



# Iranian EFL Teachers' Conceptual Pedagogical Perception of the Role of Technology Integration in Classrooms

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## Abstract

Although extensive research has been conducted on successful technology integration, encompassing the readily available technology, providing a techno-based environment, and applying high-level technology in the classroom still seem to be very much in the minority. Moreover, technology integration illustrates additional barriers, including teachers' and students' technology-based knowledge and schools' financial problems. In contrast to earlier findings in English as a Foreign Language (EFL) contexts, however, little evidence seems to be available about Iranian teachers' classroom uses of the technology. Therefore, this paper aims to present the Iranian teacher's conceptual pedagogical perception of technology integration and illuminate how technology integration impacts teachers' classroom practice. To this end, 10 Iranian EFL teachers in private and public schools in Golestan Province were interviewed. The qualitative data of the interviews were recorded in English and transcribed; they were then coded and analyzed by employing thematic analysis (Braun & Clarke, 2006) via NVivo 12 computer software to show the dimensions and components of the conceptual model of technology integration. One of the themes extracted from the thematic analysis of the Iranian teachers' perceptions was the lack of technological knowledge. That is, a limited understanding of teachers about using technology in their teaching was viewed as a significant problem. Another theme referred to the limited use of technology which makes teachers use computers as a supplementary tool. In addition, it was found that the educational context does not create need-based technology conditions for them, leading to the teachers' ineffective use of technology.

**keywords:** teacher's perception, technology integration, thematic analysis, grounded theory, Iranian EFL teachers

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## Introduction

The development of technology has garnered attention to the importance of integrating technology into English as a Second Language (ESL) or English as a Foreign Language (EFL) classes regardless of technical knowledge of teachers. However, the degree of employment of technology may vary according to teachers and students' respective perception and skill concerning the technological means. In this respect, some researchers asserted that the instructors' perceptions about technology integration are the vital elements illustrating the content and scope of the implementation of technology in the curriculum (Becker, 1991; Campoy, 1992; Ertmer et al., 1999; Pedersen & Liu, 2003). That is, as Marcinkiewicz (1993) and Miller and Olson (1994) noted, besides the teacher's belief, which is also a significant constituent for applying technology in lesson plans, the awareness of teachers is a vital factor. As a whole, teacher's perception is accounted as influential and valuable input for planning and development of technology-based materials and curriculum.

Many studies were conducted regarding the significant impact of Iranian EFL teacher's perception on the utilization of technology in classroom instruction (Ashrafzadeh & Sayadian, 2015; Gilakjani, 2017; Rahimi & Yadollahi, 2011). Some research studies in Iranian EFL context indicate that in contrast to student-centered teaching, traditional teacher-centered teaching does not achieve any successful utilizations of technology, (e.g. Amiri & Saberi, 2019; Lak et al., 2017; Zohrabi et al., 2012). Therefore, it seems essential to modify the conventional system of instruction to a modern and constructive one (Jonassen et al., 1999; Strommen & Lincoln, 1992). In addition, there are gaps related to technology integrations among Iranian EFL teachers (Rahimi & Yadollahi, 2011), one of which is inadequate digital content (Ertmer, 2005; Hew & Brush, 2007; Project Tomorrow, 2011). Moreover, as stated by Johnson et al., (2010), teachers' lack of access to the internet connection in schools creates another critical issue that negatively affects the progress of technology integration.

Therefore, this study aims to explore Iranian EFL teachers' perceptions toward the role of technology integration in instructional classrooms. Additionally, it is important to take the problems and issues that teachers confronted and also the effects of the integration of technology in the classroom context into consideration.

## Review of the Related Literature

### *The Role of Technology Integration in Education*

Correct training of teachers should encompass both the application of technology for personal needs and the use of technology with students in the classroom (Burkholder, 1995; Hignite & Echternacht, 1992; Hochman et al., 1993; Kearns, 1992; Ritchie & Wiburg, 1994; Todd, 1993; Wetzell, 1993; Woodrow, 1992). The generalizability of these results is that teachers ought to be computer literate and seek to include technology in their lesson plans; in contrast, teachers who do not have computer literacy and updated knowledge regarding technology do not achieve their goals. Such differences in the application of technology in the classroom play an important role in teachers' and students' perception towards technology integration.

Numerous findings and additional evidence contribute to the suggestion that there are crucial elements that directly and indirectly have a significant impact on technology integration. According to Howley et al., (2011), the term technology

integration has been influenced and facilitated by variables such as schools, teachers, and students. In this respect, Ritzhaupt et al., (2012) point out the existence of several practical factors. First comes teacher-related variables like teaching experience in an educational environment, and their level of education. Secondly, there are school variables that encompass the availability of technology and financial-technological professional support. Lastly, there are student-centered variables that include student's level of Proficiency and motivation, as well as the number of students in the class. In sum, the results suggest that teachers' willingness and readiness, as well as their experience with technology, have a considerable impact on the degree of integration of technology in their educational goals (Inan & Lowther, 2010; Ritzhaupt et al., 2012; Tondeur et al., 2008). In the light of Ritzhaupt et al. (2012), Inan and Lowther (2010) argue that two critical factors having the highest effect on technology integration are technology's accessibility and teacher's perception. In other words, teachers' perception toward using technology-based materials in the classroom was considered as the second most pivotal element (Inan, & Lowther, 2010; Tondeur et al., 2008).

The integration of technology has been widely investigated among Iranian EFL context during last decade (e.g. Mahmoudzadeh, 2014; Soleimani & Arabloo, 2018). According to Riasati et al. (2012), comprehending the benefits and barriers of technology integration is a significant step in the Iranian EFL educational system. In their study, it has attempted to present a variety of factors that encompass technology integration based on the perceptions of Iranian EFL teachers including engagement, collaborative learning, and improvement in academic ability which advocate the application of ICT in language teaching. As an example, Mahmoudzadeh (2014) studied on the effectiveness of Microsoft PowerPoint presentation and its role on the Iranian EFL learners' vocabulary enhancement. To this aim, 120 Iranian EFL participants were enrolled in a quasi-experimental design and the results revealed that using PowerPoint software creates an interaction among the learners which improved their scores in vocabulary tests. Additionally, Mahmoudzadeh (2014) stated that PowerPoint software offers several possibilities such as sounds, colors and actions which motivated students to integrate with vocabulary learning as much as possible.

