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A Netnographic Approach to Teacher Professionalism: A Model of EFL Teachers' Online Professional Development in Focus

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ABSTRACT

The purpose of this study was to construct a local preliminary model of online Teacher Professional Development (OTPD) by implementing a netnographic (virtual ethnographic) approach. Over a period of two years in a Telegram group in Iran, the researchers, working collaboratively with 10 Iranian English as a Foreign Language (EFL) teachers and 6 teacher educators, assumed the role of netnographers. Data were triangulated from different sources of online ethnographic observations, semi-structured interviews, and online artifacts. The interpretive analysis of data shed light on different components and dimensions of a local netnographic model of OTPD that is informed by Iranian EFL context. This model consists of online training, EFL teachers, OTPD materials, peer support, logistics, and reflections. The accessibility, flexibility, and effectiveness of OTPD model will compensate for many problems that EFL teachers may have in traditional TPD courses. The implications of the findings are likely to be of interest to teacher educators, syllabus designers, and EFL teachers. The presented model could aid teacher educators and syllabus designers in preparing and holding mobile-enhanced online TPD materials and courses. Moreover, the model will help EFL teachers in enhancing their professional knowledge and competencies. More studies are required to fully investigate different facets of the OTPD model and add other variables to the model to examine their effects.

Keywords: Online Teacher Professional Development (OTPD); EFL teachers; netnography (virtual ethnography); professionalism; grounded theory

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1. Introduction

Teachers play a key role in enhancing the quality of education, and the efficacy of teaching is closely linked to the existence of thoughtfully structured professional development programs (Singh et al., 2020). Teacher Professional Development (TPD) is a multifaceted, complex, and elusive construct which is essential in providing teachers with opportunities to enhance their competencies and improve the quality of education (Dahri et al., 2023). Most notably, professional development helps teachers in keeping their abilities and knowledge up-to-date, thereby enabling them to address current demands and achieve educational objectives within an appropriate timeframe (Sindh, 2017).

Such significance notwithstanding, TPD faces some challenges. Firstly, a stockpile of research studies with regard to the effect of professional development on teachers' classroom practice is mostly based on self-report data and not based on the direct observations of teachers in the field (e.g., Copur-Gencturk & Thacker, 2021; Dede et al., 2009; Thurlings & den Brok, 2017). Secondly, the studies on TPD at both local and national levels revealed that TPD programs were fragmented, irrelevant to practice, and misaligned (Roque, 2022). Such sorts of programs lack essential pedagogical features, appropriate content, structural qualities, and suitable resources (Szelei et al., 2020). Thirdly, lack of awareness of teachers' needs prior to TPD courses is another concern which was not given due attention in the previous studies. In fact, most of the TPD programs especially in developing countries inadequately align with learning needs of participants, primarily because the organizers frequently neglect to engage these individuals when formulating the training content. This oversight significantly hinders the participants' ability to effectively implement the knowledge acquired in their teaching practices (DeMonte, 2013). Thus, it is essential to ascertain the professional development needs identified by teachers in order to offer better opportunities for teachers to participate in professional development activities (Sadeghi & Richards, 2021). Furthermore, the inability of governments in developing nations to enact policies that promote flexibility in teaching schedules presents a significant barrier to the efficacy of TPD programs (Salifu et al., 2024).

Motivated by rapid social, cultural, and economic transformations, there has been an increasing interest in leveraging technology to tackle challenges in TPD programs. The advent of smartphones has indicated that Social Network Sites (SNSs) have gained momentum (Kavoshian, 2020). According to Coutinho and Lisbôa (2013, p. 199), SNSs are "powerful educational tools" which help teachers "develop their knowledge and competences, contributing to lifelong learning and professional development in informal settings". Thus, given the positive impact of using SNSs on enhancing TPD, it seems necessary to design teacher education programs by implementing SNSs (Manca & Ranieri, 2017). When it comes to the field of Applied Linguistics and more particularly English Language Teaching (ELT), the importance of SNSs is even more highlighted by both empirical and anecdotal evidence (e.g., Kavoshian et al., 2022; Tan & Md Yunus, 2023), confirming the permeation of social media technologies in this area.

However, there remains a paucity of evidence on using SNSs in Second Language Teacher Education (SLTE) programs and in supporting EFL teachers' Professional Development (PD) in Iran (Kavoshian, 2020; Kavoshian et al., 2022). This study, therefore, aimed at covering this lacuna by introducing different facets of a local netnographic model of OTPD in an Iranian context. The novelty of this model is in implementing a netnographic approach which was taken to reveal different facets of the OTPD model. To the best of the researchers' knowledge, no study has cast light on different facets of an OTPD model using a netnographic approach in Iran.

Very few studies, if any, have employed netnography to reveal various dimensions of a local framework of Iranian EFL teachers' PD using Telegram Mobile application as a SNS. As a way of illustration, online collaboration of teachers for their PD in the context of developing countries

such as the Middle East is a missing ring in the literature and we try to fill this gap by conducting the current study.

2. Literature Review

2.1. *Mobile Phones for TPD*

TPD can significantly contribute to enhancing teaching quality and, consequently, improving learning outcomes in low- and middle-income countries (LMICs) (Hennessy et al., 2022). Nonetheless, the availability of TPD opportunities in LMICs is often insufficient, inconsistent, and frequently not guided by contemporary research findings, resulting in mixed findings. Educational technologies possess the potential to improve both formally structured programs and informal peer-learning approaches to TPD (Hennessy et al., 2022). According to Dahri et al. (2023, p. 1), “mobile technology, with its flexibility and cost-effectiveness, is increasingly being used as a part of professional development programs, but the existing frameworks do not adequately support the integration of technology” in education. In much the same vein, Almogren (2023) argues that the utilization of mobile learning for improving teachers’ professional development remains in a nascent stage, necessitating the development of a research-based theoretical framework to effectively incorporate mobile learning into the continuum of TPD.

