



## **Iranian EFL Teachers' Perception-Practice Correspondence in Mobile-Mediated Discussion-Based Instruction**

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### **Abstract**

This study followed discussion-based techniques using mobile phone technologies in order to compare Iranian EFL teachers' perceptions with their practices in higher education. Applying Convergent Parallel Mixed-Method Design, 73 English for Specific Purposes (ESP) instructors, teaching technical English courses to Law students at Islamic Azad University (IAU), South Tehran, Qods, and Eslamshahr Branches, completed a questionnaire assessing instructors' perceptions versus practices on the use of mobile phone technologies in discussion-based classes. Through typical-case purposive sampling, out of 73 ESP instructors, eight instructors (four traditional and four communicative), extracted through the questionnaire, joined semi-structured interviews, and their classes were observed during the semester by two observers completing the observation scheme. Afterwards, applying the grounded-theory-instigated analytical framework of Onwuegbuzie and Teddlie (2003), the triangulated observation-interview data were thematically analyzed through open, axial, and selective codifications congruent with Mishra and Koehler's (2008) TPACK model components, i.e., technology, pedagogy and content knowledge. The results demonstrated EFL educators' interest in interactional mobile phone technologies and in the content constituent, i.e., the second component of the questionnaire as well as the third module of TRACK model. Additionally, the results signified EFL teachers' use of comparative translation activities for the reading comprehension skills via collaborative/cooperative reading strategies. Finally, this research represents some pedagogical implications for administrative executives in the Iranian Ministry of Science, Research and Technology to revise Law students' curriculum, and positively alters material providers' and ESP instructors' attitudes toward using mobile phone technologies in discussion-based classes.

**Keywords:** Discussion-based instruction, EFL teacher, mobile phone technologies, teachers' perceptions, teachers' practices

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### **Introduction**

Social constructivist theory is based on the interaction between people (Vygotsky, 1962). Due to the

interactive, engaging, and practical nature of video-based discussion, it is often preferred by students over the other communicative mediums of instruction (Harizaj, 2015; Swartzwelder et al., 2019). Moreover,

Roselli (2016) considered cooperative and collaborative learning to develop discussions and interactions. According to Roselli (2016), collaboration not only follows group making, as does cooperative learning, but also is a “promotion of exchange and participation” or negotiation among all members with “a shared cognition” (p. 256). In other words, cooperative learning might be restricted to group/pair work while collaboration can go beyond cooperation and in fact, it seeks learning spaces in the class for boosting learners’ volunteer participations, interactions, and negotiations to make shared meanings. This study adopted the idea in combination with technology use.

Furthermore, justifying the use of mobile phone technologies in this study, the technological, pedagogical, and content knowledge components proposed in the TPACK model was adopted as the conceptual-modular framework (Mishra & Koehler, 2008). All the three mentioned conceptual components were applied in the Iranian EFL context of the current study.

In the field of translation, legal discourse is defined as translation strategies and text analysis in which discussion takes place (Velykodska, 2018). In this discourse, social constructivist theory is administered to interpret and apply discussion-based learning in a social context, within which, a TPACK model is described as a combination of technology, pedagogy and content knowledge for pedagogy (Mishra & Koehler, 2008). Thus, this study sought to demonstrate how content knowledge, pedagogy and technology via the use of mobile phone technologies can be applied in teaching and learning in line with Mishra and Koehler (2008). The student teachers’ viewpoints are influential in technology integration into the educational curriculum (Korucu-Kis & Ozmen, 2019). According to them, obstacles to the integration of technology into education can be attributed to the teachers’ level of technological knowledge, awareness, skills, and their attitudes toward technology. Furthermore, Korucu-Kis and Ozmen (2019) stated that the teachers’ perspectives should alter from exherent to inherent value regarding the use of technology in education. They also assert that technology acts like a smooth partner for teachers and learners in and out of the classroom. Different studies in Iran have investigated the students’ and teachers’ perceptions about using technology (Ahmad, 2019; Bahri & Mahadi, 2016; Boridani, 2019; Bozorgian, 2019; Daltio et al., 2018; Davidovitch & Yavich, 2018; Jafari & Chalak, 2016, as cited in Hashemifardnia et al., 2018; Rahmani, 2017).

Simonnæs (2013) mentioned teaching strategies can obviate cultural and non-cultural challenges as well as lack of knowledge in the translation of legal texts from a

teacher’s perspective about semi-professional translators’ works. Until now, educational researchers have always made efforts to find a way or a solution to better teach the translation of such texts (Javadi & Khezrab, 2020; Liuolienė & Metiūnienė, 2012; Samadi et al., 2011; Sergeeva & Bazueva, 2016; Velykodska, 2018). Researchers discovered that using different facilities such as mobile phone technologies can help learners to better understand and learn legal texts and legal discourse.

It is noteworthy that some studies conducted in the past within the domain of using mobile phones or mobile phone technologies (e.g. Altameemy, 2017; Boridani, 2019; Cheon et al., 2012; Park et al., 2012) distinctively dealt with discussions (e.g. Harizaj, 2015; Fatehi Rad & Sahragard, 2019; Swartzwelder et al., 2019). There are some studies concerned with mobile phone technologies as well as collaborative and interactive learning (Ilic, 2013), or the use of such technologies in teaching translation of legal texts (Javadi & Khezrab, 2020). Additionally, a study was performed on using discussion-based technique in EFL settings in Iran (Fatehi Rad & Sahragard, 2019). Likewise, some studies were focused on the discussion-based technique in teaching legal text translation (Biel, 2011; Tan, 2008). However, to the best knowledge of the researchers, no studies have been conducted regarding the practices and activities of using mobile phone technologies through the discussion-based technique in legal text translation instruction. Thus, based on the aforementioned findings, using mobile phones in teaching legal texts translation was considered for discussion in an online class environment for the purpose of the present study.

