

Teacher's Perspective on The Challenges of Using ICT in Teaching: A Case Study in Education Faculty

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Abstract: Over the last decade, the rapid development of the technology has become a significant interest in Education. Information and Communication Technology (ICT) has integrated into learning and teaching along with delivering more chances for students and teachers to operate better in teaching and learning. Conversely, the obstacles may prevent teachers from applying ICT in the classroom. Analyzing the barriers of ICT integration can help and encourage educators to be creative and try to use a new approach for integrating technology into their everyday teaching process. This study investigates teachers' perspectives on those obstacles for integrating ICT in teaching at the university level. It also aims to find out other uncommon barriers in teaching that any facilitators who are applying ICT can face. Sixty-seven participants from different positions and departments in the education field, who integrate ICT have participated in the study. A mixed method has been implemented. The data was collected through a survey with Google form. The quantitative data were analyzed by IBM SPSS version 28, while the thematic analysis was used for qualitative data. The study's results have declared that most of the teachers have solid demand to apply ICT in teaching, even with these barriers. The most difficulties were internet connection and electricity in the process. It also indicated that ICT makes the class more effective through student engagement, time management, and student-student interactions.

Keywords: Integration, Difficulties, ICT, Teacher's Perspective, Higher Education, Curriculum.

1. Introduction

Information and Communication Technology (ICT) as a versatile instrument has the capability not only of engaging students in instructional activities to increase their learning. It is also helping them to solve complex problems to enhance their cognitive skills. Generally, three objectives are distinguished for the use of ICT in education. (a) The use of ICT as object of study; refers to learning about ICT, which enables students to use ICT in their daily lives. (b) the use of ICT as aspect of discipline or profession; refers to the development of ICT skills for professional or vocational purposes. (c) The use of ICT as medium for teaching and learning; focuses on the use of ICT for the enhancement of the teaching and learning process (Bariu, Chun, & Boudouaia, 2022). It is a fact that teachers are at the center of curriculum change and they

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control the teaching and learning process. Therefore, they must be able to prepare young people for the knowledge society in which the competency of using ICT to acquire and process information is very important technology can play a part in supporting face-to-face teaching and learning in the classroom.

1.1 Problems of the Study

Technology rapidly developed in every field of life. Education and teaching are not far from this development that makes teachers and educators to redesign their curriculum in education generally. The recent barriers which make ICT not involve properly in teaching that is one of the main reasons to be investigated and for implication.

1.2 Aim of the Study

The recent paper aims to see how technology is affecting classes and teaching process. It also aims to see the role of the teachers and their perspectives towards of the challenges of using ICT in teaching at the Faculty of Education, the teachers were selected as the targets of the present study hence the researchers think that teachers are very valuable in the class and when their perception have been collected the study programs will be more fruitful and productive.

1.3 Research Questions

For the purpose of this study, the following research questions were scanned:

1. What are the barriers and the main challenges of integrating ICT in teaching?
2. What are the impacts these barriers on the teacher's teaching attitude?
3. What are the teachers perceptive of integrating ICT?

1.4 Significance of the Study

The significances of the study are to know the difficulties and the barriers that any teacher may face while integrating ICT in their teaching process. It also signified how to find better ways in implication of ICT in education. It is also important for the further researchers, policy makers, and curriculum designer to design and implement ICT in the curriculum.

2. Review of the Literature

Information and Communication Technology (ICT) refers the integration of telecommunication technologies, video, and computer, as found in the implementation networks and computer, ICT serves based on internet and computer (Inan, & Lowther, 2010). More exactly, ICT means using technology in education era. The teacher combines technology with her classroom and uses technology as learning tools for students to deliver the instructions. ICT is also used for instructional perpetrations. Unfortunately, implementing ICT in the teaching process is not an easy phenomenon, and it is a very complicated process that may encounter different obstacles which in literature it is known as a bunch of "barriers" or "challenges". In this regard, a challenge is introduced as "any condition that makes it difficult to make progress or to achieve an objective" (Schoepp, 2005, p. 2). Thus, if teachers misuse the ICT, there will be barriers of in terms of lack of teacher confidence, lack of accessibility and lack of time. As a result, the

teachers do not achieve their learning goals. Numerous researchers explored that ICT challenges cause lack of competence and it also create a negative attitude towards teaching (MD Yunus,2007). In this regard, ICT challenges effect the teacher to have high anxiety, stress, and fear of failure. The researchers discussed the teacher's motivation towards a class with ICT integration have been affected by ICT barriers (Laabidi & Laabidi 2016). On the other side, educators with a high confidence about their classroom, in that teacher's classroom ICT have a significant role and impact. Cox at al. (1999) stated that educators who confidently integrate ICT in their class claimed that ICTs are valuable and useful in their classroom and teaching process, and they are also eager to spread their future ICT use in class.