Furthermore, the effectiveness of technology in the field of Iranian EFL teachers' training were investigated by Soleimani and Arabloo (2018). They investigated the influence of technology training courses on implementations technology in EFL classroom atmosphere by Iranian EFL teachers. The results of this study revealed that the teacher training courses held by the Ministry of Education was not proper enough to improve Iranian EFL teachers in terms of real-life technology integration in EFL classroom context, as they noted that "was not at a proper level and was limited to the use of some common technologies such as printed materials, computers and LCD projects." (p. 14).

However, the lack of teachers' and students' knowledge, inaccessibility, and the lack of time impeded the extensive use of technology in the Iranian EFL atmosphere. Accordingly, they noted that the awareness of positive and negative aspects of technology have a vital impact on practicing Iranian EFL teachers' perceptions. Indeed, awareness in this manner provides essential information about technology integration for interested Iranian EFL teachers.

Although having access to technology in schools has been facilitated during the last decade, reaching the goal of applying technology in classrooms is not

solely related on technology-related factors (Tondeur et al., 2016). In a longitudinal case study, Levin and Wadmany (2008) showed that teachers' views towards technology integration were shifted from supplementary materials to the needs of the classroom to the main course. Such modified views were constructed based on teacher's experiences in the educational environment. However, the popularity of technology does not show or prove the successful use of technology by teachers as an inseparable part of their educational instruction or in general. Teachers believe that the engagement and the appliance of technology into their teaching progress can be fruitful, though they mostly struggle with an integrated approach to balance the technology with their teaching curriculum (Dexter et al., 1999).

### ***Computer-Mediated Communication (CMC) and Language Teaching***

In an analysis of Computer Assisted Language Learning (CALL), Ahmad et al., (1985) found the term computer is used when referring to a useless device. However, according to Taylor's (1980) view, a computer is mentioned as a teaching machine in the classroom. Nowadays, computers are used to present materials, solve skill deficits, practice skills at their own pace, and foster skill fluency or automaticity (Roblyer, 2006). In this respect, Bodomo (2010, p. 6) defined CMC as “the coding and decoding of linguistic and other symbolic systems between sender and receiver for information processing in multiple formats through the medium of the computer and allied technologies such as PDAs, mobile phones, and blackberries; and through media like the internet, email, chat systems, text messaging, YouTube, Skype, and many more to be invented.”

As it is evident CMC, encompassing social media, email, online discussions, Key pal, and internet-based applications, is a fundamental component of language learning that can fast become a vital instrument in language learning. The aim of CMC is to boost the level of students' communication and integration (Kern, 1995; Warschauer, 1997). Additionally, it decreases the sense of fear and shyness in discussions (Kelm, 1992; Kronnenberg, 1994). Moreover, in contrast to face-to-face communication, it gives plenty of time for reflection and thinking (Abrams, 2001; Duffy et al., 1996).

An overview of the related studies has revealed that the functions and interactions of computer programs have been expanded through the past two decades in EFL classrooms (Ahmadi, 2018); in this regard, Donaldson and Kötter (1999) and Lee (1998) noted that the employment of computers, internet-based applications, and software have changed the world of teaching. Endless uses of computers, for instance, monitoring learning, giving comments and feedbacks, and giving internet-based tests, have been developed beyond the teacher's expectations. These developments have considerably modified the functions of the computer as an instructional tool and changed it to a learning tool, consequently shifting the focus from the real world to the virtual world. The emergence of computers, software, and online-based applications, such as learning tools, has helped exposing students to authentic data. In the same vein, Warschauer and Healey (1998) noted that multimedia and advanced techniques of the utilization of computers have provided authentic information and have also exposed students virtually, thus leading to emersion of integrated language skills in students. In addition, a variety of internet-based software have been introduced as supplementary material to teachers that boosts autonomous learning. Moreover, CMC, despite the practical constraints, has made a significant contribution to task-based activities, further boosting peer work

and group work activities (Crook, 1994; Kern, 1996; Warschauer, 1995) and enhancing motivation and collaborative learning (Braine, 2004; Hanson-Smith, 2000; Ushioda, 2000).

Generally speaking, many studies in the field of CMC have only focused on the motivational aspect of the use of computer. That is, the computer is considered as a motivational tool for cooperative and communicating aims. According to Vygotsky (1986), the use of CMC and CALL outweighs communications and increases student's motivation. To be crystal clear, it could be mentioned that there is a vital requirement for noticing psychological benefits in CMC that foster with factors such as motivational aspect during cooperative tasks via computers. The application of technology for language instruction highlights an improvement in communicative skills among Iranian students with the mediated role of computers that benefits from motivational aspect (Karimi et al., 2014). Therefore, CMC or CALL promotes and assists the cooperative sense of an individual; in other words, each individual can construct and expand their knowledge with others which can be called a socially-mediated process.

However, a number of significant limitations need to be considered. First, the lack of feedback (Salaberry, 2000), second, the shortage of nonverbal cues (Ferrara et al., 1991), and third, the lack of learner's first language (Lee, 2004) tend to highlight the inattention to the use of computers in the educational classroom. Another problem regarding the use of computers is that it fails to take pedagogical approaches, language skills, learning styles, students' target language proficiency levels, and motivation into account. As Warschauer (1996) stated, computers can enhance authentic communication and promote student-centered teaching practice.

### ***Teacher Perceptions toward Technology***

According to Fishbein and Ajzen (1974), the term 'attitude' generally refers to the predispositions of a person to favorable or unfavorable feelings toward people, events, and objects. Teachers' and students' attitudes seem to play a prominent role in reaching educational goals and may also act as an essential factor in an educational environment leading to the integration of innovation in an educational setting (Albion & Ertmer, 2002; Becker et al., 1999; Pajares, 1992). Overall, there are many challenges when it comes to its definition, as the Fishbein and Ajzen's (1974) is regarded as the major approved definition in this study. A broader perspective has been adopted by Pajares (1992), who labelled the concept of a teacher's beliefs as a "messy construct" (Pajares, 1992, p. 307).