## Literature Review

### Mobile Phone Technologies for Instruction

Learning through mobile phone technologies inside or outside the class environment can help learners develop their technological knowledge and competence. This is theoretically mentioned in Mishra and Koehler’s (2008) TPACK model. Using mobile phones provides easy usage (Kimura et al., 2011) of the materials required for translation activities in the selected legal text, since these phones can connect to the internet and download the necessary data or authentic legal texts (Liuolienė & Metiūnienė, 2012), pertinent applications, tools, software, dictionaries, etc.

Based on the learners’ skills, knowledge, attitudes, and capabilities (Stockwell, 2013), university teachers recommend the use of mobile phones in terms of the level and type of applied technology. Thus, mobile phone learning as a helping tool is utilized to make higher education easier (Dakir et al., 2021; Shinagawa,

2012). Several studies dealt with technologies which can be installed on mobile phones such as Mobile Instant Messaging (MIM), video-based active learning assignments (Galatsopoulou et al., 2022), WhatsApp functions such as WhatsApp vocabulary learning (Jafari & Chalak, 2016, as cited in Hashemifardnia et al., 2018), WhatsApp activities as a learning platform (Ratminingsih et al., 2022), WhatsApp as an M-learning technological tool (Lyken et al., 2022), Kahoot as a game-based vocabulary learning tool (Ahmed et al., 2022), and Moodle platform as a real technological tool for motivation (Raman et al., 2022).

### **Mobile Phone Technologies and Teacher Training**

The crucial factor in training teachers or instructors is to engage them in using technologies eagerly and find ways to persuade them to do so. For this reason, a shift in beliefs is essential (Korucu-Kis & Ozmen, 2019). Thus, such training courses were changed so that the instructors would experience using different social media (Daltio et al., 2018). It should be noted that the teacher's positive attitude toward using mobile phone technologies motivates learners for language learning through mobile phones. In addition, the teacher can use mobile phone technologies in the classroom to meet students' needs (Boridani, 2019).

### **Discussion-Based Technique for Instruction**

Social constructivists believed that action or activity leads to learning concepts (Mulatu & Bezabih, 2018). The importance of interaction and discussion in social constructivism (Vygotsky, 1962) are manifested in Roselli (2016) for two concepts of cooperative and collaborative learning in the teaching process. Based on Roselli (2016), cooperative learning is part of the teaching process for group cooperation whereas collaborative learning is participation which occurs in the whole teaching process. Discussion is the result of participation. Participatory teaching, as a teaching method, enables students to be involved in understanding and language learning (Slavin, 2011, as cited in Fatehi Rad & Sahragard, 2019). Polloway et al. (2001) mentioned that the participatory approach or method can enhance motivation, class participation and academic achievement.

As online teaching in the online class environment is developing in the form of social learning or collaborative learning, engagement and interactivity with the course content are increasing to represent the most influential teaching method regarding learners' outcomes. Thus, incorporating mobile phones into collaborative education has led to the following results: affordances to greater awareness of content through reflection, relationships through interventions by reducing hindrances between private and public environments,

positive effects of doing homework, and exploring insights into dialogue features (Ilic, 2013).

The most recent studies on new discussion technologies are concerned primarily with new video-conferencing technologies and challenges for doing online hands-on activities (Labrie et al., 2022). Chen et al. (2022) also introduced the function of a web-based inquiry learning mode with collaborative digital reading annotation system support (i.e. WILM-CDRASS), which is more useful than a web-based inquiry learning mode with general discussion board support (i.e. WILM-GDBS) for helping "the students with low prior knowledge and field-independent cognitive style" (p. 1). Ultimately, Lin et al. (2022) clarified the positive impact of robot-assisted language learning on oral interactions in language classrooms.

Most studies conducted in the Iranian EFL setting concentrated on the issue of using discussion or mobile phone technologies. Considering the gap within the literature, this study examined the significance of using mobile phone technologies in discussion classes and the comparison of teachers' perspectives and practices regarding this significance. Based on the above-mentioned literature gap and the purpose of the present study, three questions were designed as follows:

RQ1: What are the different dimensions of Iranian EFL teachers' perceptions about the contribution of implementing cooperative as well as collaborative reading activities facilitated by mobile phone technologies to the Iranian EFL students' comprehension of legal passages?

RQ2: What are the different dimensions of Iranian EFL teachers' instructional practices for developing discussion-based class activities facilitated by mobile phone technologies and the role they play in the Iranian EFL students' comprehension?

RQ3: Are Iranian EFL teachers' perceptions pertaining to mobile-phone-facilitated cooperative/collaborative discussion-based instruction consistent with their instructional within-class efforts to put such perceptions into practice and design congruent activities?

## **Method**

### **Design**

The present study followed the Convergent Parallel mixed methods design, which explains that qualitative and quantitative data collections and analyses are compared with or related to each other at the same time to find whether the interpretations conform to each other or not (Creswell, 2014). In other words, a convergent parallel design entails that the researcher concurrently conducts the quantitative and qualitative elements in the

same phase of the research process, weighs the methods equally, analyzes the two components independently, and interprets the results together (Creswell & Pablo-Clark, 2011). With the purpose of corroboration and validation, the researchers triangulated the methods by directly comparing the quantitative statistical results and qualitative findings. In the current research process, two datasets were obtained, analyzed separately, and compared.

