A Sociological study of Teachers' Views on the Applications of ICT and Prerequisites for Realizing it in Classrooms in Tehran

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Research Article

Keywords: Improving classroom teaching, Elementary education, Virtual education, ICT based education, 21st century abilities

Posted Date: April 30th, 2021

DOI: https://doi.org/10.21203/rs.3.rs-217215/v1

Abstract

Introduction: Nowadays virtual education and the use of technology have been incorporated into the process of educating students and are used in most countries of the world. The present study aims to investigate teachers' views on the capabilities and weaknesses of ICT and study its prerequisites based on teachers' narrations.

Method: To achieve this aim, qualitative deep interviews were conducted with 20 teachers with at least 5 years of experiences in teaching and using ICT. In order to conduct this research, six different high schools in Tehran were selected.

Findings: The results of this study indicate that the use of ICT is a unique experience reported by teachers and for its realization, prerequisites such as providing finance for creating smart schools, equipping schools, providing incentives for teachers, technology into schools (or classifications of the ICT by teachers) includes three parts, namely, resistance and refusal to use, adaptation, and innovation. In the present research, teachers have described the negative and positive aspects of the application of ICT in teaching.

Conclusion: The finding of this study showed that to facilitate teachers' use of ICT, teaching subjects, enhancing ICT application knowledge, and changing teachers' attitudes are essential. And by accepting ICT, it also facilitates the ICT- based education process.

Highlights

The manuscript is the qualitative Research, which is the result of a case study of 20 teachers from six boys' and girls' high schools in Tehran. These finding indicate that respondents are aware of the impact of technology on the teaching. with regarding teachers' perceptions about integrating and using ICT in the education process, we categorize attitudes of respondents into nonuse, resistance to change, adaptation and invention. But it seems the perceptions of teachers related with topics of teaching Therefore, in this study, some negative and positive experiences points were highlighted.

Introduction

Nowadays, in most countries of the world, general policies and principles have been developed to enhance the educational level, and these policies are constantly modified in keeping with domestic and global developments. One of the main educational policies is education based on information and communication technology and changing educational systems and methods by following this new approach. Because information and communication technology reinforces creating new methods for educational entities(Dávideková, et al., 2017). ICT and the information community have created a setting in which teachers can be equipped with digital skills and although they continue to carry on their previous responsibilities, they have passed through renaissance and have become people who are practically reflective, innovative and transformative, capable of breaking with the traditional school logic(Correa, et

al., 2010). ICT helps the educational system to have more efficient administration, formal processes, and content(Tavakol and Larijani, 2019). A study in Spain examined whether ICT has an effect on learning, and the results showed that the science curriculum was positive. But it did not have much effect on some subjects, such as mathematics(Fernandez Gutierrez and Calero, 2020). In Iran, the issue of equipping schools was considered in the form of a TAKFA project. In 2002, the Development Plan was launched at the Ministry of Education and with the formation of the Strategic Council for ICT at the Ministry of Education, a charter was set up to guide the use of ICT in Iran's education system. In this plan, the obstacles to ICT application in the education system, its goals and Ideals, and training human resources were mentioned and strategies were proposed to enhance the quality of the curricula based on ICT. But the main issue is that in spite of education system plans and policies for using information and communication technology in the education process, this objective has not been properly achieved in practice(Sobhani Nejad and Fathi Vajarga, 2009). Because, in Practice, there are a number of limitations and problems that impede its realization and teachers' attitudes also have a significant impact on the integration of ICT in the teaching process. Teachers must be equipped with knowledge of ICT application and learn about the golden time of applying ICT in teaching and facilitation of technology integration.