Specifically speaking, using mobile technologies for TPD and English language teaching is also a field of study which is still in its infancy in the context of developing countries including Iran (Kavoshian et al., 2022). To date, few studies have put the effect of mobile-enhanced TPD courses in enhancing teachers’ professional development under close scrutiny (e.g., Almaiah et al., 2019; Dahri et al., 2023; Hennessy et al., 2022; Kuru Gönen & Zeybek, 2022; Shohel & Power, 2010). For instance, in an ‘English in Action (EIA) Project’ in Bangladesh, Shohel and Power’s (2010) study cast light on the emerging themes of teachers’ experiences of participation in a professional development program in English-language teaching via mobile technology. A mixed-methods research approach was taken to investigate the effect of using mobile technology on teaching and learning in an English-language classroom in Bangladesh. Questionnaires, classroom observations, and semi-structured interviews were used to gather data. The findings indicated that using mobile technology has facilitated the learning process and the quality of teacher education and training. A model of Bangladeshi teachers’ professional development consisting of four strands of communication, connection, creation and community, was presented in their study (see Fig.1):

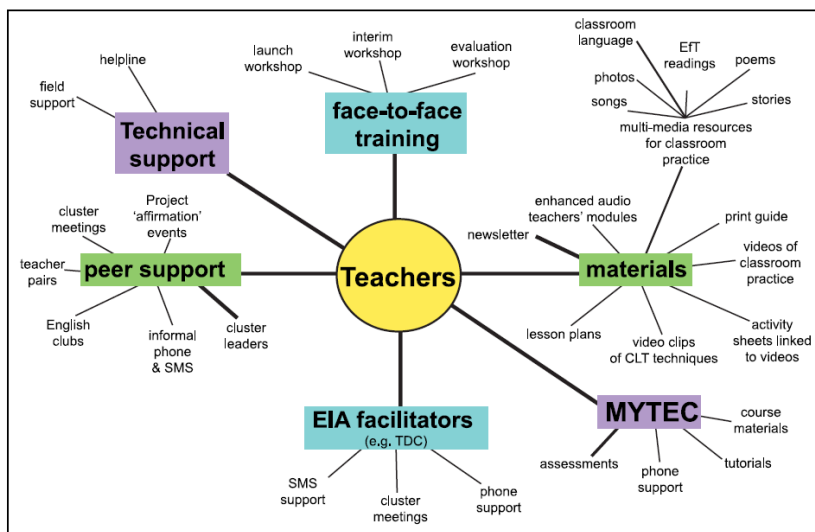


Figure 1. A Summary of the EIA School-based Supported Open Learning Model

It can be implied from the findings that open and distance learning may enhance teachers' PD, while simultaneously instigating transformative changes in instructional practices within the classroom environment. In fact, using innovative mobile technologies augments access to educational opportunities, in addition to elevating the quality of teacher education and professional training. However, the actual consequences of using portable media players in structured pedagogical contexts in Bangladesh warrant further exploration.

In a review of research studies, Baran (2014) pinpointed that there are two main methods with respect to the integration of mobile learning into teacher education contexts. That is, mobiles can be used in teacher education programs in two ways including teaching teachers about mobile tools integration in their classrooms and improving teacher learning by mobile learning. He maintained that research on mobile learning and teacher education has put teachers' learning about mobile technologies under close scrutiny instead of paying more attention to learning with mobile technologies (Baran, 2014). Thus, it is necessary to give due attention to mobile learning as it supports personalized and self-paced training experiences by offering the convenience of accessing educational materials at any time and from anywhere (Al-Rahmi, et al., 2021; Arain et al., 2018).

In another study, Arain et al. (2018) investigated the utilization of mobile learning platforms for the professional development of teachers in remote regions of Pakistan. The findings of the study revealed that mobile learning facilitated access to educational resources and fostered collaboration among educators, thereby improving instructional practices and student learning outcomes. Later, Almaiah et al. (2019) found that mobile learning interventions considerably improved teachers' knowledge, skills, and attitudes. The utilization of mobile devices helped teachers in accessing educational resources, collaborating effectively with peers, and engaging in reflective practices, all of which contributed to their professional development (Almaiah et al., 2019).

In a recent study by Dahri et al. (2023), a mobile-based training certification framework that covers everything from mobile phone support to a training curriculum, assessments, expert help, and professional development evaluation was suggested. They tested it out with 35 participants from

Pakistan and Saudi Arabia, and the results were promising, showing that mobile training really helps boost teachers' learning outcomes. They concluded that to create mobile learning experiences for teachers' PD, they needed to develop a theoretical and pedagogical framework for effective PD. This framework was designed to be easy to access and flexible, so teachers could learn at their own speed and convenience.

Along with this recognition of the significance of using mobile technology in teacher education and TPD, Coutinho and Lisboa (2013) contend that mobile-enhanced SNSs serve as important educational tools that afford educators the capacity to enhance their expertise and skills, facilitating continuous learning and professional advancement within informal environments.

2.2. Social Network Sites for TPD

Taking online Teacher Professional Development (OTPD) into account, Dede et al. (2009, p. 9) argued that

The need for professional development that can fit with teachers' busy schedules, that draws on powerful resources often not available locally, and that can create an evolutionary path toward providing real-time, ongoing, work-embedded support has stimulated the creation of online teacher professional development (OTPD) programs.

Little information is available regarding the best practices to design and use the OTPD models, though these programs grow very fast and use a large amount of resources (Dede et al., 2009). The existing TPD programs were designed for conventional training methods and do not adequately support the integration of technology (Dahri et al., 2023) especially mobile technology for holding online TPD courses. "Promising, locally-contextualized forms of technology-mediated TPD included virtual coaching, social messaging, blended learning, video-stimulated reflection, and use of subject-specific software/applications" (Hennessy et al., 2022, p. 1).