## Participants

In the present study, 73 ESP instructors, 35 males and 38 females within the range of 26-60+ years old with two to more than ten years of teaching experience, from the Faculty of Law and Political Sciences of the Islamic Azad University, South Tehran, Eslamshahr and Qods branches were purposively selected to complete the concerned questionnaire for the quantitative phase. For the qualitative phase of the study, eight out of 73 ESP instructors participated in the semi-structured interview and also their classes were observed during the first semester of the academic year 2021-2022. Likewise, two of the 73 ESP instructors were chosen as the observers of the Specialized Language courses in the fields of Law as well as Jurisprudence and Fundamentals of the Islamic Law. They recorded their observations via field notes for two sessions and completed one observation scheme for each class. Through clustered quota sampling, Qods and Eslamshahr branches were regarded as the two major clusters, out of each the total of four typical classes as representative quotas were selected. In the same vein, four control-group typical classes as traditionally-instructed quotas were also chosen.

## Instruments

### EFL University Teachers' Questionnaire

The questionnaire, which was designed to assess the EFL teachers' perceptions of using mobile phone technologies and discussion-based instruction, was developed by the researchers using Stinson et al. (as cited in Omar, 2014, pp. 93-98) and it was piloted by five EFL university instructors holding PhD degree for reliability and validity issues. Also, the attempt was made to make sure the items are in line with each of the three formerly -mentioned components or constructs as well as for the language clarity to ensure the assessment of the difference between the EFL university teachers' perceptions and practices facilitated by mobile phone technologies in the discussion-oriented classes. In other words, the re-validation process was done with the consensus of two other experts in TEFL familiar with mobile-phone-facilitated communicative teaching strategies. Also, with regard to the concerned

psychometrics, the questionnaire was validated using Exploratory Factor Analysis (EFA) through Principal Component Analysis (PCA) extraction method, which revealed the presence of four components with eigenvalues exceeding 1.0 which had counted for about 65% of the variance.

This scale comprises 33 items with four components of background (6 items for personal information), content (7 items), mobile phone technologies (8 items) and pedagogy (12 items). The participants responded to this questionnaire on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Besides, the Cronbach's alpha yielded the high reliability index of 0.99.

## Interview

Questions of the semi-structured interview for the qualitative phase were designed on the basis of the above-mentioned questionnaire components extracted via exploratory factor analysis from the relevant data and literature. The goal of questions was to get EFL teachers' opinions on the teaching procedure types in the classes, and the class environment using mobile phone technologies within discussion-based instructional discourse as an L2 academic context. Filled by eight EFL instructors, the interview form included 18 questions with four sections congruent with the explored factors in the questionnaire, i.e., background, content, mobile phone technologies, and pedagogy. As it was priorly stated with regard to the questionnaire, the items of this interview were also developed based on Stinson et al. (n.d., as cited in Omar, 2014, pp. 93-98). The content validity was approved as five EFL university teachers with PhD degrees investigated the relevancy of different parts for each of the three constructs of the interview form as well as the clarity of the used language. Based on their comments and consensus, the three constructs were piloted, modified, and adapted to the interview conditions. Afterwards, the intended participants were interviewed along with some field notes whose utterances were subsequently transcribed for further analysis through codification and thematization techniques included in Grounded Theory (Ary et al., 2010).

## Observation Scheme

An observation scheme developed based on Hantla (2014) and Liu (2011) to consider the effects of mobile phone technologies and discussion-based instruction on each class. It was provided by the researchers and was filled out by two observers of all classes in experimental groups. This observation scheme was designed in 31 items, including content (7 items), mobile phone

technologies (4 items) and pedagogy (20 items). The designed observation scheme with five choices (i.e. little, a little, moderate, much and very much) on a Likert-type scale was answered once by two EFL instructors for each class during the fall semester.

Concerning the observation scheme, to provide a valid instrument, the content validity was confirmed by five PhD University instructors in TEFL and based on their comments, the three constructs were modified. Likewise, for reliability, researchers tried to gain inter-coder reliability. To do so, two independent coders out of 73 university instructors, sufficiently trained, skilled and familiar with the task, voluntarily announced their participation to play a coder's role in this study. All eight classes were observed by the two coders as observers independently at the same time. The data acquired by each observer while completing the observation scheme for each session was entered to version 26 of SPSS software. The correlation was computed and represented the inter-coder reliability of 0.93 for this study.

## Procedure

Before participants started completing each online Google form of the questionnaire, observation scheme and interview, they informed their consent to participate in this study by clicking on the Agree button. At the beginning of the study, for the quantitative phase, 90 EFL instructors were selected for teaching legal texts using mobile phone technologies in their classes. Out of 90 EFL instructors, 73 instructors used mobile phone technologies with the discussion technique in their classes. They completed the questionnaire form during the semester and mentioned their perceptions of discussion-based instruction using such technologies. Furthermore, four EFL legal classes were considered for control groups with traditional instruction. For the qualitative part, eight out of 73 instructors were selected for discussion-based instruction using mobile phone technologies in their classes to participate in the interview at the end of the semester and their eight classes were observed as the experimental groups during the first semester of the academic year 2021-2022.

Discussion-based activities in the eight experimental classes were instructed using cooperative and collaborative reading strategies. Additionally, eight semi-structured interviews were conducted by eight EFL teachers of experimental classes for Specialized Language courses (i.e. four classes of each course 1 and 2) in the fields of Law as well as Jurisprudence and Fundamentals of the Islamic Law. Since each class had two sessions a week during the semester, eight observations of each observer were made twice for each experimental class in order to ensure the teaching

process was precisely investigated by the two observers for the instructional practices. It should be noted that there were four control groups in this study and eight teachers had eight experimental groups or classes. For the purpose of confidentiality, researchers considered some pseudonyms. Likewise, not to register their affiliations in the present study, some codes were considered instead of their academic titles as in [A] pedagogy and content, which were considered components or themes of the teachers' university for the pseudonyms of Mr. Abedi, Ms. Amini, Ms. Vahidi and Ms. Nahidi, [B] university for Ms. Khosravi and Mr. Bahrami, and [C] university for Ms. Kaviani and Mr. Rezaei.