Therefore, the present research makes use of teachers' narratives to analyze the use of information and communication technology in the education process in high schools in Tehran and investigate prerequisites for integration of ICT in the teaching process. High schools Teacher's experiences show that they have positive experiences to integrating ICT in teaching because they felt theirs benefits(Mandum, et al., 2019).Scheuermann and Francesc (2009) emphasizes the profound impact and constructive role of technology in educational environments. Correa, et al. (2010)revealed that ICT has made it possible for studios and tangibly simulate educational subjects. Fathi Vajargah and Saadattalab (2014) indicated teachers believe that ICT has an effective role in students' education and learning, but schools current conditions, equipment and facilitate are inadequate and inappropriate, and teachers believe that policymakers should provide for them condition facilitating ICT use in high schools. Judy Kamalodeen and Jameson-Charles (2016) examined participation of teachers in virtual networks for education. In this research, five levels were identified for teachers' participation, and barriers to acceptance of using theses online networks included lack of time, lack of skills in technology and its application. Regan, et al. (2019) stated that barriers to using technology included too time-consuming; limited access to technology; However, teachers revealed that technology was useful for students with disabilities, differentiating instruction, and providing twenty-first-century learning opportunities. Ifinedo, et al. (2020) indicated teachers' understanding of ICT and the number of students affects the effectiveness of using ICT. The teachers' technical knowledge also affects how to use ICT. But factors that affecting to integrate ICT in teaching depend on combination of factors that related to teacher characteristics.

Background research revealed that teachers' characteristics, teachers' experiences, teachers' training play an important role in technology integration (see Table 1). In addition, they should provide information devices/ICT infrastructure to increased access to technology, also make pre-service and in-service training (see Table 1). So that, teachers' attitude that impede technology integration can be positively manipulated to improve technology integration in the classroom.

But as Plessis and Webb (2012) indicated, despite the fact that schools have been equipped and teachers have been trained, teachers still resist against the use of technology. Researches mentioned that the reasons for refusing to use technology and integration of ICT in the education process included: lack of appropriate management, time limitation in classes with large numbers of students, lack of training and support, and lack of constant incentives provided by the educational department for the teachers (see Table 1).

For better understanding, Table 1 reports some researches which conducted between 2016–2020 with categorizing subject, research methodology, region and conclusion.

Theoretical Foundation

In order to be able to adopt a comprehensive approach to technology acceptance and integration in the school education process, it is essential to have a step-by-step view of technology adoption approaches is that although they measure a wide range of historical processes, they are never complete and comprehensive. And they provide an incomplete picture of ICT integration in educational systems. An acceptable approach to the study of ICT integration in education is the growing model. Such models attempt to describe the potential sequential phases whereby teachers and students gradually accept and use ICT(Kikis, et al., 2009). For example Moersch (1995), suggests levels of technology realization in schools:1) No use 2) Awareness 3) exploration 4) Infusion 5) Integration 6) Expansion 7) and refinement. Another model is Apple's 10-year research, titled ACOT, which identifies the five phases of technology integration into schools, including: 1) entry 2) adoption 3) adaptation 4) appropriation 5) invention(Kikis, et al., 2009).

In recent versions, a step-by-step approach has been introduced in the "E-maturity" models; they provide a more firms foundation than the stage models of technology integration and curriculum innovation. In these studies, several other factors have to be considered, so that this process can be analyzed. It should be noted that these factors are at several levels, including macro, middle and micro level. The macro level refers to the highest social levels, which include the national socioeconomic features regarding the use and integration of ICT in education; in fact, it focuses on the ICT platform in which middle and micro levels are placed. The middle level refers to the institutional levels (schools, organizations, universities, etc.). This level forms the link between the macro and micro level. The micro level also refers to individuals and their use of ICT. These levels show different emphases, and each item that belongs to the lowest level is attached into higher levels (The person is in a school, that school is located in an area and that area is in a country and so on)(Kikis, et al., 2009). In the present research, the stages of ICT acceptance and integration in the curriculum are considered and analyzed using a step-by-step process, and the researchers seek to explore various levels that influence the process of acceptance.

Method

The analysis of the accounts given by 20 teachers in Tehran was the pivot of this research. The interviewees were selected using the purposive sampling technique considering the importance of theoretical saturation. However, due to the importance of flexibility, the samples were collected considering characteristics such as years of teaching, gender, education, field of teaching, experience of teaching in girls' and boys' schools, and location of schools (upper, middle and lower district). In this research, semi structured depth interviews were conducted to collect the research data.