It is essential to know to what extent teachers integrate technology into their teaching practices. Studies have shown that using technology in a learning context can be a complicated process (Scherer et al., 2018). The use of technology among teachers has dramatically increased; however, their perceptions toward technology are continuing to be a problem for educational institutions (Bishop & Spector, 2014). In this respect, while most studies in the field of teachers' perceptions have only focused on negative views concerning technology, it is considered as a powerful instructional technique (Clark, 2000). Recently investigators have examined EFL teachers' attitudes toward instructional setting (Kollias et al., 2005). Factors found to be influencing a collaborative learning system encompassed both changing in technology as well as shifting teacher's perceptions. In fact, positive teacher attitudes are quickly becoming a vital instrument in the integration of computer use and also in shifting teachers' negative

views on technology (Kollias et al., 2005).

Cox et al.'s (2003) study of technology provides an exciting opportunity to advance and improve our knowledge of the application of technology in the instructional environment in order to modify teaching strategies. They found out that teacher enthusiasm can have vital effects on technology adaptation in the classroom. This was also consistent with the results obtained by Clariana et al. (1991) and Sepehr and Harris (1995). Clariana et al. (1991) found out that the missing link in educational system's software planning for teachers were mostly ignoring teachers' attitudes. Also, Sepehr and Harris (1995) noted that the preferred choices of teachers could improve the use of drills and practices of class books among them. In addition, the impressive surveys of Coniam (2002) and Ducate and Arnold (2006) showed that instead of applying technology solely to teach in an instructional environment, teachers could also learn with technology. Similarly, Hadley and Sheingold (1993) indicated that teachers should make a commitment to foster their professional development and leaning knowledge to integrate technology and innovative tools in educational settings.

Habibi et al. (2019) investigated the effectiveness of EFL teachers' perceptions toward implementing technology in their classrooms. To this aim, 138 pre-service EFL teachers were enrolled in this study to answer a researcher-made survey and the results indicated that most of Indonesian EFL teachers who participated in this study had positive perception toward the use of medium and advanced ICT in their EFL classrooms. On the other hand, it was found out most of the participants believed that the ICT integration in their classrooms faced with lack of implementations in feedbacks and peers-collaborations.

Therefore, Marcinkiewicz (1993) pointed out that adopting technology in the classroom is fostered through modifying teacher's perceptions. Similarly, this view is supported by Violato et al. (1989). Hignite and Echternacht (1992) asserted that both teachers' perception and teachers' experiences play an essential role in promoting the incorporation of computers in the classroom. So far, two factors have been identified as being potentially important; positive perception and computer literacy of teachers, the existence of which would lead to technology integration. Given all that has been mentioned so far, Woodrow (1990) suggested that the teacher's perception has a drastic effect on teaching children regarding technology integration. Todman and Dick (1993) also highlighted that teacher's perception towards technology integration leads to fostering the quality of the children's experiences of the computer.

Several studies thus far have linked student's perceptions with student's attainment, some of which concluded that there is a significant positive correlation between student achievement and student's positive perceptions (Office of Technology Assessment, 1995).

### **Research Questions**

1. What are the Iranian EFL teachers' perceptions toward technology integrations?
2. What are the barriers to implementing technology integration among Iranian EFL teachers?
3. How are Iranian EFL teachers affected by technology integrations in EFL classrooms?

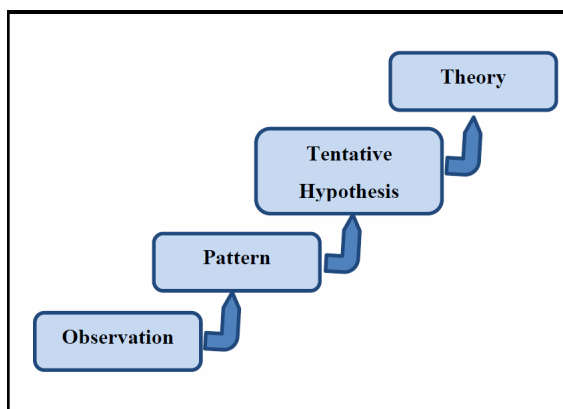
## Methodology

### *Research Design in Grounded Theory*

Grounded theory is a common design to perform in qualitative research design in order to generate theory and form data. The grounded theory is notionally flexible but can be a complicated methodology at the same time. In the present study, grounded theory, moving from data to theory, was applied as a foundation of research design. This methodology uses inductive method for qualitative study, and it begins with a question, as researchers review the data and ideas collected and tagged with *codes*, which have been extracted from the data. The collected and coded data can be grouped into concepts, and then into categories. These categories may become the basis for a new theory. Glaser and Strauss (1967) indicated that the inductive approach is the most suitable way for emerging theory from social data. This is highlighted in the grounded theory model, illustrating that whether the theory has a relationship with an empirical situation or not. As indicated in figure 1, and since the nature of the study is exploratory, an inductive approach is adopted in this present study to analyze the data; the researcher firstly gathered the information from the interviewees' observations based on which the theories were chosen.

**Figure 1**

*Schematic Representation of Inductive Reasoning, Taken from Trochim & Donnelly (2006, p. 17)*



### *Participants*

The participants of this qualitative study, as indicated in Table 1, were 10 English language teachers (five males and five females), ranged in age from 26 to 47, who voluntarily took part in this study. They majored in English language teaching at BA (N = 1), MA (N = 6), and PhD (N = 3). Three of them were university professors, two of them were teachers of public high schools, and five of them were teachers of private high schools and language institutions. The participants' mother tongue was Persian and their teaching experience varied from 5 to 30 years. They were selected based on purposive convenience sampling owing to the lack of the availability of enough participants. Their background knowledge of computers was also different; however, most of them had ICDL 1 and 2 certificates. According to Amado-Salvatierra et al. (2016), International Computer Driving License ([www.ecdl.com](http://www.ecdl.com)) is a series of certificates which mainly focus on basic computer and digital literacy such as online and word processing fundamentals.