Furthermore, two instructor observers observed each of the eight online classes twice through the DAAN platform and completed one observation scheme for each two sessions. The observation scheme was completed twice by two observers for each of the eight classes during the semester to determine mobile phone technology changes and effects on discussion-based instruction. At the end of the semester, data obtained from semi-structured interviews and questionnaires were compared with data from observation scheme to elicit similarities and differences in teacher participants' perceptions of discussion-based instruction and using mobile phone technologies with teachers' instructional practices.

## Data Analysis

For the quantitative phase, the researchers analyzed the data with version 26 of the SPSS software to find the descriptive statistics of frequencies, percentages, means and standard deviations. Moreover, an independent samples t-test was used to compare the 73 EFL teachers' perspectives from the teachers' questionnaire with their instructional practices in line with the three TPACK model components within the eight EFL Law classes. In fact, it would demonstrate the mean difference between class observations and the teachers' perspectives revealed from the questionnaire, observation scheme, and interview form in this study.

Consequently, for the qualitative phase, the researchers utilized grounded-theory thematic analysis codification techniques including open, axial, and selective codifications (Onwuegbuzie & Teddlie, 2003, as cited in Ary et al., 2014) so as to classify the qualitative data in the form of themes. Each theme was divided into some categories. The opposite of each category, keywords or phrases most frequently used in the responses were mentioned in a separate section titled codes. the TPACK model proposed by Mishra and Koehler (2008) included three main knowledge

components of technology, pedagogy and content considered as the components or themes of the teachers' questionnaire, observation scheme and interview form in this study, based on which the thematic analysis was conducted.

In particular, the qualitative analysis of the data began with the tabulation of sensitizing concepts and in vivo codes. Initial or open coding was the next step of data analysis. In this phase, the researcher identified more important words, or groups of words, in the data relating to the objective-scopes of the study and then labeled them accordingly. Therefore, through open coding, the researcher attempted to develop core concepts, categories, and properties.

After open coding, axial coding was employed to develop core categories by connecting sub-categories, and also to specify the range of their properties and dimensions. Moreover, axial coding was used to link categories together as much as possible.

The next phase dealt with selective coding procedures including the use of the storyline technique (Strauss & Corbin, 1998) as a mechanism of both integrating and presenting grounded theory. Also, according to Glaser (2009), the researcher employed theoretical coding during the selective coding stage. Theoretical codes were drawn from existing theories to assist in theoretical integration, to add explanatory power to the final product of the grounded theory in this study, and to situate it in relation to the theoretical body of knowledge in this area. (Strauss & Corbin, 1998).

## Results

The research results include two distinctive sections: the qualitative and quantitative sections. Accordingly, the

findings of the qualitative and quantitative phases would lead to a comparison of EFL teachers' perceptions with their instructional practices demonstrated and described as follows.

### Qualitative Results (Observation and Interview Results)

This section displays the results for the three themes or constructs in observation sections distinctively and triangulates the most and least percentages of some items in each section with the relevant question of the same section in the interview form.

#### Observation Scheme Analysis

The following tables demonstrate teachers' instructional practices in the three TPACK model components of technology, pedagogy, and content knowledge or the observation statistics. According to the findings, teachers' instructional practices were in line with the three TPACK model components. Among the three TPACK components, the content component received the highest rank ( $M=4.40$ ,  $SD=0.68$ ); the pedagogy was the second ( $M=4.08$ ,  $SD=0.63$ ) and mobile phone technologies ( $M=3.92$ ,  $SD=0.66$ ) obtained the lowest mean index.

#### Content Component

According to Table 1, most teacher participants (87.5%) recognized the exact needs in the class, and promoted reading comprehension skills using legal texts translation for Law students. In line with the observation results, all the interviewees (100%) agreed with the needs analysis in the classroom context. To find needs and resolve them, the best technique to be followed was the comparative translation for the specific knowledge between the two languages.

**Table 1.**

*Content Items of EFL Teachers' Observation Scheme*

Items	L	A L	Mo	M	VM	Mean	Standard Deviation
(2) Awareness on exactly what needs to be done in the class	0 0%	0 0%	2 12.5%	2 12.5%	12 75%	4.62	0.71
(3) Getting a certain amount of work done is important in class	0 0%	0 0%	8 50%	0 0%	8 50%	4.00	1.03
(4) Innovative activities for students to do	0 0%	0 0%	4 25%	8 50%	4 25%	4.00	0.73
(7) Promoting reading comprehension skills and translation of legal texts for Law students	0 0%	0 0%	2 12.5%	4 25%	10 62.5%	4.50	0.73

*Note.* L = Little; A L = A Little; Mo = Moderate; M = Much; VM = Very Much.

For instance, Ms. Amini from [A] university with 6 years of teaching experience argued that comparative activities or strategies prepared students for reading and understanding a passage, and connecting this understanding to the learners' background knowledge or its subject. She stated that this connection could be made by asking a question, or thinking and talking about their individual experiences.

Concerning item 2 of the observation scheme, 87.5% of the participants followed using mobile phone technologies based on their needs in the online discussion-based classroom. In this study, such comparative activities for reading classes occurred in knowledge comparison through discussion to find the best concept and then the best equivalent for transferring knowledge from one language to another. Regarding item 7 of the observation scheme, 87.5% of the participants agreed with conducting the comparative translation since finding equivalents makes the learners add their information or knowledge. It is clear that knowledge development leads to more comprehension, and in turn, promotes reading comprehension skills. In this line, all the instructors' interviews (100%) supported students' knowledge increase in English legal texts to

promote reading comprehension and demonstrated translation as a teaching/learning tool helping to do so.