Every interview lasted between 35 and 60 minutes. The interviews were initially recorded with the interviewees' permission and the transcription of the interviews was followed by coding and concept extraction. Next, the categories were extracted and classified. In this research, a summary was presented in the course of the interviews and the researchers' interpretation and understanding of the women's experiences were assessed and confirmed after confirming the validity of the research finding at the end of each interview. In addition, to reduce the ambiguities in the subjective interpretations and improve the readers' understanding quotes from the interviews are also given.

Interviewees' information is as follows: 5 respondents were between 21 and 60 years old; 5 respondents had less than 10 years of work experiences; 3 respondents had 10 to 19 years of work experiences; 10 respondents had 20 to 29 years of work experiences; and 2 respondents had more than 30 years of work experiences in the education field. In addition to the current subjects, some of interviewees had also taught various courses at different levels. Two of the respondents were authors of school's textbooks, and two of them were university lecturers. There for it can be said that different backgrounds and work experience indicate their full mastery of the research subject (education problems) In terms of education, 2 respondents had an associate degree; 10 respondents had a bachelor's degree; 7 respondents had a master's degree; and 1 respondent had a PhD.

The questions which this study attempted to answer are:

1-How do teachers describe their experience of using ICT in the teaching process?

2-According to the respondents, what are the steps involved in the adoption and integration of information and communication technology in the teaching process?

3-According to the respondents, what are the bases and prerequisites for integrating information and communication technology in the teaching process?

Findings

This section presents the results of the analysis of the qualitative depth interviews with the teachers and reports the findings. It is worth stating that there are also references to the accounts given by teachers to increase the validity of the research finding and reduce the ambiguities in the subjective interpretations.

1-Teachers' narratives of ICT

The process of ICT adoption in students' education requires a multilateral perspective. In addition, since some of the 20 teachers studied in this research had more experience in the process of technology acceptance and interaction, and others were at the initial stages, researchers tried to discuss the positive and negative consequences of using ICT in teaching and its effects on learning based on the respondents' narratives. Therefore, we categorized respondents' attitudes into nonuse, resistance, adaptation, and invention.

A) Non users:

Among the respondents, 6 were against the use of technology in the teaching process. These people mentioned different reasons for opposing technology, including:

Lack of time to teach and use technology:

-One of the primary reasons for not using technology is lack of time, the heavy content and large volume of the textbooks. These respondents believe that if they use technology along with teaching, they will not have enough time to present the content, explain important points, and evaluate students. In this regard, a social studies' teachers with 22 years of work experiences says:

Our class hours don't allow it. We' re afraid we wouldn't have sufficient time. Technology can be used along with teaching, but kids are accustomed to teaching. For example, if we show a movie in a session. Our work will be heavy for the next one. If someone delivers a presentation, you still have to practice university entrance exam tests. You must hand out sample question and ask them question about previous lessons

-Lack of technology application in humanities:

In this regard, 5 of the respondents, who were mostly teachers of social studies, literature, and deputies of education, believed that ICT cannot play an effective role in education, human development, teaching accountability and communication skills, and subjects that have ancient origins; because in such cases, teachers, their speech and face to face communication with the students play a central role in the transfer of concepts. In this regard, a boy's high school teacher with 6 years of work experience says:

Technology is not well suited to educational issues. My point is that educating human being must be done by a human being in a face-to-face manner. By establishing a close personal relationship, we can have an impact on a person. What's the use of handing out pamphlets? But if I go camping or swimming with the same kids, and if they see something in my behavior that they like, it will have a lasting effect on them

-A social studies teacher of a girls' private high school with 4 years of work experience says:

Children welcome technology; it's fascinating for them. But, for me, class feedback is very important. Talking with children is more fruitful. They may like technology, but human interactions engage their minds a lot more than watching movies. Children are children. They do not have much concentration.

They cannot manage themselves so well, their minds are easily distracted. But during a conversation, it's possible to get more into their heads.
-Loss of privacy and lack of emotional relationship between the teacher and students in modern technological methods:

Three opponents of technology considered the uncertainly of the teachers and students' status and violating teachers' dignity in using technology as one of their reasons and argue that education requires establishing an emotional connection, but the use of technological tools turns human relationships into mechanical relationships.