Closely allied with the concept of OTPD, the utility of SNSs for offering OTPD courses has gained momentum in recent years. According to Coutinho and Lisboa (2013), recent research studies indicated that SNSs help teachers enhance their knowledge and competence, resulting in their lifelong learning and PD. However, online TPD is an area of research which is very broad and is still in its infancy (Macià & García, 2016).

Even though the interest in informal online communities is growing fast, their effect on TPD is still debatable (Macià & García, 2016). Even more to the point, although promising findings associated with the positive effects of participation in online communities and networks on TPD have been reported by some researchers (e.g., Aldossary, 2022; Alwafi, 2021; Kavoshian et al., 2022; Le et al., 2022; Trust et al., 2016; Xu et al., 2024), little empirical evidence, if any, has been presented on the impacts of such participation in these communities on TPD (Macià & García, 2016).

In spite of the above-mentioned inadequacies, some research studies indicated that online communities and networks provide teachers with opportunities to learn with peers and colleagues and share knowledge with those who are far away (Ravenscroft et al., 2012). Moreover, teachers can improve their PD through learning and sharing new resources, materials, and methodologies in online networks (Holmes, 2013). As a matter of fact, teachers mostly welcome new techniques, strategies, and ideas in social online communities and networks for their PD (Holmes, 2013). In a conceptual paper, Manca and Ranieri (2017) argued that SNSs present a new and special chance for TPD and teacher training. They maintained that teaching in communities of shared practice has a positive effect on PD.

By the same token, in an extended review of literature, Macià and García (2016) pinpointed that in these online communities and networks teachers can participate in shared learning, reflect about their teaching, and get emotional support. They also maintained that these environments are good for improving TPD due to the asynchronous nature of these networks, the immediacy of responses, and the shared knowledge. Additionally, they asserted that these social networks provide researchers with new viewpoints and new data types and methods to study the impact of informal learning on TPD.

Arguing along similar lines, Trust et al. (2016) explored the experiences of a group of teachers who were learning in a professional learning network with findings showing that teachers grew professionally due to the opportunities provided by the anytime, anywhere nature of these networks. In 2017, Ab Rashid concluded that teachers grow professionally by involving in dialogic reflections through conversations on SNSs.

When it comes to the context of developing world, Kavoshian et al. (2022) made an attempt to examine the impact of participating in an online TPD course on enhancing various aspects of EFL teachers' PD in Iran. 10 EFL teachers from a language institute participated in the study, which utilized the Telegram mobile application—a prevalent Mobile Social Network Site (MSNS) in Iran—over a six-month teacher training initiative. A 35-item technology-enhanced TPD checklist was developed to assess the self-reported TPD scores of the EFL teachers at both the beginning and the end of the training program. The results indicated that the OTPD course had beneficial effects on participants' professional development across various aspects.

Another study which was conducted in a developing country is Le et al.'s study (2022) in which EFL teachers' perceptions and practices regarding the use of SNSs for informal professional development in Vietnam were explored with results showing that “most teachers recognize the value of SNSs in terms of usefulness, diversity, flexibility, feeling connected, getting motivated for positive change and cost-effectiveness” (p. 1).

Based on the theoretical rationales discussed so far, this study sought to find answer to the following research question:

What are the facets of a local model of Iranian EFL teachers' PD based on a netnographic approach using Telegram Mobile application as a SNS?

3. Method

Conducting ethnography on the Internet is done via a specific approach which is called netnography. It is a qualitative and interpretive research methodology adapting traditional ethnographic techniques to the study of social media (Kozinets, 2015). Its main practices includes handling, narrowing, and analyzing large digital data, locating communities and topics, and conducting online research procedures (Kozinets, 2015). In the current study, data were accumulated from several main sources of researchers' field notes, Telegram group discussions, teachers' comments and opinions, artifacts consisting of uploaded videos, pictures, and other materials. Additionally, a triangulation of data collection methods like semi-structured interviews with the teachers and netnographic observations was conducted for the purpose of enhancing the validity of inferences (Johnson et al., 2007). Through these instruments, this study used a longitudinal qualitative approach with a netnographic design. Since identifying different facets of a local OTPD model is a complex issue, implementing a longitudinal qualitative approach enabled the researchers to be engaged with participants, conduct extended observations, and provide in-depth and thick descriptions common in qualitative research approaches like ethnography. Even

more to the point, netnography provided the researchers with an opportunity to conduct the research from anywhere, at any time of the day. It was not necessary to travel where the participants live or work.

Telegram mobile app which is a common user-friendly SNS in Iran was the main research site in our study. Telegram is a very useful application for language teaching and learning purposes and a variety of contents including video, audio, picture, and text can be shared via the Internet in the Telegram group. Telegram application can be used on different types of devices such as cellphones, computers and tablets.

3.1. Participants

There were three groups of participants consisting of EFL teachers, teacher educators, and the researchers in this study.

3.1.1. EFL Teachers

The first group of participants consisted of 10 male and female graduate EFL teachers of a language institute in Iran who were chosen to participate in the study through purposive sampling. They ranged in age from 26 to 35 and studied Teaching English as a Foreign Language (TEFL) and English Language Translation at different degrees of B.A., M.A. and Ph.D. (see Table 1).

Table 1
Demographic Data of the Participants

Participant	Age	Gender	Field of study	Years of Teaching experience	Years of learning experience
Farzad	31	male	TEFL	10	16
Ebrahim	31	male	English Translation	6	4
Mohammad	28	male	TEFL	6	4
Faezeh	31	female	TEFL	8	11
Maryam	26	female	TEFL	5	12
Aminah	28	female	English Translation	4	6
Zahra	28	female	English Translation	4	6
Mahboobeh	35	female.	TEFL	13	20
Aida	28	female	English Translation	1	4
Elham	30	female	English Translation	8	7

3.1.2. Teacher Educators

The second group of participants consisted of six male and female EFL teacher educators who were selected through purposive sampling and were supposed to teach a group of 10 EFL teachers in the PD course. The teacher educators were experienced English teachers and professional

teacher trainers who have been teaching English and teacher training courses for more than ten years. All of them were Ph.D. holders with a specialization in TEFL. Further to these, they were quite experienced in syllabus design and materials development in the field of SLTE. They have also taught in OTPD courses and have been quite familiar with different preliminaries, preparations, and administration of such courses. Considering the longitudinal nature of the study, the researchers selected six teacher educators to mitigate the potential fatigue among teacher educators while ensuring the availability of at least two educators across different time zones throughout the two-year duration of the research.