As an example, Ms. Khosravi from [B] university with 11 years of English teaching experience believed that using mobile phone technologies provides students with access to more information sources than just a dictionary. She asserted that this access expedites the translation process to save time. Furthermore, teamwork for a text translation leads to performing the translation process more rapidly than expected since searching for words or term equivalents for the translation work is conducted by more than one student.

### Pedagogy Component

Table 2 demonstrates observation for the pedagogy component with descriptive statistics. Concerning item 29 of the observation scheme, 100% of teachers communicated relevant information to students in discussion using different types of social media. Concerning item 30 of this scheme, all instructors (100%) also facilitated collaboration for discussion through synchronous and asynchronous communication.

**Table 2.**  
*Pedagogy Items of EFL Teachers' Observation Scheme*

Items	L	A L	Mo	M	VM	Mean	Standard Deviation
<b>(29) Communicating relevant information and ideas to students and peers in terms of discussion using a variety of social media and formats</b>	0 0%	0 0%	0 0%	11 68.8%	5 31.3%	4.31	0.47
<b>(30) Facilitating collaboration for discussion through synchronous and asynchronous communication</b>	0 0%	0 0%	0 0%	8 50%	8 50%	4.50	0.51

*Note.* L = Little; A L = A Little; Mo = Moderate; M= Much; VM = Very Much.

For instance, Ms. Vahidi from [A] university with 7 years of teaching experience argued in favor of communication with discussion. She believed that online discussion increases motivation and decreases stress and thereby facilitates learning. She mentioned that students can search for words on the net during class discussion or synchronous communication.

### Mobile Phone Technologies

Table 3 demonstrates observation for mobile phone technologies component with descriptive statistics. For

item 9 concerning the teachers' knowing how mobile phone technologies alter attitudes and discussion activities among students, 68.8% of participants were inclined to get information in this regard. In line with observation results, all teachers (100%) confirmed using mobile phone technologies to control changes in students' attitudes and discussion activities and to enrich online learning environments through more technologies.

**Table 3.***Mobile Phone Technologies Items of EFL Teachers' Observation Scheme*

Items	L	A L	Mo	M	VM	Mean	Standard Deviation
(9) Wanting to know how mobile phone technologies alter attitudes, patterns of study and discussion activities among students	0 0%	0 0%	5 31.3%	9 56.3%	2 12.5%	3.81	0.65
(10) Developing technology-enriched learning environments that enable all students to pursue their curiosities and become active participants in setting their own educational goals	0 0%	0 0%	2 12.5%	8 50%	6 37.5%	4.25	0.68
(11) Trying to use the most modern and updated mobile phone technologies in the class	0 0%	0 0%	4 25%	6 37.5%	6 37.5%	4.12	0.80

Note. L = Little; A L = A Little; Mo = Moderate; M= Much; VM = Very Much.

About 87.5% agreed on item 10 which concerns developing technology-enriched learning environments enabling all students to pursue their curiosities. In line with observation results, all teachers (100%) who completed the questionnaire agreed that mobile phone technologies changed their attitude. Likewise, all interviewees (100%) asserted this was possible via the optimal use of the facilities on the net. They stated that students can use other tools such as concordances, YouTube channels, TikTok and BBC Learning English-6 Minute English video clips.

The use of concordance was interesting for Mr. Bahrami from [B] university with 5 years of experience because it could provide full information. Also, he could create a technology-rich educational environment by asking students to bring some clips and share them with others. The results showed that university instructors found online teaching very conducive for learning. Besides, by providing a variety of applications, all needs and likes of the students are taken care of.

### Quantitative Results

Researchers applied teachers' TPACK questionnaire results obtained from teachers' responses analysis to its

items to understand teachers' perspectives on the functions of the three components of the TPACK model in Iranian universities: content, mobile phone technologies, and pedagogy components.

Regarding three components of the teachers' TPACK questionnaire, the most favorable TPACK component from the teachers' perspective was specified content (Mean (M.) =4.01, Standard Deviation (SD)=0.99) followed by pedagogy (M=3.87, SD=0.97). The least favorable component related to mobile phone technologies (M=3.40, SD=0.90) represented Iranian EFL university teachers who ignored using or rarely used such technologies in the context of Iranian higher education.

### Content Results

Regarding the content component data as Table 4 displays, 89.1% of teacher participants agreed with "the importance of getting a certain amount of work in the class" (item 3). Furthermore, 83.6% of these participants agreed with "clearly and carefully planned class activities" (item 5).

**Table 4.***Content Items of the EFL Teachers' Questionnaire*

Items	SD	D	N	A	SA	Mean	Standard Deviation
(3) Importance of a certain amount of work in class	4 5.5%	2 2.7%	2 2.7%	28 38.4%	37 50.7%	4.26	1.04
(4) Innovative activities	2 2.7%	4 5.5%	22 30.1%	26 35.6%	19 26%	3.76	0.99
(5) Clarity of activities	4 5.5%	2 2.7%	6 8.2%	38 52.1%	23 31.5%	4.01	1.00

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A= Agree; SA = Strongly Agree.

Item 3 was concerned with the course objectives as well as the importance of curriculum and educational

goals. It was in line with the same item in the content component of the observation scheme, for which half of



the teacher participants followed the significance of a specified amount of work in classes distinctively moderately and half of them did it very much. In line with the observation results, no interviewees gave any information about a certain amount of class activities, while they explained the activity types to be done in the class. From their perspectives, it represented that the information type is more important than its amount. Thus, no content component question in the teachers' interview was in line with this item.