-A biology teacher of a boys' high school with 26 years of work experience says:

The traditional method is better. The issue is that, first of all, new methods eliminate the emotional relationship between the teacher and students or the professor and university students and turns it into a mechanical relationship. I saw a documentary showing that in Germany, they had come to the conclusion that they should put smart boards aside because they slow down the teaching process. They began to use ordinary boards again.
-Reducing the quality of learning:

Three teachers identified another reason for their opposition, namely, students' distraction, which make it impossible for them to grasp curriculum concepts from technologies such as movies, Power Point presentations and photos. Because they have not gained a proper understanding and cannot learn lessons using technology.

-In this regard, a biology teacher of a boys' high school says:

"Students' interest in seeing movies is more than their interest in listening to what the teacher has to say, but the question is: "Do they get the point of a movie?" They don't get the point; simply because they watch movies merely for entertainment, to pass time.

But can they learn all the content of a book from a movie?! They cannot. Maybe the film is incomplete or children are not mentally prepared. They do not understand the meaning of the movie."

-Difficulty of using technology:

Two respondents believed that the use of technology is much more difficult than traditional methods. Speaking of smart boards, they said that it slowed down the teaching process and that the use of chalk and board was much more convenient.

-A biology teacher of a girls' private high school with 33 years of work experience says:

I disagree. The smart board does not have the same performance as the traditional method. If you write something wrong on the smart board and you want to erase it, you must re-touch the eraser button and

then again choose the pen; it takes time. But using an ordinary board, you can even clean the board with your fingertips.

B) Resistant to change:

Five respondents believed that teachers resist change, and in some cases, despite training, they are not willing to accept technology. On the other hand, one of the main reasons for their resistance is their lack of skill, and their misuse of tools and ignorance of their various applications make it difficult to teach and use technology. In this regard, a literature teacher of a private high school with 9 years of work experience says:

One of the reasons for resistance is the inability to use. Another is that technology is so bizarre for them and their fear of technology is similar to their fear of modernity. It's like the fear of an escalator, so you do not understand its benefits unless you ride it. There is always more trust in the traditional way. Because, the student sees that by answering a test, he earns 100 points. He sees the results. But he does not get that tangible result in the new method.

-Biology teacher of a girls' high school with 20 years of work experience talk about her unsuccessful experience in using smart boards:

When we had white boards, I used it a lot. Now, smart boards are small. If I want to draw the cycles on smart boards, they don't fit. If I want to change my classroom, they say I do not know how to work with smart boards. This board is a problem. It's very sensitive. If I want to show a point on the board, everything gets cluttered. You touch the board and the content moves higher. It's not useful for teaching. The old board, which is larger, is located behind the smartboard; I use a chalk to write on it.

C) Adaptation (Inevitability):

Seven teachers and principals believed that due to technological advancement, Students no longer welcome traditional methods. Traditional methods are boring and inefficient; therefore, the teachers' resistance does not work, and we have to use the ICT-based approach and adapt ourselves to the new conditions.

-A private high school principal with 33 years of work experience says:

Teachers work in different schools and now we hear from different places and see that they have to use ICT. They are bombarded by various schools. The resistance of teachers does not work. For the first time in 2013, we installed projectors and smart boards, and in the autumn of 2013 all systems became smart. We have to use it; it is a device similar to other devices.

-Selecting ICT as a complementary method and appropriating it with the lessons

These respondents believed that the traditional method and use of technology in education, together, will be fruitful and use of technology should accompanied by teacher guidance and explanations. At this stage, the teacher chooses the best kind of technology, according to the type of lessons and capabilities of that technology, which facilitates the process of teaching and understanding of lessons and, by

adapting the technological method, he increases his ability to teach. Math teacher with 26 years of teaching experience talks about his use of ICT:

When I use this method, my teaching capability is five times more. When I write something, nothing is erased. If I want to draw a shape, I'll do it very quickly. All shapes are very neat. If I want to draw a straight line, I simply choose it. I work with my laptop and an electronic maulstick. I write on an electronic pad and the class has a video projector. Students see my own handwriting. I don't have to turn my back to students and face them while I'm teaching.