3.1.3. Researchers

Two of the researchers were the participant observers and in all different phases of the study they acted as netnographers who made an attempt to provide a cultural portrait of how teachers and teacher educators teach, learn, and work. They did that through fieldwork during a two-year project. That is to say, they did the fieldwork through online extended observations, engagement with participants, face to face interviews, and artifact analysis consisting of shared posts, materials, and comments in Telegram.

3.2. Instruments

Initial semi-structured interview, ethnographic observation, and final *semi-structured* interview were the main implemented instruments:

3.2.1. Initial Semi-structured Interview: In order to gain information regarding the participants' demographic information such as age, gender, field of study, degree, years of teaching experience, years of learning experience, and their TPD needs, initial interviews were conducted which lasted about 20 minutes for each participant and audio-recorded for further analyses.

3.2.2. Ethnographic Observation: Each online class session was observed by the researchers through extended observations common in ethnographic studies. The results of observations were recorded in researchers' field notes consisting of detailed information providing contextual information. Initially, "a big net approach" (Fetterman, 1998, p. 32) was taken to focus on all the participants, behaviors, and events. Then, the researchers' focus of attention was narrowed down to more specific events, behaviors, and issues. In fact, a wide-angle view of the events was provided by this big-net approach before the microscopic study of specific events, helping the ethnographers to understand the details better. Triangulation minimized the observers' bias, since "it reduces observer or interviewer bias and enhances the validity and reliability" of the study (Johnson, 1992, p. 146). Moreover, two of the researchers (multiple observers) observed the sessions to manage the observer's bias.

3.2.3. Final Interview: Final semi-structured interviews were conducted to reveal issues regarding different facets of Iranian EFL teachers' professional development model. The interview comprised thirty three questions on different issues consisting of teachers' expectations of the course, their overall impression and experience of the online course, the integration of Telegram in their curriculum delivery, taking online TPD courses, lesson planning, the role of the government and policy makers, designing online TPD courses, materials presentation, colleagues' support, participants' teaching/classroom practice, and the advantages, disadvantages, and challenges of OTPD courses.

3.3. Materials

The researchers and six teacher educators prepared the TPD materials of the study. They selected suitable audio, video, and pictorial files. The videos were mostly related to pedagogical practices in real English classrooms. The audio files consisted of audio podcast and audios of real classrooms. A teaching module including different issues of ELT such as the main features of a successful English teacher, the best techniques and resources for ELT, English language teaching methodology, teaching English language skills, teaching English language sub-skills, English language test development, English language classroom management, lesson planning, and the main characteristics of English language learners was prepared.

3.4. Procedures

This study was conducted through a netnographic approach to learn about a group of EFL teachers in order to create a cultural portrait of them with regard to their learning and professional development. The data collection was mostly online from the virtual environment and the object of the study was the members of the Telegram group since netnography seeks to investigate online cultures including a community of shared practice for EFL teachers' TPD in an online-only format.

At the launch of the program, the researchers gained entry from the gatekeeper (the manager of language institute) and chose 10 EFL teachers through purposeful sampling. Having signed the participants' audio/videotape consent form (regarding their voluntary participation and that interviews would be audio-recorded and they could stop the interview if improper questions were asked), they attended the initial semi-structured interviews regarding their demographic information and TPD needs. The interviews lasted about 20 minutes for each participant and they were audio-recorded for further analyses of teachers' TPD needs. Then, having known about the teachers' TPD needs, teacher educators with cooperation of the researchers worked together to prepare and include the necessary materials into the syllabus to be taught to the EFL teachers via Telegram.

Subsequent to materials preparation, the researchers created a Telegram group. Those teachers who agreed to voluntarily participate in the study were added as group members. Moreover, the teacher educators were also added to the group. They had different responsibilities such as starting group discussions, managing the discussions, sharing and uploading the materials, and teaching teachers. In each session, one of the teacher educators was responsible for doing these responsibilities based on their expertise.

The prepared materials were delivered on teachers' mobile phones using Telegram mobile app in a two-year teacher training course. The virtual class sessions were held three sessions per week (192 sessions in total) and each session lasted about 90 minutes. To facilitate the regular participation of teachers in OTPD sessions, a two-week rest period was given to the teachers following one month of active engagement. In each online session, a challenging question in ELT was raised by the teacher educators and discussed by the group members. The teacher educators encouraged the teachers to participate in online class discussions, feel free to share their viewpoints, challenge their peers and teacher educators, and be active group members. Subsequently, the relevant materials were uploaded by the teacher educators. The teachers were given enough time to watch the relevant videos or listen to the audios and continue the plenary debates and discussions by giving and receiving feedbacks. The materials consisted of videos of real classroom pedagogical practices, techniques and lessons, audio podcasts which were improved and enhanced by using images and texts, audios of classroom language, and some other supplementary classroom resources. At last, all the group activities were saved as one PDF file stored on the researchers' laptop to be analyzed later on. Moreover, all online class sessions were observed by the researchers and these observations were reflected in filed notes.

Both teachers and teacher educators attended the final semi-structured interviews eagerly and voluntarily to elucidate the vague and problematic issues with regard to their PD on different facets. The interviews lasted about one hour. They were recorded to enable the researchers to conduct more exact investigations.