**Table 1**  
*The Demographic Information of Interviewees*

Name	Age	Gender	Qualification	Teaching Experience	Teaching Context
Teacher 1	43	Male	M.A	30	University
Teacher 2	47	Male	PhD	25	University
Teacher 3	39	Female	PhD	22	University
Teacher 4	32	Female	M.A	15	High School
Teacher 5	32	Female	M.A	12	Private Institution
Teacher 6	29	Male	M.A	11	High School
Teacher 7	30	Female	M.A	10	High School
Teacher 8	29	Male	PhD	10	Private Institution
Teacher 9	26	Male	M.A	7	High School
Teacher 10	26	Male	B.A	5	Private Institution

### ***Instruments***

In order to comprehend EFL teachers' perceptions of the application of technology, an open-ended interview developed by Kim (2008) was adapted and applied. The original version of the interview consisted of 27 questions to which the researcher added another five questions (questions 28 – 32) in order to include the barriers with which Iranian EFL teachers confront. Subsequently, the content validity was checked and reviewed by two scholars in this field. It includes items about general information, the experience of teaching, instruction and motivation strategies, teachers' perception, and teachers' barriers in implementing technology in the classroom. To illuminate the conceptual map of ideas, the statements of 10 participants were recorded and then transcribed in detail for further analyses. The analysis of the open-ended interview data was carried out through the use of Nvivo 12 to extract the codes. In addition, the exploratory approach of thematic analysis was employed to analyze and decode the data, to highlight the themes and to illuminate relationships (See Figure 2). It should be noted that, the two scholars were full time professor in Golestan University, Gorgan, Iran. They have studied applied linguistics and TEFL for over 10 years and written several scholarly articles and books. Accordingly, in order to check the inter-rater reliability, the Cohen Kappa was applied and the results revealed that the two scholars had agreement on their judgement on the interview as an instrument. There was fair agreement between the two scholars,  $K = .733$  (95% CI, .300 to .886),  $p < .0005$ .

### ***Procedures***

First, the interview questions by Kim (2008) were given to the participants in advance, and they were given a chance to ask any questions before taking part in the study. In the interview session, while participants conveyed their perceptions and thought in regards to the role of technology in classrooms in English, their statements were recorded by a digital recorder. Three of them were interviewed on the phone due their inability to have face to face connection. Each participant was interviewed for 30 minutes. The recorded interviews were transcribed by transcription websites (e.g. <http://www.amberscript.com>). It should be noted that the participants voluntarily enrolled in this study and signed a constant form; additionally, they were ensured about the anonymity and confidentiality of the data.

### **Results**

This study promised to examine teachers' beliefs about computer use in the educational environment. To present and analyze the data, the Grounded Theory was



adopted in the present study. Employing thematic analysis, as indicated in Table 2, the data were coded into six groups, namely, teacher's perception of computers, kinds of skill, kinds of materials, kinds of facilities, the experience of using computers, and barriers of using computers.

**Table 2**

*Thematic Analyses' Descriptions of Participants' Interviews*

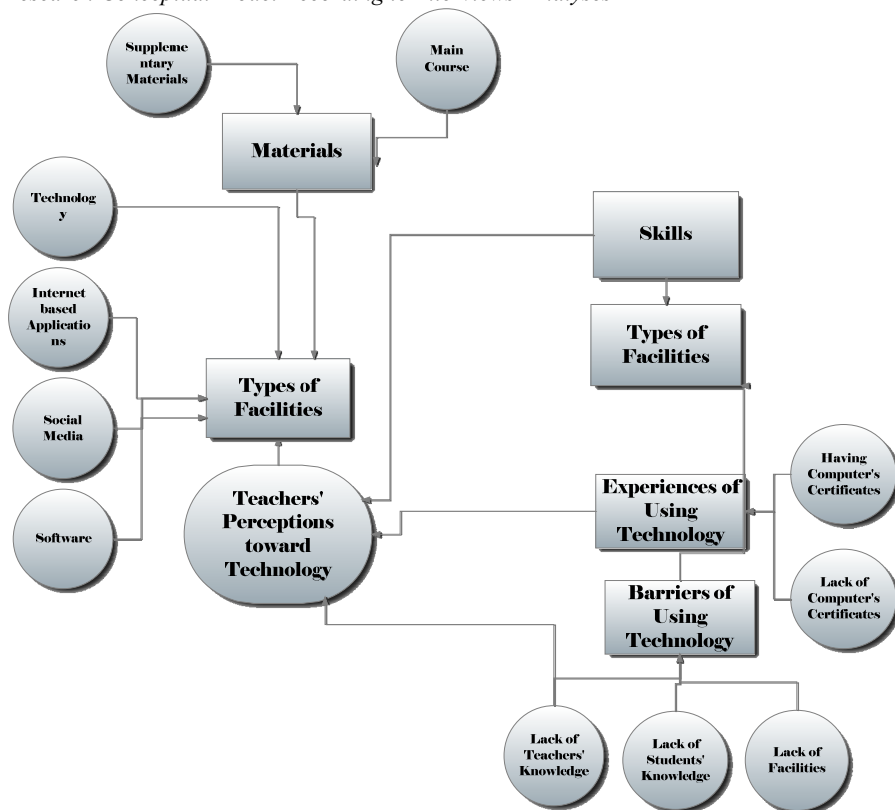
Theme	Node/Theme
Interviewee 1	barriers of using computer and technology, lack of facilities in the university, school, institute, lack of knowledge of students, lack of knowledge of teachers, Experiences of using computers, having the certificate of computer, lack of a certificate of computers, Kinds of facilities Internet-based application, Social Media
Interviewee 2	Experiences of using computers, having the certificate of computer, Kinds of facilities Internet-based application, Social Media
Interviewee 3	barriers of using computer and technology, lack of facilities in the university, school, institute, Social Media, Experiences of using computers
Interviewee 4	barriers of using computer and technology, lack of facilities in the university, school, institute, lack of knowledge of students, lack of knowledge of teachers, Experiences of using computers, having the certificate of computer, lack of a certificate of computers, Kinds of facilities Internet-based application, Social Media
Interviewee 5	barriers of using computer and technology, computer, Kinds of facilities Internet-based application, Social Media
Interviewee 6	barriers of using computer and technology, lack of facilities in the university, school, institute, lack of knowledge of teachers, Experiences of using computers, having a certificate of computer, lack of a certificate of computers, Social Media
Interviewee 7	technology, lack of facilities in the university, school, institute, lack of knowledge of students, lack of knowledge of teachers, Experiences of using computers, having a certificate of computer, lack of a certificate of computers, Kinds of facilities Internet-based application, Social Media
Interviewee 8	barriers of using computer and technology, lack of facilities in the university, school, institute, Experiences of using computers. Lack of the certificate of computers, Kinds of facilities Internet-based application, Social Media
Interviewee 9	barriers of using computer and technology, lack of facilities in the university, school, institute, lack of knowledge of students, lack of knowledge of teachers, Experiences of using computers, having the certificate of computer, lack of a certificate of computers, Kinds of facilities Social Media
Interviewee 10	barriers of using computer and technology, Experiences of using computers, having a certificate of computer, lack of a certificate of computers, Kinds of facilities Internet-based application, Social Media