-A technology administrator of a girls' high school says:

These two are together and complement each other. Some things have to be present; it's like a group method that should be used in conjunction with the technological method. Teacher's notes, use of virtual lab and educational CDs all complement each other. They expand the scope of teaching.

D) Invention

-Two teachers spoke about their interest in using ICT and how they produced their innovative content. A chemistry teacher with 21 years of work experiences says:

I'm so interested. I produced content and also trained other teachers. In this method you not only use the book, but also use texts, images, and shapes simultaneously. We teach based on the digital lesson plan. With the help of Acrobat Reader Professional program we have adapted chemistry to this format. This program enables you to record your own voice, create a post, or upload a movie. If you see the books pictures are not enough, you can add images to the textbooks. Of course, we need to be more professional and create one for the students and one for the teacher. We can even add a student assignment to this file or post questions in the relevant section; the students will open the questions and answer them.

-A biology teacher and faculty member of a university says:

I have produced content myself. I used conceptual training with videos and pictures. Ghalamchi and rafi Danesh institutions supported my work. PowerPoint can also be used. I use technology in my teaching methodology. I use technology when I teach. Instead of using chalk, I display the slides. This way the students learn the content of the textbook more deeply.

2) Based and prerequisite for ICT use in teaching

The research results suggested transforming traditional schools into smart ones requires changes in the education system, and establishment of smart schools will never be possible unless the education system structure changes.

The finding of the present research also showed that structural factors are important barriers to ICT development in the education process. Factors affecting the ICT realization in the respondents' view are further categorized:

A) Providing finance for creating smart schools: Some respondents argued that providing laptops and interest access as well as some incentives, such as granting loans to purchase computers, are necessary in order to develop and use ICT. In this regard, a male math teacher with 30 years of work experiences says:

“The revolutionary use of technology is realized once it can be freely available to the teachers. No teacher is willing to spend money out of his own pocket. We need every teacher to have a smart phone to connect to the Internet and get new information. They must provide these facilities for teachers.” In Iran, another problem in this regard is that, unfortunately, despite considerable advancement of this science in the world, communication networks of the country still are not suitable and internet communication is rather difficult(Niroumand, et al., 2013).

B) Equipping schools and culturalization: Respondents believed that the education system does not have a proper understanding of the process of making schools smart, and schools are only equipped with hardware such as smart boards, computer, and video projectors, while these tools alone are not enough; because ICT-based education requires the abandonment of traditional method of education and culturalization regarding technology use, training specialist staff, content production and preparing learners for this type of education.

-A boys’ high school teacher says:

If IT tools, as perfect tools, made everything available to the teachers, teachers could use them well; otherwise, they would lose all their energy. Everything must be complete from the beginning. And if something is traditional, the education system should change it and prepare the context for technology implementation in schools. Still, good technology is not available; education is not just tools. Tools are not perfect. Either. Educational software programs are not complete; content production I not complete.
C)Incentives: Three teachers believed one of the requirements for the use of technology by teachers’ ID content production, creativity and initiatives by them, and financial and spiritual support provided by the education system and school administrators. They believed that teachers’ efforts to produce content and put time and energy into using ICT in teaching is not encouraged and supported. Therefore, there is no incentive to step in this direction or continue such activities.

In fact, one of the factors influencing the integration of ICT in teaching process is motivating and creating interest in teachers and educational system staff in order to enable them to change their attitudes and practices.

-In this regard, a boys’ high school teacher with 34 years of work experience says:

A teacher needs to spend time to produce content; education system has not considered a reward for this task. The previous night, a teacher has spent time producing content, but no reward is given to him/her. You know? For example, he/she has spent two hours, and his work is worthy. The teacher says why do I

have to spend time from 10:00 to 12:00 pm? I lose my free time and can't spend time with my family because I have to produce this content. I don't care that they have smart boards now.
D)Training specialist staff: Results of several studies show that teachers' lack of skill is the most important barrier to ICT Acceptance in education. While success in this area is the result of targeted and serious efforts to educate teachers(Fathi Vajargah and Saadattalab, 2014; Plessis and Webb, 2012). The research conducted by Haghighi and Qasemi (2010) also shows that teachers' participation in IT courses will make them more dynamic and active in delivering lessons, and they will feel satisfied with the teaching process.