The researchers made an attempt to handle possible issues like participant fatigue during the two-year program and make sure that the teachers were actively participating. To do so, a positive relationship was fostered between the researchers and participants to mitigate the probability of participant fatigue and attrition. Moreover, having analyzed the participants' TPD needs, the researchers and teacher educators prepared the course materials based on the teachers' needs and interests to keep them active and motivated. Even more to the point, the researchers received the participants' feedback to make the necessary changes during the course to keep them participating, avoiding their final fatigue and attrition.

3.5. Data Analysis

As one of the main underpinning principles of ethnographic studies, an eclectic range of data collection techniques (e.g., interviewing, online participant observations, and artifact collection) were implemented to accumulate data (Dörnyei, 2007). These data sources were supplemented by the uploaded materials, and screenshots of Telegram group. Thus, transcriptions of semi-structured interviews, researchers' field notes of online class observations, and artifacts including shared posts, comments, discussions and uploaded materials provided the researcher with qualitative data. The iterative inductive processes of analysis and interpretation were conducted to search for patterns and themes in our data. That is to say, at the first stage of analysis, various kinds of data were read carefully and repeatedly. Subsequent to the first stage, some analytic memos regarding the researchers' ideas and interpretations of the data were written. At the next stage, the texts were read line-by-line to be coded and categorized by the researchers. Grounded Theory was employed as its ontology was according to the theoretical assumptions of the current study. As Charmaz and Belgrave (2012) put it quite aptly, data must be "systematically organized, continually scrutinized, accurately described, theorized, interpreted, discussed and presented" (p. 95) to complete data analysis process in Grounded Theory.

To this end, the above-mentioned data were coded and inductively analyzed for themes by using MAXQDA 2022. Due to implementing an ethnographic approach and having comprehensive data, MAXQDA was the best choice for analyzing comprehensive data sets. In fact, it works with a wide range of data types and offers powerful tools for advanced coding, retrieval, transcription, and visualization. Having analyzed each data source inductively, the researchers conducted a cross-source comparison in order to further analyze, interpret, and compare the extracted themes and patterns. MAXQDA 2022 with powerful and precise coding techniques and features provided us with an opportunity to categorize and analyze the qualitative data clearly, ensuring that key information have not been overlooked. Clear codes improved the precision and accuracy of data analysis greatly.

The transcriptions and other types of data were coded and sub-coded and the inductive approach was taken to let themes and patterns emerge out of the data. The main coding procedures were conducted in four different stages as follows:

➤ Stage One: Open Coding

Data analysis process started initially by open coding to "break up the data into chunks and assign conceptual categories to the data segments" (Dörnyei, 2007, p. 260) and code the data for major information categories (Strauss & Corbin, 1990). At this stage, each paragraph of raw textual data

(from field notes, online artifacts, and semi-structured interviews) was allocated a label or concept category providing the researchers with opportunities to extract and generate themes.

➤ **Stage Two: Axial Coding**

At the second stage, axial coding was conducted to “identify interrelationships between these categories” (Dornyei, 2007, p. 260) and to connect the major categories, create categories around them, and integrate them (Strauss & Corbin, 1990). In fact, the analysis of potential linkages and interfaces between some of the emerging themes was done. The emergent themes were continuously mined by constant comparison across different types of data sources. Incorporating, classifying, and designating sub-themes into larger categories were the main goal of the researchers at this stage of data analysis resulting in six major emergent categories including online training, EFL teachers, peer support, technical support, materials, and reflections.

➤ **Stage Three: Selective Coding**

By selective coding the researcher sought to “explain these relationships at a higher level of abstraction”, to select a core category subsuming other categories (Dornyei, 2007, p. 260) and to develop a theoretical model. As Haig (1995) put it, constant comparison and spiral relationship with theory can lead to higher levels of abstraction through which a systematic review of the data is carried out to develop a specific category. In the current study, this stage involves the consolidation of the six main themes into an overall framework. This framework extracted from the linkage between the emergent grounded data categories and the relevance of the literature to each of the themes.

➤ **Synthesizing Themes to Develop a Grounded Theory**

Analysis of the data accumulated from several data sources revealed that the main facets of Iranian EFL teachers’ professional development based on a netnographic approach using Telegram Mobile app consist of the main themes of online training, EFL teachers, peer support, logistics, OTPD materials, and reflections.

It is worth mentioning that the accuracy of the findings was validated through method triangulation (semi-structured interviews and virtual ethnographic observations) and data triangulation (researchers’ field notes, Telegram group discussions, teachers’ comments and opinions, teacher educators’ comments and discussions, and artifacts consisting of uploaded videos, pictures, and other materials) (Maxwell, 2008), member-checking (MacIntyre et al., 2011) which is a process through which “data and interpretations are continuously tested as they are derived from members of various audiences and groups from which data are solicited” (Guba, 1981, p. 85) and auditing. That is to say, to ensure the credibility of the study, the results were sent to ten participants via email. Then, the researchers with cooperation of teacher educators checked the accuracy of the findings with the teachers.

4. Results and Discussion

Iranian EFL Teachers’ OTPD Model

In-depth investigations and analysis of all types of data enabled the researchers to extract a local model of Iranian EFL teachers’ OTPD. This model has been depicted by using MAXQDA’s

Hierarchical Code-Subcode Model capability. As can be seen in the following figure, there are different facets incorporating online training, EFL teachers, OTPD materials, peer support, logistics, and reflections. These facets consist of different sub-codes and segments which are explained and discussed in the following section. See Figure 2:

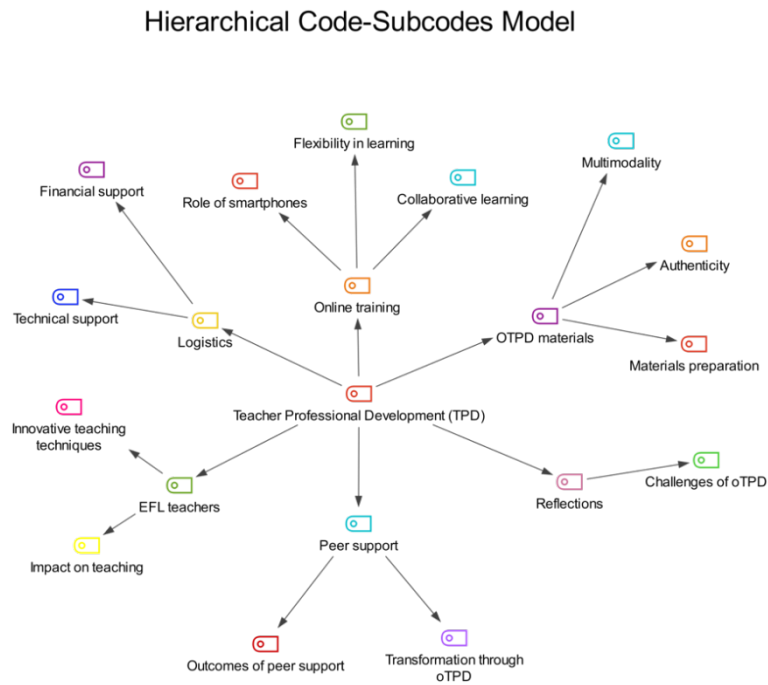


Figure 2. Iranian EFL Teachers' Online TPD Model

4.1. Online Training

4.1.1. Role of Smartphones

Smartphones played a significant role in this intervention for EFL teachers' professional development. Using smartphones provided the teachers with opportunities to participate in an 'anywhere, anytime learning' experience which was not limited to any particular class and time. This feature helped the teachers who were not based in the researchers' location participate in the study easily and flexibly in comparison with face-to-face TPD courses requiring teachers to be present in TPD classes. This finding substantiates the results of different studies like Dahri et al.'s study (2023, p. 1) in which they argued that "mobile-based learning has emerged as a promising solution to the challenges of providing accessible, flexible, and effective teacher professional development (TPD) opportunities".

It is important to highlight that despite the teachers' varying backgrounds in technology, there was no noticeable difference in their performance in the course due to the fact that all teachers possessed smartphones and were users of Telegram, a user-friendly mobile application. The incorporation of smartphones imposed significant challenges on researchers and teacher educators in terms of preparing, designing, and adapting educational materials for compatibility with mobile platforms.

Considerable time and effort were required to determine, locate, prepare, design, and modify these materials for each online instructional session.

4.1.2. Flexibility in Learning

Utilizing smartphones and integrating EFL teachers into a TPD course through mobile learning facilitated greater connectivity among teachers, leading to the establishment of a networked community of shared practice. This environment afforded them enhanced opportunities for more efficient and expedited learning processes, as well as the possibility for personalized learning tailored to their individual pacing. This finding corroborates the results of a study by Dahri et al. (2023, p. 18) who elucidated that “the mobile-based approach offers on-the-go and personalized learning experiences, and the integration of certification mechanisms incentivizes and recognizes teachers’ efforts to improve their competencies”. Furthermore, Dahri et al. (2024) believed that the advancement of mobile learning models increases engagement and collaboration in educational communities.

4.1.3. Collaborative Learning through Telegram

Building a community of shared practice for learning, sharing information, and having access to useful ELT materials were the main reasons of participation in OTPD mentioned by all the teachers. EFL teachers demonstrated a considerable familiarity with the use of Telegram, which is notably user-friendly across various aspects, such as its cloud storage capability. This feature allows users to securely save text messages, images, media files, and documents in the cloud. Media compression was another characteristic which was quite beneficial in the current study for compressing longer videos to make them suitable for the online class context. Furthermore, multi-platform support feature made Telegram available for Android, ios, windows phone, windows pc, Mac os, Linux os, and even through any browser. Thus, Telegram’s installation on teachers’ smart phones was not a complicated process. Since Telegram is a common MSNS in Iran, the course was as user-friendly as it must be and the group members did not need any particular instruction on how to use Telegram during the course sessions. Additionally, Telegram provided the teachers with opportunities to use their dead time to learn about ELT, improve their teaching skills, and enhance their knowledge of English in a form of bite-sized learning, improving their PD. In line with this finding, mobile learning technologies including SNSs provided several opportunities for having access to materials and using dead time (e.g., sitting in bus) for learning (Kolb, 2011). Some of the participants asserted that since the OTPD classes were held late at night, they could use their dead time for developing themselves professionally. “Dead-time, small bursts of otherwise unused time, such as waiting in elevators, cafes, buses, queues, sometimes used as an example of bite-sized learning” are provided by mobile learning technologies (Traxler et al., 2015, p. 1238).

Telegram mobile app as a common SNS on Iranian teachers’ smartphones helped them grow professionally. For instance, teachers were involved in an informal professional development learning experience which is quite different from participation in formal face-to-face TPD courses. They felt free to post their opinions in an informal friendly class atmosphere, share their information, and collaborate with their colleagues and other group members. They raised their questions without being worried about what others thought of their knowledge and competence, worked as a team to improve their teaching knowledge and practices, and received emotional support from group members. Thus, they were involved in a kind of professional development which is dynamic, collaborative, and practical. In much the same vein, other researchers (e.g., Kavoshian, 2020; Kavoshian et al., 2022; Macià & Garcia, 2016) substantiated the positive impacts of social networks contributing to teachers’ lifelong learning and their professional development in informal settings.

To sum up, the OTPD course delivered via Telegram mobile app on teachers' smart phones helped them develop professionally by offering a learning experience that was both flexible and collaborative, enabling participation at any time and from anywhere. This collaborative learning environment had some beneficial impacts on EFL teachers' teaching practices.