ICT opens the door for a verity of pedagogical philosophies and methods of teaching. It also enables the teacher to implement and improve their skills. The combination of technology and education is the medium of methods of teaching. Additionally, ICT makes the education system more effective and sufficient by providing data regarding education. It also affects the norms of communication skills. On the other hand, ICT as mean of teaching is more complex in which it requires numerous specific skills from the educators. Furthermore, educators are challenged with some problems and obstacles that avoid them to implement ICT in the classroom. It also prevents the teachers form developing supportive materials through ICT. Carnoy, (2004) in his study determined that teachers in high schools are acquainted with ICT and ICT implementation; But this does not imply that they automatically incorporate ICT into the curriculum. Additionally, lack of technical supports at schools and universities with little access to Internet and ICT avoid teachers to use ICT in the classroom. Tella & Adu (2009) stated that the key barriers for the teachers to mix ICT into teaching are the class time is not long enough for using ICT in the class, and the teacher need time to learn how to use ICT in their class. On the one hand, teacher training institutions should offer the teachers the proper and necessary support to integrate ICT into the curriculum. Teachers, on the other hand, need to be aware of what is going on in the classroom and how things are changing. In order to improve educational programs, it is therefore possible to apply ICT in teaching and learning in efficient ways (Hernes 2002). In shorts, the intergrion of ICT is very sufficient if the educators focused on the solution of the problems of using ICT. When an institustion supports their teachers by providing them teaching facilities like sufficint internet and modern devices education shines that institution.

3. Methodology

3.1 Research Design and Participant

The mixed method has been utilized in this paper. The quantitative method was implemented to collect the teacher's perception towards of ICT barriers while the qualitative was integrated to analyze teachers' recommendation and suggestions. The participants of this paper were sixty- eight academic teaching staff from the Education faculty of Tishk international University in Northern Iraq-Erbil. The participants were come from different level of education and field as well. They were from different nationalities such as Kurdish, Arabic, Turkish, Nigerian, and Native speakers. 39 participants were female and 28 were males. The participants years of experience were different. See table 1.

Table 1: Descriptive Data of gender

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	39	57.4	58.2	58.2
	Male	28	41.2	41.8	100.0
	Total	67	98.5	100.0	
Missing	System	1	1.5		
Total		68	100.0		

Table 2: Descriptive Data of Position

Position					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Research Assistant	16	23.5	23.9	23.9
	Assistant Lecture	26	38.2	38.8	62.7
	Lecture	10	14.7	14.9	77.6
	Assistant Professor	7	10.3	10.4	88.1
	Professor	1	1.5	1.5	89.6
	Instructor	4	5.9	6.0	95.5
	Network planner	2	2.9	3.0	98.5
	Teacher	1	1.5	1.5	100.0
	Total	67	98.5	100.0	
Missing	System	1	1.5		
Total		68	100.0		

The below table shows the position of the teachers at the faculty. The majority of the teachers are assistant lecture that they integrate ICT into their classes. Followed by lecturer and the least number is the instructor of the faculty.

Table 3: Descriptive Data of Experience

Year Of experience		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1	1.5	1.5	1.5
	1-5	1	1.5	1.5	2.9
	1.	38	55.9	55.9	58.8
	2.	5	7.4	7.4	66.2
	3.	8	11.8	11.8	77.9
	4.	3	4.4	4.4	82.4
	5.	6	8.8	8.8	91.2
	6.	2	2.9	2.9	94.1
	7.	4	5.9	5.9	100.0
	Total	68	100.0	100.0	

3.2 Data Collection Procedure

The researchers created and designed the survey for collecting teachers perceptive on the challenges of ICT integration. For the validity of the study, the survey is shared with an expert of the field whether it is valid to collect data with it or not. As an ethical consideration, the researchers got permission from the heads of the departments from the Education faculty to get the study's aim. The survey has shared through Google form with the participants. The aim of utilizing Google form is to reach the participants easily.

3.3 Research Instrument

3.3.1 Survey

First three questions were based on the collecting general background information of the participants to have a convenience data. Then the participants were asked whether they are integrating ICT in their classes before or not. The second section of the survey was about how the classes were lack of the some facilitates such as internet connection, electricity, proper software for the material, and required hardware equipment.

In addition, there were two more questions about how the participants have collected background about ICT while integration as well as how the ICT integration has effects on participants classes. Moreover, to what extent do they prefer to use ICT or without it has asked in five scale questioning It also has asked that the participants are satisfied teaching via ICT or without ICT to know how they feel through integrating it. Furthermore, to collect the qualitative data the participants were asked to leave comments and suggestion about any other challenges in integration ICT that it may not be asked in the survey. It also enriches the study's finding.