In the schools investigated by the researchers of the present study, except for a private school, none of the technology administrators had expertise in the field of ICT. In two public schools, in order to work in this area, specialist personnel from outside the education system are hired. And in three other schools, teachers work out of personal interest and their expertise is unrelated to technology. IT administrators of schools believe that the education system needs staff specialized in this field and office work and shortage of human resources inhibit the development of ICT- based education by them.

In this research, 10 respondents stated that the education system does not train human resources and specialist teachers in the field of ICT-based education. Even though in- service training is provided to teachers, due to shortcoming such as high numbers of participants, short duration and lack of continuity, in-service training does not really have an effect on teachers' training.

-A boys' public high school principal says:

IT is a vast field in which the education system has not trained anyone. The education system has no qualified in this field and if anyone works in this area, it's because of his own discretion and interest.

F) Five respondents believed that the education system does not provide teachers with the appropriate content for ICT- based teaching and teachers are not willing to produce content for the reasons mentioned above. In addition, the content of textbooks and large volume of books are conflicting with technology.

- **-**A boys' high school teacher says:

"The education system holds the content production festival, which introduces top content producers, but the education system has no serious intention of reproducing their works.

If they provide me with some contents, I will transfer them to my teachers. But they don't They are supposed to provide teachers with the contents so that teachers can use at least one of them. They should use the teachers' ideas and thoughts. This festival is just presentation. They should provide a copy of the contents to the teachers."

In this regard, one respondent believed that content should be produced by the teachers of the same course in order to provide better education.

-A private girls' high school teacher says:

One of the good features of our school that differs from other schools is that teachers produce content; so children cannot relate to most of the content available at school. The teacher knows what to say, what to do and which example to give from a movie. But the IT expert doesn't know what to say. That is why the subjects are not interesting for kids.
-Students and accepting technology- based education

Eleven respondents believed that students welcome ICT-based education. Children are looking for new methods of education; they have introduced technology into their lives, and have a lot of information in these areas. They welcome teaching methods based on videos, photos, the internet, Power Point and slides, and realize their positive outcome. Teachers believed that traditional methods and lectures are tedious for the student, and they are more likely to seek methods that do not limit them in time and space.

-A social studies teachers of a girls' high school say:

The new generation are tech kids. I think education should become smart enough to support these children and be responsive to their needs. Their expectations are much higher.
-One of the math teachers relates his experience of student' technology Knowledge:

"When I was in the classroom, I had a student who closed my computer pages over and over from where he was sitting. I asked one of the children why the pages were closed on the smart board, he said: one of the students has a program that controls your laptop and can move your mouse.

But four respondents believed that students may harm school systems and impede the progress; for example, finding the internet password and searching for unethical stuff or bustle and noise when using technology make teachers reluctant to use ICT. It should be noted that these cases were mentioned by the teachers and schools' staff of a public boy's high school in disadvantaged neighborhoods.

-A technology administrator of a boys' high school says:

The cultural issue is very important. We might do all this to equip the school and teachers, but many children damage the equipment. Student damage the devices because they want to be noticed. They want to say, " I'm in charge.

Discussion

The present study, which is the result of a case study of 20 teachers from six boys' and girls' high schools in Tehran, shows that respondents are aware of the impact of technology on the teaching–learning process. The results of this study are in line with the findings of Fathi and Saadmand(2014) and about creative thinking and facilitating learning. But regarding teachers' perceptions about integrating and using ICT in the education process, we categorize attitudes of respondents into nonuse, resistance to change, adaptation and invention. Therefore, in this study, some negative and positive points were

highlighted. The turning point for our work can be an appropriate platform that is responsive to the substantial needs of ICT-based education, not only at high schools but also for promoting the abilities of ICT users in academic settings and teachers' skills in universities. The advantage of this research is the use of in-depth interview method to know the views of teachers as ICT users on teaching without any intermediaries.