Based on open and axial coding of the qualitative data of interviews using NVivo12, the major theme of *Teacher's perception of technology* emerged which included some sub-themes with either a direct or indirect relationship to a major theme. According to the results of open and axial coding of interviews, as indicated in Table 3, six categories has been identified as the main categories of technology integration. The sub-themes were categorized into *kinds of materials, kinds of facilities, skills, experiences of using computers, and barriers of using computers and technology*. The contextual conditions are factors like the lack of facilities in universities, schools, and institutes, which have a direct relationship to the major theme. In addition, causal conditions that have a direct effect on the major theme "teacher's perception of technology" encompass the lack of teacher's knowledge, skills as well as the experience of using technology. Therefore, they are the first and most important factors that have a significant impact on teacher's perceptions. In general, kinds of skill, facilities, materials are called intervening conditions out of the teacher's control. The rules have an indirect effect on "teacher's perception of technology". Therefore, these rules are not without any effect. The "skill" theme is called the *mediating condition* since it mediates between two themes and has a direct effect on the major theme (i.e., teacher's perceptions of using technology) and a sub-theme (i.e., kind of facilities).

**Table 3***Categories and Subcategories of Frequency of Technology Integration*

Description	Interviewers	Frequencies
<b>Barriers to Using Computer and Technology</b>	10	29
Lack of Facilities in Universities, School, Institute	6	15
Lack of Knowledge of Students	2	2
Lack of Knowledge of Teachers	6	13
<b>Experiences of Using Computers</b>	7	7
Having a Certificate of Computer	5	5
Lack of a Certificate of Computers	2	2
<b>Computer-Mediated-Communication</b>	0	0
Internet-Based Application	9	61
Social Media	8	37
Software	8	35
Technology	10	378
<b>Kinds of Materials</b>	10	22
Main Course	3	3
Supplementary Tool	9	19
<b>Skills</b>	10	49
<b>Teacher's Perception of Computer</b>	10	87
Positive Perception	7	75
Negative Perception	3	11

Figure 2 depicts a more vivid thematic map of the data and conceptual understanding of all nodes.

**Figure 2***Research Conceptual Model According to Interviews' Analyses***Responses to Research Question One****1. What are the Iranian EFL teachers' perceptions toward technology integrations?**

The participants' views showed different themes for the concept of technology integration. In this respect, a variety of comments on technology integration can be described under positive and negative views.

**Negative Perception.** In line with the integration of technology in the educational environment, the teacher's perception is considered as the essential fulcrum that has a pivotal effect on teaching. CALL in Iranian EFL classrooms illustrated several negative thoughts among Iranian EFL teachers. We would first like to highlight a negative theme raised by two participants (Interviewee 10 and 3); the conversation was as follows: "a good teacher is a teacher who can teach without any technology or computer." This teacher believes that teaching language is an interactive activity, one that is facilitated through face to face conversations since a conversation includes lots of hesitation, false start, and pauses as well as feedbacks given to interlocutors. Then, the time of conversation is short; it means, speakers do not have time to think. A speaker has to control thinking and emotion at the same time. In other words, using technology in an instructional setting cannot create a real environment at all. Other interviewee mentioned that "I believe that technology is only a machinery, a distracting tool. This is while language is a kind that, of course, must be communicated first via face-to-face means". They believe that although

well-established technologies are maturing, such as mobile devices, internet access, and smart boards that are accessible and available for foreign language learning, these innovations would just lead to an increase in learner's interest and motivation; however, the innovations provide inappropriate, shallow interactional opportunities and inaccurate comments leading to distracting learners from the learning environment.

**Positive Perception.** It can be indicated that the use of technology has a negative and positive impact on education. In other words, access to technology is not the only criterion. Technology integration should have been applied in a way that facilitates learning. In this regard, eight out of ten teachers interviewed would like to integrate computers or technology into their materials; however, it appears the use of computers is bound up with teacher's perception, computer's skill, and knowledge. Therefore, most of the teachers said the cooperation of school and universities is an influential factor in the application of technology in teaching curriculum. This theme was presented by one of the participants: "I gain many benefits from using the computer to facilitate my process of learning." Based on this teacher's comments, the application of technology in instructional setting makes student's motivation increased, and most of the silent students participate in learning, and therefore, they attain confidence.

In this regard, interviewee 4 indicated: "I think the use of computers and the internet in the classroom is one of the fruitful things that has happened in the last century of teaching and I use the computer and the internet in my classroom most of the time as the main instruments. The creative role of the teacher is to update her/his method and create a new strategy for teaching. As times go by, students become more interested in technology-based life; therefore, it is necessary to create computer-mediated communication. I employ Pen Pal-related activities for discussions and sometimes interact with students through WhatsApp. Students show enthusiasm to use social media in learning a language". In addition, the evolution of technology is beneficial to students for several reasons. It increases the efficiency of the teaching and learning process, and students can communicate with anyone who happens to be geographically speaking far. It also encourages individual learning and collaboration.