## Pedagogy Results

**Table 5.**

*Pedagogy Items of the EFL Teachers' Questionnaire*

Items	SD	D	N	A	SA	Mean	Standard Deviation
(16) Joining in using mobile phone technologies with students	2 2.7%	6 8.2%	2 2.7%	34 46/6%	29 39.7%	4.12	0.99
(17) Feeling good about how I can use mobile phone technologies	2 2.7%	4 5.5%	8 11%	36 49.3%	23 31.5%	4.01	0.95
(20) Using mobile phone technologies can reinforce learning more in a limited time	4 5.5%	2 2.7%	6 8.2%	36 49.3%	25 34.2%	4.04	1.01
(25) Feeling more satisfied with the experience of using mobile phone technologies for class participation	4 5.5%	8 11%	16 21.9%	28 38.4%	17 23.3%	3.63	1.12

*Note.* SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA = Strongly Agree.

According to the findings in this section, the least favorable criterion was item 25. This finding indicated that teaching by using technological knowledge should increase in the academic environment.

Sixty-three teachers (86.3%) agreed with using mobile phone technologies with students (item 16). Question 12 of the pedagogy section in the teachers' interview was in line with this item for how to use mobile phone technologies in class. Thus, for example, you can see the practical strategies in some underlined parts of the sentences indicated by Mr. Bahrami from [B] University with 5 years of experience in teaching English language. The phrases "*By checking up the dictionary on the mobile phone ... to share a clip ... via broadcasting on the mobile phone*" mentioned by Mr. Bahrami refer to the point that he has used mobile phone technologies to share a clip or do other educational activities.

## Mobile Phone Technologies Results

Regarding Tables 6, 7, 8, 9, 10, and 11, according to the EFL teachers' perceptions toward the TPACK model, 86.3% believed in "introducing the tools carefully" (item

Table 5 demonstrates the pedagogy component results. Regarding the use of this component in an online class environment, the majority of participants agreed with items 16, 20 and 17 respectively. They were in favor of using the mobile phone technologies with their students (86.3% for item 16), using mobile phone technologies can reinforce learning more in a limited time (83.5% for item 20), and teachers' good feeling about how to use mobile phone technologies in the class (80.8% for item 17). In contrast, 61.7% of them considered feeling more satisfied with the experience of using mobile phones (item 25).

14), and 75.4% believed in "using the mobile phone cyberspaces such as Email, Telegram and WhatsApp to send different assignments each week" (item 15). Furthermore, 71.2% of teachers believed in "using the most modern and updated mobile phone technologies" (item 13). Having updated mobile phone technologies was not considered essential (item 13) because with the advent of the latest ones, the mobile phones receive a message and the user can update the older versions or the mobile phone can automatically update the technology if the icon of automatically updated programs is activated on the phone. In line with this item, 12 out of 16 observations (75%) for item 11 of the observation scheme supported the three TPACK principles, and four observations (25%) confirmed this idea moderately in the observation scheme. Question 1 of the mobile phone technologies section in the interview form was also in line with this item.

According to Table 6, most participants (53.4%) opted for both using and not using Mobile-Assisted Language Teaching (MALT). 30.1% opted without MALT and 16.4% opted with MALT.

**Table 6.***Mobile Phone Technologies Items of the EFL Teachers' Questionnaire*

Items	Wo MALT	W MALT	Both	Mean	Standard Deviation
<b>(8) Kinds of courses in your faculty</b>	22 30.1%	12 16.4%	39 53.4%	2.23	0.89

Note. MALT = Mobile-Assisted Language Teaching; Wo MALT = Without MALT; W MALT = With MALT.

According to Table 7, most participants (67.1%) opted for both using and not using Mobile Phone Technologies (MPhTecs). 24.7% chose to use Mobile

Phone Technologies (MPhTecs) and 8.2% opted without MPhTecs.

**Table 7.***Mobile Phone Technologies Items of the EFL Teachers' Questionnaire*

Items	Wo MPhTecs	W MphTecs	Both	Mean	Standard Deviation
<b>(9) Class activity preferred</b>	6 8.2%	18 24.7%	49 67.1%	2.58	0.64

Note. Wo MPhTecs = Without Mobile Phone Technologies; W MPhTecs = With Mobile Phone Technologies.

According to Table 8, most participants (89%) opted for somehow comfortable (43.8%) and very comfortable (45.2%). On the contrary, 8.2% opted for not very

comfortable and 2.7% opted for not at all comfortable using mobile phone technologies.

**Table 8.***Mobile Phone Technologies Items of the EFL Teachers' Questionnaire*

Items	NA	NVC	SC	VC	Mean	Standard Deviation
<b>(10) Comfort degree of using mobile phone technology</b>	2 2.7%	6 8.2%	32 43.8%	33 45.2%	3.31	0.74

Note. NA = Not at all; NVC = Not Very Comfortable; SC = Somehow comfortable; VC = Very Comfortable.

According to Table 9, most participants (83.5%) used Internet Searching and online Dictionaries. 11% of participants opted for Note-Taking. For the other

participants, the same percentage (2.7%) opted for 'Others' option (i.e. other mobile phone technologies).

**Table 9.***Mobile Phone Technologies Items of the EFL Teachers' Questionnaire*

Items	IS	Dic	N-T	Term	Oth	Mean	Standard Deviation
<b>(11) mobile technologies preferred</b>	35 47.9%	26 35.6%	8 11%	2 2.7%	2 2.7%	4.23	0.95

N-T=Note-Taking; Dic=Dictionary; Term=Terminologies; Db=Databases; IS=Internet Searching; Oth=Others.

According to Table 10, most participants (78.1%) opted for Visual Aids (45.2%) and Virtual Spaces

(32.9%). The other participants opted equally (11%) using Audiovisual Aids and Tools.

**Table 10.***Mobile Phone Technologies Items of the EFL Teachers' Questionnaire*

Items	VA	VS	AVA	T	Mean	Standard Deviation
<b>(12) Assigned tool(s) used for discussion</b>	33 45.2%	24 32.9%	8 11%	8 11%	3.12	0.99

Note. VA = Visual Aids (Pictures (15), Books (8), Tasks (2), Terminologies (2), COCA (2), Focused-Listing (2), Quizzes (2)); VS = Virtual Spaces (Zoom (10), WhatsApp (4), Google Classroom (4), Adobe Connect (2), Email (2), YouTube (2)); AVA = Audiovisual Aids (Movies (6), Screen Recorder (2)); T=Tools (Devices and Applications (6), Internet Tools (2)).