In the nonuse phase, the respondents believed that technology could not help them in the teaching process; they argued that citizens' education requires an ethical and emotional relationship between teachers and students, and technology cannot play a role in this regard. In addition, those who resisted argued that lack of time, the difficulty of using technology and reducing the quality of learning have been the reasons behind their reluctance to use technology. In the next step, teachers believed that, nowadays, using technology is inevitable. Therefore, by adjusting and using ICT as a complementary teaching method, teachers are gradually welcoming technology. At the intention stage, teachers have revolutionized their teaching process by producing content and using innovations in technology. Also according to the results obtained from the research by Tsai and Tai (2018), it has recently been shown that using ICT in education motivates learners and teachers.

The result of the research shows that the bases and perquisites includes facilities for ICT-based education, specialist staff, content production, and lack of support and encouragement for teachers to use technology. Tavakol (2012); (Zamani and Azimi, 2007), also found structural problems to be major barriers to the realization of information and communication technology. In addition, students should be considered in the technology integration in the educational process, because their acceptance and interest in ICT- based education plays an important role in ICT use by teachers. But respondents from one of the schools believed that students themselves, their actions and responses during the teaching process have created barriers to the use of technology. Therefore, the students' socioeconomic base is instrumental in this regard. Due to the increasing use of ICT and access to digital information for students, a serious approach to information-based education is needed. For proper and perfect use, it is necessary to learn from the lived experience of the teachers themselves as the most important individuals involved in this process person to better understand the advantages and disadvantages of using ICT in education.

Conclusion

This paper aims to generalize teachers' needs, the support for their needs and their views on employing ICT in education. This is one of the key criteria for using ICT in teaching process in schools, universities and other educational communities. These findings may be a major factor influencing the way teachers perceive and use technology for learning and education which promotes our theoretical understanding and presents ordinary teachers' needs, which can enhance this understanding by working on teachers' attitudes and removing the obstacles. The results of this research show that ICT-based education is limited only from the hardware perspective and equipping schools with electronic devices. While realization of ICT-based education, first, requires changing attitudes, culture, and continuing to educate

principals, teachers and even students about the potential of ICT-based education and the assessment of its implementation and its impact on the education process.

Limitations

As Ercan Top, et al. (2020) in its research based on its studies on teachers to provide an opportunity for teachers to express their obstacles and problems and participate in the decision-making process related to ICT-based education. According to the results of the present study, by recognizing the limitations from the perspective of the users themselves, teachers and educational administrators, he had better planning. In a way, by examining the results obtained and comparing them with various works in this field. You can see the mentioned limitations in other examples and plan to eliminate them.

Recommendations

Most of the work has been done on issues related to hardware or software training infrastructure. However, the views of teachers themselves as important users of this technology in the teaching process have received less attention. The results of this study can help to understand the views of teachers. In addition to teachers, the role of students in ICT integration should be studied. As one respondent believed, students' actions and reactions create obstacles in the teaching process. Research is needed to use ECT. Another issue which should be investigated is the change in teachers' attitude towards the use of ICT in crises such as Covid-19 as well as the need for virtual education.

Declarations

Ethics approval and consent to participate: Getting ethical approval is one of the limitations of this research. Because in Iran, the Social Science institutional ethics committee is not commonly used and we do not have written ethical approval. However, in the academic courses we learn how to observe ethics in the research process, so the authors, approval are acceptable. We confirmed that Dr. Mahsa Larijani (Assistant Professor of Social Sciences department) and Maliheh Abedi (Master of Social Sciences) obtained verbal consent from the study and all participants of this research and the objectives of the investigation informed all aspect of research. These two researchers conducted by research ethics Based on what we do in our qualitative research (verbal consent). The authors of this research also confirm that ethical considerations are fully respected in all stages of the investigation and all interviews are conducted with informed consent, and their information will never be disclosed, and remain confidential. Also, the data are available.

Competing interests: We declare that all authors have approved the manuscript and agree with its submission and the authors have no conflicts of interest to declare.

Funding: This research was conducted by the personal funding of the authors and did not have institutional financial support.

Authors' contributions: This work was carried out in collaboration with all authors. Author Larijani designed the study and wrote the first draft of the manuscript. Author Abedi revised the manuscript. All authors read and approved the final manuscript.

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