make less effort for their lesson if ICT is used in teaching.

Conclusion

Learners with the special requirements are not facing any more difficulties as they have access to special devices and special ICT instruments that can be used by learners for their own educational needs. In a class when teacher integrate ICT into lessons, students become more active and show interest in the class activities and that's all because technology give various ways to learners to study with more fun and enjoy in learning activities despite learning same things but in different ways. However, ICT automatically brings students together where they can communicate and discuss what they are doing for their work and this in turn, The significance of ICT in students' daily life can be seen and measurable in the shape of everyday interlink with the ICT powered channels, devices, gadgets, or machines. Additionally, the role of ICT (Information and Communications Technology) in students' daily life cannot be denied. Students' day-to-day life is much of a story of their interlink with ICT technologies. It cannot be denied that ICT plays an essential role in the teaching and learning process, especially at higher levels. Moreover, this study is about the effect of ICT on instructional competencies of university teachers and the objectives of the study were

1. To identify the difficulties teachers face in usage of ICT in teaching,
2. To identify effective instructional competencies of teachers for using ICT in the classroom and
3. To find out the effect between ICT for enhancing teacher's instructional competences at university level.

The sample size of the study was 63 teachers of the International Islamic University Islamabad, and random sampling was used for data analysis. Moreover, it is concluded that it is easier to teach by using ICT in the classroom, which also indicates that most teachers are aware of the great opportunities that ICT offers for effective teaching, but the lack of ICT access prevents teachers from using it in teaching. However, after the interpretation of findings, it is also concluded that time management is difficult when teachers use the ICT for teaching and learning purposes in their classroom, and teachers believe they have the freedom to design their own teaching with the help from the ICT in their class so for that teacher must be accurate tools of ICT. Nonetheless, the results also show that teachers choose effective technology to increase students' confidence in learning, and even the university should categorize the ICT pedagogical training in teachers' continuous professional development. In fact, according to the findings teachers use the result of achievement tests to reform their teaching method of ICT in students' learning process, and teachers also interact with the professors who specialize in ICT teaching disciplines for a boarder understanding of various classroom atmospheres and for that teachers apply various learning strategies that are suitable for students learning thus ICT use for teaching and learning purpose is equally standardized in educational institutions just like the other courses.

References

Adelokun, A. S., & Akinola, O. B. (2016). The challenge of teacher quality and human development in Nigeria. *US-China Education Review B*, *5*(3), 191-198. https://doi.org/10.17265/2161-6248/2015.03.004

Akarawang, C., Kidrakran, P., & Nuangchalerm, P. (2015). Enhancing ICT Competency for Teachers in the Thailand Basic Education System. *International Education Studies*, *8*(6), 1-8. https://doi.org/10.5539/ies.v8n6p1

Al-Ansi, A. M., Garad, A., & Al-Ansi, A. (2021). ICT-based learning during Covid-19 outbreak: Advantages, opportunities and challenges. *Gagasan Pendidikan Indonesia*, *2*(1), 10-26. https://doi.org/10.30870/gpi.v2i1.10176

Alazzam, A. O., Bakar, A. R., Hamzah, R., & Asimiran, S. (2012). Effects of Demographic Characteristics, Educational Background, and Supporting Factors on ICT Readiness of Technical and Vocational Teachers in Malaysia. *International Education Studies*, *5*(6), 229-243. http://dx.doi.org/10.5539/ies.v5n6p229

Almerich, G., Orellana, N., Suárez-Rodríguez, J., & Díaz-García, I. (2016). Teachers' information and communication technology competences: A structural approach. *Computers & Education*, *100*, 110-125. https://doi.org/10.1016/j.compedu.2016.05.002

Alt, D. (2018). Science teachers' conceptions of teaching and learning, ICT efficacy, ICT professional development and ICT practices enacted in their classrooms. *Teaching and Teacher Education*, *73*, 141–150. https://doi.org/10.1016/j.tate.2018.03.020

Becirović, S., International Burch University, Sarajevo, Bosnia and Herzegovina, & Akbarov, A. (2015). Impact of social changes on teacher's role and responsibilities in the educational system. *Journal of Linguistic Intercultural Education*, *8*, 21–34. https://doi.org/10.29302/jolie.2015.8.2

Buabeng-Andoh, C. (2012). An exploration of teachers' skills, perceptions and practices of ICT in teaching and learning in the Ghanaian second-cycle schools. *Contemporary educational technology*, *3*(1), 36-49. https://doi.org/10.30935/cedtech/6066