According to Table 11, 71.2% of the participants chose using the most modern and updated mobile technologies in classes (item 13). For item 14, 86.3% of participants confirmed carefully introducing tools in

their classes, and for item 15, 75.4% considered using mobile phone technologies such as Telegram and WhatsApp for sending different assignments each week.

**Table 11.**

*Mobile Phone Technologies Items of the EFL Teachers' Questionnaire*

Items	SD	D	N	A	SA	Mean	Standard Deviation
(13) Using the most modern and updated mobile phone technologies in class	2 2.7%	4 5.5%	15 20.5%	36 49.3%	16 21.9%	3.82	0.93
(14) Introducing the tools carefully	4 5.5%	4 5.5%	2 2.7%	48 65.8%	15 20.5%	3.90	0.97
(15) Using mobile phone cyberspaces such as E-mail, Telegram and WhatsApp to send different assignments each week	2 2.7%	8 11%	8 11%	24 32.9%	31 42.5%	4.01	1.11

Note. SD = Strongly Disagree; D = Disagree; N = Neutral; A = Agree; SA=Strongly Agree.

### A Comparison between Teachers' Perceptions and their Instructional Practices

An independent sample t-test was used to compare 73 teachers' perspectives from the teachers' questionnaire

with their instructional practices for the three TPACK model components in eight EFL Law classes. Table 12 demonstrates the mean difference between class observations and the teachers' perspectives questionnaire.

**Table 12.**

*Mean Index Comparison between Teachers' Perceptions and Instructional Practices toward TPACK*

Group Statistics					
	Codes	N	Mean	Std. Deviation	Std. Error Mean
Mean	Teachers' Perceptions	27	3.7696	.46683	.08984
	Instructional Practices	31	4.1358	.66822	.12002

As represented in Table 12, the mean of the teachers' questionnaire is 3.76 and the mean of observations is 4.13. The results of this section show that a little difference between the perceptions and the teacher's instructional practices is observed in online discussion

classes using mobile phone technologies. Table 13 reflects independent sample t-test statistics for class observations and the questionnaire on teachers' perceptions.

**Table 13.**

*A Comparison between Teachers' Perceptions and Instructional Practices toward TPACK Principles*

Independent Samples Test											
Levene's Test for Equality of Variances											
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower		Upper	
Mean	Equal Variances Assumed	.305	.583	-2.384	56	.021	-.36618	.15358	-.67384		-.05852
	Equal Variances Not Assumed			-2.443	53.616	.018	-.36618	.14992	-.66679		-.06556

According to Table 13, a slight difference was observed between the eight class observations (M=3.76,

SD=0.46) and teachers' perceptions (M=4.13, SD=0.66). Furthermore, EFL teachers' instructional practices (t

(56) = -2.38,  $P = .02$ , two-tailed,  $P > .05$ ) illustrated a slight difference between the results of the class observations and teachers' perceptions toward TPACK. Results reflect that teachers' practices did not follow their theoretical perspectives in classes.

## Discussion

This study was in pursuit of discussion-based techniques applying mobile phone technologies in order to compare Iranian EFL teachers' perceptions with their own practices in Iranian higher education classes. Applying the convergent parallel mixed-method design, 73 English for Specific Purposes (ESP) instructors, mainly teaching technical English courses to Law students at the Islamic Azad University (IAU), South Tehran, Qods and Eslamshahr Branches, were given the questionnaire by Stinson et al. (2014), which evaluated the EFL teachers' perceptions versus their own congruent practices on the use of mobile phone technologies in the discussion-based classes.

Also, through typical-case purposive sampling, or clustered quota sampling, out of 73 ESP instructors, eight representative instructors (four as traditional and four as communicative cases), extracted through the filter of the questionnaire, participated in semi-structured interviews, and their classes were observed during the academic semester. Furthermore, observation was made by two observers completing the observation scheme for this study. Afterwards, in line with the grounded theory techniques, this study applied the qualitative analytical framework of Onwuegbuzie and Teddlie (2003) in order to thematically analyze the triangulated observation-interview data through open, axial, and selective codifications following Mishra and Koehler's (2008) TPACK model components, i.e., technology, pedagogy and content knowledge.

The results of the quantitative analysis demonstrated most EFL teachers' interest in the discussion technique using mobile phone technologies and the content constituent, i.e., the second component of the concerned questionnaire as well as the third module of TRACK model, appeared as the most favorable principle. Besides, qualitative results signified that the EFL teachers of IAU acknowledged comparative translation activities for the reading comprehension skills with collaborative and cooperative reading strategies.

Following the importance of discussion and interaction (Vygotsky, 1962), using mobile phone technologies as pedagogic tools (Mishra & Koehler, 2008) and applying the legal discourse (Velykodska, 2018), the present study examined Iranian EFL university teachers' perspective toward the use of mobile phone technologies in the discussion-based

classes in comparison with their traditional instructional practices.

Concerning the quantitative phase, the questionnaire results represented mobile phone technologies as the least favorable component. This low favorability can be the result of several reasons including the type of engaging materials provided by the teacher (Tomlinson & Masuhara, 2004), and learners' comfort as the main criterion of the classroom environment (Puteh et al., 2015).