4.2. EFL Teachers

4.2.1. Innovative Teaching Techniques

Assessing the effects of OTPD on participants' teaching and classroom practice is inherently complex, particularly because it is often associated with many different factors in teaching and learning process. However, several positive effects have been observed by the researchers. The positive effect of online sessions on how to teach grammar (in the sense that these sessions were quite useful and helped teachers teach grammar differently and creatively) is an important finding. Moreover, innovative ways of teaching English grammar were highly appreciated by the teachers. In congruence with this finding, Holmes (2013) argued that teachers valued some practices with regard to teaching strategies, innovative ideas, and techniques in online communities and networks.

In particular, the so called 'storytelling' technique introduced and taught during the course worked as a highly beneficial technique in teaching grammar and was implemented by all the teachers in their classrooms. For instance, teachers were instructed on how to integrate storytelling as a method for teaching the past tense to their students. This was achieved by presenting a concise narrative filled with various instances of the past tense and encouraging the language learners to create their own stories regarding their activities from the previous day. Storytelling was implemented by teachers for teaching a variety of English tenses. All the teachers expressed satisfaction with the implementation of this technique in their classrooms, as it engaged their students and facilitated the unconscious acquisition of grammatical concepts through narration. As an important challenge, teachers argued that some of the language learners were intimidated by the idea of preparing a story in English.

One of the participants asserted that

Implementing a technique called 'story telling' in teaching grammar was really useful and helped my students understand the difference between past simple and past continuous better and use them practically in their own stories.

Most tellingly, the session on teaching pronunciation was quite informative. Using tongue twisters in teaching pronunciation was a useful practice which was implemented by teachers in their own classes and it did work. For instance, a variety of tongue twisters like 'Peter Piper picked a peck of pickled peppers' was used to show teachers how such a technique can improve their learners' pronunciation. Most of the teachers believed that tongue twisters have been instrumental in improving their students' pronunciation through the repetitive practice of articulating specific words or phrases. This process of repetition not only facilitated the memorization of these linguistic constructs but also aimed to augment the fluency of their pronunciation. Moreover, it was a funny practice for language learners. However, one of the teachers argued that pronouncing some of the tongue twisters was difficult for him and made students laugh at him.

4.2.2. Impact on Teaching Practices

The community formed as a Telegram group helped teachers progress in different facets of their teaching process and participants could learn not only through the presented materials but also through interactions among teachers, between teacher educators, between teacher educators and researchers, and among all group members. That is to say, group discussions, teacher educators',

researchers' and peers' comments and posts in Telegram group motivated teachers to make some changes to improve their own teaching process. This finding is in the same line with Ravenscroft et al.'s (2012) study in which they concluded that online communities and networks provide teachers with opportunities to learn with their peers and share knowledge and information.

Learning how to teach four language skills, watching related videos, and discussing the main issues with regard to the watched videos were some of the Iranian EFL teachers' expectations of an OTPD course. Watching informative videos was one of the most important expectations mentioned approximately by all the teachers because without watching videos it was very difficult for them to understand classroom activities, innovative classroom techniques and procedures, and other professional development materials. In line with this finding, in a study (Dahri et al., 2024), the provision of free mobile learning resources is advantageous. Mobile learning has created novel opportunities for education. A user-friendly open learning management system enhances user engagement by providing access to lectures, video tutorials, and online assessments.

Due to the teachers' heavy schedules, videos which were short, informative, innovative, and relevant to the lesson content met the teachers' expectations. The most interesting and informative videos were related to teaching classroom management, communicative language teaching, teaching writing (improving writing, responding to writing, and preparing to write), teaching reading by showing two informative videos with regard to motivating students and reading skills, teaching speaking and its activities, teaching listening actively by a video on 'live listening' technique, boosting vocabulary, collaborative teaching, using tongue twisters, teaching grammar, and implementing useful techniques in L2 classroom. Delivering rich multimedia, in general, and videos with interesting contents for teachers, in particular, supported discussion between group members by using voice and text. Similarly, according to Traxler (2009, p. 17), "mobile learning technologies clearly support the transmission and delivery of rich multimedia content. They also support discussion and discourse, real-time, synchronous and asynchronous, using voice, text and multimedia".

To sum up, the OTPD course influenced teachers' teaching and classroom practice in teaching grammar which helped teachers to teach grammar innovatively. Moreover, using tongue twisters for teaching English pronunciation was quite useful. Engagement in peer groups improved the teaching process, thereby reinforcing the significance of peer support, which will be discussed in the following section.

4.3. Peer Support

4.3.1. The Transformation through OTPD

As Hagan (2013, p. 42) put it quite aptly, "teachers must become comfortable being co-learners with their students and colleagues around the world". In the current facet of OTPD, language learners are considered as the teachers' co-learners and peers as the teachers continued their learning process out of the Telegram group in their own classes with their own learners. For instance, Maryam asserted that

I stored all the instructional videos on my mobile device and whenever I encounter challenges in my teaching, I use them, finding them to be quite beneficial. I have also presented some videos in my own classrooms, where my students engaged with the content and expressed interest in having access to similar videos for future viewing during class (Final interview).

The participants transferred what they learnt from OTPD to their own classes and completed their learning process with the learners as their peers by applying the knowledge acquired to educate the

learners. Mohammad was one of the teachers who implemented storytelling to teach grammar and vocabulary in his own classes. The introduction of storytelling significantly transformed the classroom dynamics in his classes and provided the language learners with opportunities to collaborate with each other and with the teacher in their learning process.

4.3.2. *The Outcomes of Peer Support*

At the launch of the research project, there was a sense of competition and judgment among the colleagues in the group. They were not interested in learning from each other. However, having participated in some OTPD sessions and by the passage of time, all the group members became interested in learning from each other and teacher educators (team-learning), sharing information and materials with each other enthusiastically, discussing technical issues of ELT, giving and receiving feedback, asking for suggestions, and reflecting on their own and their peers' teaching challenges which resulted in their self-development and progress. This finding mirrors one of tenets of Cooperative Development which is an "inquiry-based approach to professional development that promotes *self-development* as it occurs within the context of a supportive group of colleagues" (Johnson, 2009, p. 105). In this connection, one of the teachers said that

I really enjoyed each and every session and I talked to my colleagues about the advantages of such sorts of courses including sharing teaching experiences and fostering reflection on our teaching process, enhancing our self-evaluation and self-assessment which in turn facilitated our self-development in teaching process (Final interview).