Bukaliya, R., & Mubika, A. K. (2011). Teacher competence in ICT: Implications for computer education in Zimbabwean secondary schools. *International Journal of Social Sciences & Education*, *1*(4). http://ijsse.com/sites/default/files/issues/2011/v1i4.pdf

Dzhurylo, A. P., & Shparyk, O. M. (2019). ICT competence for secondary school teachers and students in the context of education informatization: global experience and challenges for Ukraine. Інформаційні технології і засоби навчання, (70, № 2), 43-58. https://journal.iitta.gov.ua/index.php/itlt/article/view/2438

Falloon, G. (2020). From digital literacy to digital competence: the teacher digital competency (TDC) framework. *Educational Technology Research and Development: ETR & D*, *68*(5), 2449–2472. https://doi.org/10.1007/s11423-020-09767-4

Fuente, J. D., & Biñas, L. C. (2020). Teachers' competence in information and communications technology (ICT) as an educational tool in teaching: An empirical analysis for program intervention. *J. Res. Educ. Sci. Technol*, *5*(2), 61-76.

Galanouli, D., Murphy, C., & Gardner, J. (2004). Teachers' perceptions of the effectiveness of ICT-competence training. *Computers & Education*, *43*(1-2), 63-79. http://dx.doi.org/10.1016/j.compedu.2003.12.005

Ghavifekr, S., & Rosdy, W. A. W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science*, *1*(2), 175. https://doi.org/10.21890/ijres.23596

Ghavifekr, S., Razak, A. Z. A., Ghani, M. F. A., Ran, N. Y., Meixi, Y., & Tengyue, Z. (2014). ICT integration in education: Incorporation for teaching & learning improvement. *Malaysian Online Journal of Educational Technology*, *2*(2), 24-45.

Gruszczynska, A., Merchant, G., & Pountney, R. (2013). "Digital Futures in Teacher Education": Exploring Open Approaches towards Digital Literacy. *Electronic Journal of e-Learning, 11*(3), pp193-206

Kler, S. (2014). ICT integration in teaching and learning: Empowerment of education with technology. *Issues and Ideas in Education*, *2*(2), 255–271. https://doi.org/10.15415/iie.2014.22019

Peralta, H., & Costata, F. A. (2007). Teachers's competence and confidence regarding the use of ICT. *Sísifo-Educational Sciences Journal*, 75-84. https://repositorio.ulisboa.pt/bitstream/10451/7008.pdf

Raja, F. U. (2017). Anxiety level in students of public speaking: Causes and remedies. *Journal of Education and Educational Development*, *4*(1), 94. https://doi.org/10.22555/joeed.v4i1.1001

Shah, S. S. (2022). Teaching and learning with technology: Effectiveness of ICT integration in schools. *Indonesian Journal of Educational Research and Technology*, *2*(2), 133–140. https://doi.org/10.17509/ijert.v2i2.43554

Suárez-Rodríguez, J., Almerich, G., Orellana, N., & Díaz-García, I. (2018). A basic model of integration of ICT by teachers: competence and use. *Educational technology research and development*, *66*, 1165-1187. http://dx.doi.org/10.1007/s11423-018-9591-0

Tasir, Z., Abour, K. M. E. A., Halim, N. D. A., & Harun, J. (2012). Relationship between Teachers' ICT Competency, Confidence Level, and Satisfaction toward ICT Training Programmes: A Case Study among Postgraduate Students. *Turkish Online Journal of Educational Technology-TOJET*, *11*(1), 138-144.

Tezci, E. (2009). Teachers' effect on ICT use in education: The Turkey sample. *Procedia-Social and Behavioral Sciences*, *1*(1), 1285-1294. https://doi.org/10.1016/j.sbspro.2009.01.228

Tondeur, J., Aesaert, K., Pynoo, B., Braak, J., Fraeyman, N., & Erstad, O. (2017). Developing a validated instrument to measure preservice teachers' ICT competencies: Meeting the demands of the 21st century: ICT competencies for preservice teachers. *British Journal of Educational Technology: Journal of the Council for Educational Technology*, *48*(2), 462–472. https://doi.org/10.1111/bjet.12380

Tondeur, J., van Keer, H., van Braak, J., & Valcke, M. (2008). ICT integration in the classroom: Challenging the potential of a school policy. *Computers & Education*, *51*(1), 212–223. https://doi.org/10.1016/j.compedu.2007.05.003

Tømte, C. E. (2015). Educating Teachers for the New Millennium? -Teacher training, ICT and digital competence. *Nordic journal of digital literacy*, *10* (Jubileumsnummer), 138-154. https://doi.org/10.18261/ISSN1891-943X-2015-Jubileumsnummer-10