Paying less attention to most updated mobile phone technologies in Iran is in line with Nikimaleki and Rahimi (2022) who stated that learners' needs necessitate different learner groups because with installing a new version, the old version is deleted and the new version caters for their needs. This was confirmed by Thomas et al., (2013) who reported that adopting the latest technology was not welcome if it did not take learners' needs into account, a point which was studied by Almaiah and Alismaiel (2019) to determine the acceptance level of mobile learning methods in different regions. Factors such as easy function, usefulness, understanding, mobile phone usage intention, and satisfaction specified financial and infrastructural resources in the Caribbean and developing countries (Ahmad, 2019). Likewise, Kukulska-Hulme et al. (2016) designed the skills and competencies of pedagogy promoted by mobile-assisted language learning and teaching (i.e. "digital and multimodal literacies", "collective intelligence and personal learning networks", "pedagogic principles: integrate classroom and beyond, online safety and privacy issues", "effective task design and use of resources", as well as "adapt current skills and ongoing professional training") (Kukulska-Hulme et al., 2017, p. 221). Furthermore, technology gives children in rural schools in some under-developed countries the chance to study with updated resources (Soria et al., 2020). This study indicated that although updated technologies are important, it is not essential to consider the most modern and updated ones.

About the content, doing certain amount of practice in the class was the most favored criterion and was in line with Ergen's and Durmuş's (2021) who stated that preparing and checking assignments took so much time to prepare the requisite number of class activities. Concerning results for pedagogy section, satisfaction with using mobile phone technologies recognized as the least favorable criterion, in line with Sayyadi's (2022) study. There was inadequate practical training as well as personal and contextual limitations. Consequently, Iranian EFL teachers' technological knowledge should be increased in teacher training courses.

The interview and observation results for cooperative learning echoed Marashi and Khatami's (2018) view that cooperative learning promotes creativity and motivation among learners in an ELT environment, a point which is supported by Fallah et al. (2022). Furthermore, the interview and observation results of the content regarding background information and collaborative learning (Roselli, 2016) echoed Prasaja et al. (2022) who concluded that collaboration brings out engagement for students with different knowledge backgrounds individually. Likewise, Bermillo and Metro (2022) introduced collaborative strategic reading as a kind of comprehension approach (Klinger & Vaughn, 1996; Klinger et al., 1998) applying peer groups, teacher modeling and teacher's think-aloud. Their viewpoints were in line with the present study which demonstrated the positive effect of collaboration and reading comprehension. Additionally, Ratminingsih et al. (2022) mentioned that WhatsApp, as a discussion or collaborative tool, acquired positive students' perspectives on comfortable and proper learning, oral and written communication skills development, critical thinking, and pedagogical content knowledge understanding. This supports the positive effect of using TPACK model (Mishra & Koehler, 2008) in the present study.

In line with the results of this study regarding the effectiveness of reading comprehension in online collaborative learning, Amjadi and Talebi (2021) studied the Extended CSR, in contrast with collaborative strategic reading, and found it effective according to the reading test, since it was developed by an emotional context with sociocultural perspective (Amjadi & Talebi, 2021). Likewise, for peer collaboration on problematic issues, teachers' more structured collaboration resulted in solutions for gaps in their specialties (Tachie, 2022). Also, Noboa (2022) reported a teaching guide assisted students to get interested in learning English reading, develop their reading comprehension, and reinforce teamwork for doing class assignments (Noboa, 2022).

The findings of the present study concerning EFL teachers' positive perspectives towards mobile-phone-facilitated instruction could be in line with Hafour's (2022) findings, maintaining that the preservice and in-service teachers reflected similar positive perceptions towards mobile phone technologies before and after the training course in his study. After this course, both teacher groups had improved perspective. In addition, compared to preservice teachers, in-service teachers were more inclined to use mobile phones.

## Conclusion

The results indicated a slight difference between teachers' perceptions and class observations. The quantitative analysis showed the positive effect of using mobile phone technologies in online discussion-based classes on reading comprehension. Also, components of content, pedagogy and mobile phone technologies were respectively shown to be favorable components. The qualitative phase showed positive effect of comparative translation activities for developing reading comprehension. The other finding was that most of the EFL instructors favored cooperative and collaborative reading activities with using mobile phone technologies as an effective strategy in online language instruction.

Findings concerning the type of teachers' instructional practices for the development of discussion-based instruction using mobile phone technologies to improve Iranian EFL students' reading comprehension were approved by using comparative translation activities in an EFL reading class setting. Results of the interview and observation phases demonstrated the useful application of this type of activity. Finally, findings of the comparison of teachers' perceptions and their instructional practices in using online discussion-based instruction in Iranian EFL reading classes demonstrated a slight difference between EFL university instructors' perceptions and their teaching practices of online discussion-based implementation. In other words, the instructors indicated a little negative attitude toward using mobile phone technologies in such classes in comparison to the positive effect of such classes observed during this study whereas just their perspectives were positive.

Primarily, the most important findings of the present study refer to TPACK principles and mobile phone technologies over in-service training. Furthermore, administrative executives in the Iranian Ministry of Science can use the findings of this study to develop education curricula. This development changes ESP instructors and materials developers' outlook to use mobile phone technologies in discussion classes. On the other hand, teachers can benefit from current findings to improve their syllabuses.

Concerning limitations, the researchers could not control some intervening variables that might affect the process and the study. Also, the data were collected through a questionnaire, a semi-structured interview and an observation to organize the study and make a conclusion. Regarding delimitations, for the data collection in the current study, the researchers had to ask some students and teachers to participate in the study. Unfortunately, in the Iranian EFL context, usually,

teachers and students do not cooperate with the researchers during the data collection procedure.

The present study can suggest more studies on the offline use of mobile phone technologies in discussion-based classes in Iranian and non-Iranian EFL contexts. Likewise, such a study in online mode has not been conducted in a non-Iranian EFL context. Furthermore, such a study can be conducted for the role of discussion with the use of mobile phone technologies to communicate new or background knowledge or remove wrong ideas or comments in EFL contexts.

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