3.4 Data analysis

Due to the usage of mixed method IMB SPSS program and thematic analysis has been used as data analysis method. SPSS was used to analyze the quantitative obtained data. The frequencies of all the questions have been calculated by the program. For the qualitative data, thematic analysis was implemented to analyze the participants comments and suggestions. The answers were coded and categorized by the researchers to create themes.

3.5 Finding and Discussion

3.5.1 Finding of the Quantitative Data

The findings and the discussion of the qualitative data will be presented in this section.

Table 4: Descriptive Statistics

Statistics		Have you ever used ICT in your classrooms?	Do you prefer to teach via ICT or without it?	Are you satisfied with teaching through ICT?
N	Valid	67	67	67
	Missing	1	1	1
Mean		1.13	1.09	1.09
Std. Deviation		.344	.288	.288

The participants were asked if they have ever used ICT, whether they prefer teaching via ICT, and their satisfaction using ICT in their classrooms. With mean score of 1.13 the participants reported that they are using ICT in their classrooms. In addition, the teachers preferred using ICT in their classes with a mean score of 1.09, in lined with their satisfaction with teaching through ICT by a mean score of 1.09. The finding of the preferring, using and satisfying is correlated with several aforementioned studies while the teachers are preferring to integrate ICT in their classes (Bingimlas, 2009; Hammou, Elfatih, 2021)

Table 5: Ability of Using ICT Successfully

To what extent were you able to use ICT successfully?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	4.4	4.5	4.5
	2	4	5.9	6.0	10.4
	3	18	26.5	26.9	37.3
	4	30	44.1	44.8	82.1
	5	12	17.6	17.9	100.0
	Total	67	98.5	100.0	
Missing	System	1	1.5		
Total		68	100.0		

One of the questions of the questionnaire was five scale rate that was asked the participants of their rate (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree) while being able to integrate ICT successfully in their class. This has been presented in the following table that 44% of the participants were rated with the Agree to use ICT successfully in their teaching class. While 18% of the participant were Neutral in implementation ICT. Nearly to that 17.6% of participants chose Strongly Agree. But the least rate of it is 4.4% mentioned Strongly Disagree to use ICT in their Class. There is a correlation among this present finding with the previous studies. The researcher found out that teachers had changed their beliefs. The integrated ICT substantively in terms of years of experience in teaching through ICT as well as teachers educational background (Levin, & Wadmany, 2006).

Table 6: Lack of ICT

Lack of ICT facilities in Your Classroom				
		Responses		Percent of Cases
		N	Percent	
Slack ^a	Lack of ICT Internet connection	50	44.2%	74.6%
	Lack of ICT electricity	25	22.1%	37.3%
	Lack of ICT proper software	19	16.8%	28.4%
	Lack of ICT hardware equipment's	19	16.8%	28.4%
Total		113	100.0%	168.7%

The participants were asked about the lack of ICT facilities in their classrooms and a different range of answers were provided. The majority reported that internet connection is one of the greatest problems facing teachers while using ICT by 44% (N= 50). Hardware equipment's were least hindering the process of using ICT in classroom by 17% (N=19). On the same side Mbodila et al. (2013) found that lack of ICT connection, lack of electricity are the key challenges of integrating ICT in the class. Additionally, Pelgrum, (2001) highlighted some of the same obstacles of this study. The researcher emphasized that these challenges are highly related to the goal of teaching. That is why, the researchers and educators need to mainly focus of these challenges.

Table 7: Background of information

Did you have any background information about ICT?				
		Responses		Percent of Cases
		N	Percent	
\$background ^a	Background information for ICT training course	25	23.6%	37.3%
	Background information for ICT personal development	34	32.1%	50.7%
	Background information for ICT experience	33	31.1%	49.3%
	Background information for ICT related to your field	14	13.2%	20.9%
Total		106	100.0%	158.2%

The background information of the participants knowledge of ICT were investigated. 32% (N= 34) reported that their knowledge of ICT came from personal development. Moreover, experience in ICT was one of the major collaborators of the participants background knowledge of ICT by 31% (n= 33). However, only 24% expressed training courses as a way of getting knowledge on ICT. Related to your field was the least contributor to the knowledge of the participants as it was reported by them by only 13% (N= 14). On the same note Bukaliya and Mubika (2011) found out that teachers get their background information from single courses and trainings too. As Boudouaia and Chun (2022) found out that there is a significant difference between the competence of the teachers and their use of ICT, so the background information of the teachers effects their usage of ICT.