### ***Responses to Research Question Two***

*2. What are the barriers to implementing technology integration among Iranian EFL teachers?*

**Lack of Teacher's Knowledge.** Issues like low internet access, lack of alignment between teacher's instruction and technology, and inconsistent computer availability of teachers make it difficult to use technology for teachers who are not capable of updating their knowledge. The main reason for teachers' rejection of integrating technology in the classroom comes from the lack of awareness and the lack of the needed knowledge to implement technology with their instruction. Therefore, there is little motivation for teachers to adopt technology in classrooms. As interviewee 5 indicated, the lack of technical and theoretical knowledge is another barrier to the use of Computer-assisted Language Learning technology. Not only is there a shortage of knowledge about developing software to promote learning, but many instructors do not also understand how to use the new technologies. According to the conceptual map, the lack of teacher's knowledge is considered as a fundamental factor that has a direct effect on the main theme. For

instance, interview 2 said "as you know, since schools, universities, language labs do not have the needed facilities, teachers' knowledge cannot be updated regarding technology-related instruction and, most of the time they left behind. They are not very advanced in this case".

Additionally, as indicated in Table 3, six interviewees talked about the lack of teacher's knowledge as the most apparent barrier. For instance, Interviewee 9 believed that "teachers go to computer-centered classes but they do not learn about how technology should be employed in their teaching process, how to use computers, how to use PowerPoint or how to connect to the internet". This problem was especially highlighted by the experienced teachers who had more than 10 years of teaching experience more than novice teachers. Such old and experienced teachers seem to be more in need of updated knowledge of teaching. Although technology cannot replace teachers, it provides new opportunities for enhancing student's knowledge. Technology-assisted learning seeks to remedy the problems of the educational process as well as facilitates the student's process of learning.

**Lack of Student's Knowledge.** As interviewee 4 put forward, "Encouraging creativity in the classroom is the main task of a teacher which powers their divergent thoughts with the ability to use computers and online tools. Providing opportunities for students to improve their language process through computers should be the key solution of classrooms' issues. Some teachers may present these chances through tasks or group activities where every student's contribution is valuable to the development of their creative thinking as students attempt to describe a solution to a problem to another member of the group. As many students do not have facilities at home or do not entirely know how to use technology, they do not cooperate with teachers at all. In addition, families disagree with the application of technology, due to their belief that technology distracts students when learning. "Their technology knowledge is obsolete". He means that human beings live in a time that changes occur fast. The changes move rapidly and inhibit the appliance of conventional norms; as a whole, it will provide new opportunities for the future. Despite these rapid changes, integrating technology-assisted learning is an important issue that needs time and willingness of parents and students. As Interview 8 put it: "Not all students have any cellphones or laptops at home, moreover some families completely disagree with the students' use of technology or social media. In addition, most of the students' computer knowledge is low". As table 3 reveals, these two interviewees believed that the main factor that makes students be behind is their parents. Moreover, as a conceptual map illustrates, the lack of students' knowledge is subcategories of barriers of application of technology in the instructional setting.

**Lack of Facilities in the Institute, School, and University.** Barriers of technology integration have been categorized differently. Lack of facilities in instructional environment is considered as a vital factor. As interviewee 2 stated "I told you schools, universities, language labs do not have the particular facilities, do not have technical facilities. They cannot provide them for teachers and students because of the financial problem; However, I have to keep up with a technology-related instruction". He also mentioned that further research should be done to investigate the financial barriers. The cost of hardware, software, and staff development are high. Therefore, it can be stated that the cost could be a significant factor in technology development. Financial problems make university or school do not collaborate with teachers, and they cannot pay attention to the need of students and teachers to technology. As ideas extracted from interviewee 1 shows, "As I

heard from my colleagues, schools and institutions come up with the financial issue, so they cannot provide a technology-based setting for their students". She also added that successive increases in the intensity of the budgeting policies of universities is one of the significant issues that instructors encountered. In other words, several factors that inhibit use of technology in the classroom include low computer experiences, teachers' the lack of knowledge, the lack of computer access, and the lack of access to resources. So these issues might lead to teachers, demotivation in implementing technology in classroom.

As interviewee 9 believed, "There some students have now limited access to the internet in the region they are living. Most schools do not provide any technical equipment for teachers. They prefer budgeting on important resources at school instead of technology". He explained that it should be noted that now, the cost of technology-assisted learning might be conceived as high. Therefore, if the budgeting of technology-assisted learning is considered, it leads to the higher success of educational setting and instructional time. As Table 3 indicates, lack of facilities in the educational setting has the highest frequency in comparison with other barriers. It means that it is so hard without technical support teachers can overcome barriers of integrating technology. These technical failures make teachers resistant to new changes

### ***Responses to Research Question 3***

*How are Iranian EFL teachers affected by technology integrations in EFL classrooms?*

**The Technology was Used as the Main Course.** Regarding the role of computer technology, all teachers stated that technology integration is beneficial for language learning; however, teachers had varied background experiences, so their aims and perception varied as well. In this respect, a variety of perspectives was expressed in these ten teacher's perceptions of technology, and there were two emerging themes: employing technology as the main course or as the supplementary course. When the teachers were asked why they seek to apply technology, five teachers stated since technology expose the students to authentic text and meaningful communication, it acts as a motivator so that it ought to be taught as a mandatory course in the classroom. Therefore, the teacher must update their professional technological skills. In other words, technology integration foster student-centered learning. It means, in an instructional classroom, students themselves choose their learning materials, can make decisions on what kinds of skills must be improved and can adjust the speed of learning based on their own needs. Generally, it fosters meaningful learning. As Interview 4 noted, "The use of technology in the class makes students especially kids and teenagers motivated to have more eagerness to learn a language.

Moreover, it helps them to be a better listener by providing them with authentic inputs, especially making them be familiar with new words and be familiar with the British and American accents. It also improves their speaking so they can find themselves motivated to speak and find new vocabularies and idioms that they need". Also, Interview 10 mentioned that "Let me have two types of teachers. Teachers who teach in state or private schools. You should especially teach teachers in public schools to use a computer the Smart board and projector in class and They must use them as a main course. To me, the use of the internet is not just as a teaching aid to solve the problems, but it must be seen as the main course".

**The Technology was Used as a Supplementary Course.** In contrast to teachers' voices above, one of the teachers argued that technology integration ought to be considered as having the peripheral role. More specifically, he believed that one intriguing feature of the teacher is teaching English without including technology in lesson plans. Moreover, four teachers believed that technology integration is an optional or supplementary tool, and technology's role is limited to particular contexts and language skills. That is, they emphasized teacher-centered learning. For instance, Interviewee 6 stated that "Yes, I use the computer only to play media or educational movies or to show students some pictures related to their lessons. I use technology as a supplementary instruction". As interviewee 8 elaborated: "Policymakers and scholarly society are not ready for such developments and changes in teaching. In Iran, using social media or computers depends on the knowledge and motivation of teachers. In fact, due to the lack of teacher's knowledge, they use technology and computers as a supplementary course.

Technology is a tool that can modify the system of teaching and learning. Today instructors want to implement technological tools in their teaching in order to facilitate level of learning. In a technology-rich classroom, technology just provides authentic conditions for learning. It does not mean students must learn technology. It is a means, not an end".

**How Technology was Integrated into the Classroom.** The point of view of teachers concerning technology in the educational setting, some factors that constrained technology integration in the classroom are content, skills, time and frequency. Interviewee 7 elaborated her restriction in applying of technology on the content and skill: "Technology-related softwares need special techniques. Some of them are very technical so that I use some parts of them related to my lessons. I myself cannot use them for all skills or lessons. I am not very technical. Teachers have to somehow make students learn to employ technology".

In fact, as the online databases of English, for translating Persian to English or English to Persian while I am teaching, for example, I personally use Parse online translator, Google translate, and Trados. This can be really fruitful for getting the meaning across at the time of story-telling or reading comprehension in my classes. Therefore, for translating a text, I can use the computer as an assistant. In addition, we can use a computer for writing a summary of that text on Microsoft Office Word".

Interviewee 2's comment shows how to plan the use of technology for interpreting texts. Although she is not a technical teacher in order to integrate technology for all skills evenly, she believed technology fosters writing skills. Overall, Teachers' perception on the application of technology contradicts entirely the point of views of integrative application of CALL (Warschauer & Healey 1998) and constructive strategies of applying of technology (Jonassen et al., 1999). As a whole, as mentioned, the implementation of technology was restricted in term of time, frequency and skill.

## **Discussion**

The findings of this study confirm and extend the indications of previous literature about the complications of integrating technology into classrooms despite the positive aspects that most of the candidates mentioned. As stated by Bishop and Spector (2014), teachers' perception is a key factor to consider in regards to the integration of technology. While the majority of the interviewees believed in the

efficiency and the convenience of technology, there was a general consensus that functionality can only be achieved with adequate knowledge, perception, and skill. Technology integration seems to highly influence the teacher's perception about students' learning. They believed that technology-based classrooms motivate and foster students' computer literacy and enjoyment. Also, other positive outcomes of technology integration are the increase of student-centered learning and the development of four skills simultaneously. However, there are some concerns about barriers of applying technology in the classroom including applying low-level technological means like composing text in Microsoft Word, checking the vocabularies' translations in dictionaries on cellphones, playing music and movies, and presenting lessons by Microsoft PowerPoint.

Moreover, according to our findings, some believed that the use of technology is in contrast with the traditions of teachings, making the whole process less authentic as, according to their beliefs, teaching must be done via face-to-face means. They also claimed that the integration of such means would dismiss the importance of contextualization due to the limiting factors when it comes to emotions and intellectual processes. Teachers' knowledge also played a crucial role based on our findings which explains how the lack of the theoretical necessities would result in the rejection of technology. This lack of knowledge also concerns students as they will also be asked to incorporate such means.

Additionally, the application of technology and the internet in the classroom were controlled and confronted with some barriers like the lack of budget, facilities, and educational setting rules being out of teachers' control. Also, some teachers mentioned that ethical considerations of parents and students lead to the diminishing of the teacher's interest. While many of the families believed in the benefits of the integration of technology, some view it as a detrimental tool that would distract students when learning due to the many layers the utilization of technology has other than the educational ones.

The findings of this study show that technology-integrated education plays a significant role in instruction for Iranian EFL learners. Another crucial issue is how to apply technology to education. Technology alone does not make a difference for attaining such desirable outcomes, and teachers should also consider the variety of technology-based pedagogies as a benefit for related content, too, as it is noted in several studies like Jimoyiannis (2010), Koehler and Mishra (2009), and Usluel et al., (2007).

Jimoyiannis (2010) studied the perceptions of science teachers' program regarding the integration of the ICT in a classroom context. In Greece, there was a program called Technological Pedagogical Content Knowledge (TPACK) which was questioned from science teachers. They interviewed an overview on science instructors' program on teachers' perceptions. They found out that there were successes but they also met some challenges on the way of using technology integrated programs in the classroom which shows positive understandings with this study and the current study. Also, Koehler and Mishra (2009) had a similar study on TPACK. They interviewed the teachers' perceptions toward technology. They found out that the challenges divided into three frameworks into content, pedagogy and technology. Therefore, it can be stated that the findings of this study is in the same line with the current study.

Furthermore, Raygan and Moradkhani (2020) had a related study on TPACK. They examined the influence of TPACK, school climate, and perception on



the success in technology integration in EFL classes with the use of data collected from 209 Iranian EFL teachers. They found out that perception had a significant impact on technology integration, concluding that positive perception would contribute to an effective integration. To attain this perception, teachers must become familiarized with technology and become experienced. In addition, the accessibility of equipment is also a major factor to consider in regards to such perception. Nevertheless, TPACK, as stated by the authors of this study, remains the most powerful predictor for technology integration, meaning that without sufficient TPACK, teachers may still feel uncomfortable with the concept of technology integration, which further supports the findings of the present study.