Table 8: Effect of ICT on the class

What are the effects of ICT on your class in terms of?				
		Responses		Percent of Cases
		N	Percent	
effect	Effect of ICT on your classroom management	30	18.6%	46.2%
	Effect of ICT on your class time management	34	21.1%	52.3%
	Effect of ICT on your class student's engagement	42	26.1%	64.6%
	Effect of ICT on your class student's interaction	26	16.1%	40.0%
	Effect of ICT on your class student- teacher interaction	29	18.0%	44.6%
Total		161	100.0%	247.7%

The use of ICT in the classroom increased student engagement by 26% (N=42), according to the study's findings. While among all the options, student engagement had the highest effect rate, time management and classroom management also performed well. Surely when the mentioned variables are high the student- students and teacher- student interaction gets better. This recent finding is in line with the study of other studies that the majority of the teachers were positive with integrating ICT but at the same time, there were some barriers that were preventing them for implication like teachers and students' lack of motivation, and lack of tools for implication that is in contrast with this recent studies result. (Habibu 2012; Salehi & Salehi, 2012).

3.5.2 Finding of the Qualitative Data

Participants have left comments and recommendation were emerged into some categories with the most common barriers that they faced in integration ICT into their teaching classes at Education Faculty of TIU. The thematic analysis has utilized to analyze the data. As it is figured out these major themes (1) training (2) easy for communication (3) learning process (4) suggestion.

3.5.2.1 Training Sessions

For each of the themes, there were some sub-themes like for training most of the participants were pinpointing that integration ICT needs some training sessions for the teachers and for the students as well.

Which are helping them to utilize it successfully. As the teachers were coded to the numbers. Teacher 9,10,28, and 31 highly recommended to provide “more training” similar teacher’s, 3,16, and 39 stated that training sessions are necessary for the students before integrating ICT to the “having prior training sessions given to students before applying ICT would facilitate the task of implementation”.

3.5.2.2 Easy for Communication

Easy of communication was the second theme frequently the majority of the teachers are stating that the students can easily communicate with their teacher’s and their classmates as well. Teachers 17 “It is important for students-teacher interaction. Teacher 6 also mentioned that “ICT helped me to communicate with my students a lot”.

3.5.2.3 Learning Process

Learning process was another point that teachers faced while integration ICT in their classes. The majority of the teachers were positive to express that ICT integration has helped them to do the process learning easily than without ICT. Teacher 22 “I found it is very effective and saving time, learning is quicker and more efficient”. Similar, teacher 60 “ICT in education improves student’s engagement and knowledge recognition”.

3.5.2.4 Suggestion

The last categorize theme was suggestion that most of the participants were recommending for the recent paper and preferred that ICT needs to be integrated to the classes at the very begging learning like school. Teacher 48 “I prefer to start with ICT from primary school”. In addition, Teacher 49 stated that “I hope all teachers can apply ICT to make their teaching interest”.

6. Conclusion

According to the finding of our data and to answer the research questions, most of the teachers that they have integrated ICT in their classes, their year of experience from 1 to 5, approximately 5 years of experience in teaching, it means the young generation they are fully integrated with using ICT in their classes. As well as, the highest year of experience, which is 30 to 40, it includes less numbers to integrate these. This result tells us that the integration of ICT is easier for the young generation than the traditional generation. The majority they required ICT in their classes, most of the barriers that they have faced in the integration of ICT, it is the internet connection which is one of the highest levels of the finding was internet connation followed by electricity that got 37%, they have mentioned that they have problem with electricity. For purpose of ..., the required had somehow similar with the rates, we can say that these major barriers are internet connection and electricity. The participants that they mentioned that they collected the background information about the ICT and majority by personal development, means their experience helped them a lot to develop their ICT skills. As well as training course and experience as well, but the least rate of their answers Belong to their field. This is told us that the faculty of education majority they are in the other departments they are not using ICT or ICT integration or ICT field. Those who are mentioning that these ICT effects their classes in terms of class management, but the highest range is to student engagement, which is telling us the new generation are showing us, they want fully integration

with the ICT, which helping them to engage with the classes and interaction with the students and teachers as well, and the same time it helps the teachers to manage their time and class management as well. If you apply these points in the classes, it will be effective and also it helps them a lot to fully get the objective of the classes according to the ICT results. The majority they prefer to teach ICT in their classes as well as the majority they expressed that they are satisfied with using ICT. The interesting question for the researchers is “To what extend were you able to use ICT successfully?” and with the five scale rates, the majority gave 4 points, it means they are successful in integration ICT. As I mentioned the highest number of the integration for the participant through integration ICT were the youngest generation and the technology generation as well. That’s all about the quantitative data analyses.

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