Another related study was investigated by Usluel et al. (2007). In this study they studied on ICT with regards to different affective factors such as level of education and age on 590 teachers in Ankara. They gathered the information through a developed questionnaire to understand the amount of different technology integrated applications used such as word processors, search engines, databases and the Internet Explorer. They grasped that there were some obstacles such as lack of internet connection and the absence of teachers' knowledge concerning of how ICT can be implemented in language teaching context. Finally, in order to overcome this obstacle, teachers must be trained and supported. Providing the conditions of needed-based technology for them is constructive. So these conditions make teachers take account of the role of technology integration in their own desired outcomes.

Last but not the least, Ding et al. (2019) studied on Chinese EFL teachers' perception toward technology integrated classes on 12 secondary-level EFL teachers on three dimensions namely skill-based, rule-based and function-based. The findings revealed that most of teachers dealt with issues such as technological content-specific materials. Also, this study supports the findings of the current study.

## **Conclusion**

To conclude, the barriers toward using technology in the classroom can be divided into different stages, such as having the proper knowledge to use technology among EFL teachers, and it should be noted that this issue rooted in educational process in universities. On the other hand, the lack of technological equipment can be another barrier for EFL teachers. Therefore, they cannot shift from the low level of technologies to high levels owing to their lack of enough technology-based knowledge, it means they cannot overcome the technical obstacles of technology integrations.

The findings of this study could theorized that (1) pedagogical beliefs (2) technological knowledge and (3) technological facilities were thematically presented with respect to the participants' interviews. That is to say, the following illustrations have shown that integration of technology in Iranian EFL context is related to these three variables.

Data analysis revealed that the personal attributes and skills could be vital stages of technology integration in Iranian EFL context. Similarly, the lack of appropriate and useful training and professional development opportunities for Iranian EFL teachers and, the lack of outside support, teachers were concerned about selecting and integrating technology with the administrators' pedagogical beliefs. Accordingly, these lack of training leads to utilization of non-practical and knowledge-based content. This provides several barriers on application of reliable

and useful technology integration. Also, based on the participants' perceptions, along with the lack of technological facilities, these three variables were mentioned as the major obstacles. Finally, based on the following statements, it could be stated that pedagogical beliefs, technological knowledge and facilities creates an advanced technological integration in EFL classrooms.

As for the implications, the following study had some implications for educational decision makers, textbook authors and EFL teachers. Accordingly, based on the results of this study, if decision makers in Ministry of education paid more attention on understanding a more interactive use of technology for teachers, there would be less issues for teachers in terms of applying technology in their classroom. Also, educational textbook authors could use the results of this study to find out what an EFL teacher thought of the interference of traditional teaching (textbooks) and the modern version of teaching (using technology). Finally, Iranian EFL teachers could benefit from the results of this study since this study revealed the in-depth perceptions of Iranian EFL teachers in terms of using technology and their solutions to deal with the in-class technological problems which could pave the way for them to enhance their classroom's experience of applying technology.

This study also encountered some limitation during its administration. Among the main limitations of this work, the use of interview which was adapted by the researchers to collect information could be noted as limitation of the study since the use of interviews has some shortcomings in quantitative measurement. The second main limitation is the representativeness of the study samples. The teachers who participated in this study did it were chosen based on the convenience sampling, so there was no random selection involved to ensure that the sample was representative of the study population. Therefore, caution is needed when generalizing these results. The delimitations of the study can be divided into two main categories. First, in order to make it feasible, Iranian EFL teachers who had basic understandings of technology integrated in language teaching were chosen to participate in this study. Second, although the usage of technology in language teaching can be examined in various variables of teaching context, the current research only studied teachers' perceptions toward technology.

### **Suggestions for Further Research**

This study followed the qualitative designs to find out the answer to the research question, another study with quantitative design can help the scholars and teachers to find out numerical understandings on the perceptions of Iranian EFL teachers toward technology integration in Iranian EFL teaching context.

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## Appendix A

### Kim (2008). Beyond Motivation: EFL-ESL Teachers' Perceptions of the Role of Computers

Cleveland State University

#### General Information

1. Would you tell me about your computer skills? Could you name the computer software programs that you can use?

2. Have you taken any courses related to computers? If any, what are the names of the courses?

#### Experience of Teaching

3. Would you tell about your ESL/EFL teaching experience briefly?

Experience of Using Computers

4. Have you used computers in your teaching? How did you use computers in your teaching, if you have?

#### Using Computers in Language Teaching

5. What do you think of the roles of computers in language teaching?

6. What are the benefits of using computers in language teaching?

7. Are you planning to use computers in your teaching in the future? If yes, how are you going to use computers in your classroom?

8. Can you give me some examples of how you are going to use computers in your teaching?

#### Teacher Beliefs

9. Do you think technology-enhanced learning can better prepare students for 21st century? Explain your viewpoint?

10. What is motivating you to use technology the amount you do?

11. What is motivating you to use the math software the amount you do?

#### Teacher Perception

12. Do you know how much usage the product provider recommends? How much do you think the product should be used per week?

13. How much professional development did you receive related to this software?

14. How are you using the software?

15. How do you know when to use the software?

#### Instructional Strategies

16. What are some ways you have helped students view technology as a learning tool?

17. How do you incorporate technology into your instruction?

18. What did you do to incorporate software into your instruction?

19. What are some ways that you have been able to use technology to enhance student learning?

20. Do you encourage collaboration and creative thinking? If so how?

#### Motivation Strategies

21. How are students using the software?

22. How often do you check student progress?

23. Do students use this software at home?

24. What strategies do you use to motivate and encourage students?

25. What strategies do you use to keep students engaged?

#### Change Management

26. In your school or classroom, what strategies were used to manage this change to your instruction?

27. What instructional or management strategies do you use to integrate technology in your classroom?

#### Iranian teachers

28. What barriers do Iranian Teachers face up with using computers?

29. How do Iranian teachers relate course and material to computer?

30. What strategies do Iranian teachers use to homogenize the level of computers' knowledge of students?

31. Which skill is greatly promoted through computers?

32. Do Iranian teachers use the computer in their teaching as an important course or as supplementary material?