Colleagues could learn from each other provided that they have positive ideas with regard to learning from each other. If they are more interested in collaboration rather than competition and judgment, they could support each other in the learning process. Faezeh argued that the colleagues' ideas were quite interesting, creative, and helpful. They provided her with opportunities to make some changes in her teaching. Moreover, the group provided the participants with a suitable space for expressing their assumptions, opinions, creativities, and troubles. This finding is compatible with Almaiah et al.'s findings (2019) in which they argued that the utilization of mobile devices has empowered teachers to access educational resources, collaborate with peers, and engage in reflective practices, thereby facilitating enhanced professional development.

Elham asserted that

Some of the colleagues even those who were far away participated in online sessions and had different creative ideas triggering my interest in new and innovative ways of teaching English (Final interview).

In line with this finding, Kavoshian et al. (2022, p. 209) elucidated that "online networks help teachers in sharing information and knowledge, learning with their peers, engaging in collaborative learning and changing opinions". All of the teachers enjoyed team work and collaboration with their peers. For instance, Maryam appreciated working within the team, collaborating, and exchanging information with her peers.

In short, peer support which was achieved as the result of participation in OTPD led to transforming EFL teachers' classroom dynamics. Moreover, peer support had so many positive outcomes including team-learning and self-development. Undoubtedly, the logistics of holding the OTPD course could influence the transformation through OTPD and the outcomes of peer support. These logistics are discussed in the following section.

4.4. Logistics

4.4.1. Financial Support

Having gained the entry from the manager of language institute to conduct the study, the researchers talked to EFL teachers and persuaded them to participate. They accepted to cooperate and participate in different stages of the study. However, there was not any financial support on behalf of the language institute. The manager let us conduct our research project but he was not inclined to design and hold online TPD courses at a large scale. He had some traditional ideas and believed that face-to-face TPD courses were much better than online ones via Telegram mobile application. Further, the manager asserted that EFL teachers may be distracted by using Telegram app in OTPD courses. This lack of financial support was compensated for by technical features of SNSs. In fact, “many technical features of SNSs make these online platforms become promising for teachers with disadvantages due to less experience, lack of financial support and lack of regular in-service training opportunities” (Le et al., 2022, p. 3). Moreover, Hennessy (2022) mentioned limited funding for TPD programs as a common challenge.

If there were financial supports by Iranian language institutes, this project could be conducted at a larger scale with more enthusiastic participants who were responsible for their active participation in the course. Since there was not any obligation for teachers imposed by the language institute, some teachers were not participatory in some class sessions and did not take them seriously. In line with this lack of support by language institutes, Baran (2014, p. 25) argued that “a number of challenges related to mobile technology integration were reported, including ethical issues, lack of support, accessibility and technical limitations, insufficient experience, mobile phone bans in schools, and curriculum adaptations”. In our study’s context, lack of financial support by both Iran’s government and language institutes can be highlighted.

Furthermore, all the participants believed that Iranian language institutes do not follow a special program and policy about social media use in both teacher training and EFL instruction. To this end, managers of different language institutes can achieve this end by funding different programs so that EFL teachers and teacher educators are motivated to participate in such kinds of courses. Moreover, they should provide teachers with opportunities to have access to different websites and other necessary facilities. In line with these findings, according to Kavoshian (2020), language institutes in Iran currently lack a specific policy and program addressing the utilization SNSs in teacher education programs. This absence of a strategic approach is exacerbated by a general disinterest in dynamic nature of OTPD courses, as well as inadequate financial support from the language institutes.

To make the situation worse, there was not any budget, funding, and financial support for holding OTPD sessions by the government and universities. The researchers provided the necessary financial support for the completion of the study and since a netnographic approach was taken and it was a longitudinal study needing so much time, energy, and budget on behalf the researchers, it was not cost-effective. A rich financial support was needed to employ teacher educators and teachers to spend their time and energy to participate in the study, provide the necessary infrastructure such as the Internet connection, and prepare, adapt, and evaluate the mobilized curriculum and necessary educational materials for OTPD sessions. This finding is in line with Baran’s argument (2014, p. 25) in which “curriculum adaptations” are discussed as one of the main challenges regarding mobile technology integration into education.

4.4.2. *Technical Support*

Since a netnographic approach was taken in this study, it took a longer period of time to be completed. In the middle of the research project, Iran's government forbade and filtered Telegram mobile app due to some political reasons and policies. Iranians were banned from using Telegram and it made a big challenge for the ongoing research project. Thus, the researchers were forced to use anti filtering to access Telegram. It led to an increase in both the quantity and cost of the utilized Internet data. Consequently, the prohibition of Telegram was identified as a significant challenge in the integration of social media within OTPD courses. Likewise, other studies referred to "mobile phone bans in schools" as one of the challenges related to mobile technology integration in education (Baran, 2014, p. 25). Moreover, "school policies blocking social media" was mentioned by Hagan (2013, p. 65) as one of the main reasons for social media non-integration.

The government, Education Ministry, and language institutes did not support online teacher professional courses technically by providing the necessary infrastructure for holding the OTPD course. This issue leads to teacher educators' and teachers' demotivation for being active members in such groups. Thus, the situation will get worse when these technologies are not supported or even blocked by the government. The most recurring theme with regard to the necessary infrastructure pertained to slow Internet speed and sudden unexpected interruptions in connectivity in an Iranian context. According to Hennessy (2022, p. 3), "a scarcity of teaching and learning resources, limited technology infrastructure (especially internet and electricity connections" are some common technical challenges in low- and middle-income countries. The main challenges faced were lack of institutional support, governmental restrictions, and infrastructure issues like the Internet connectivity.

In short, the absence of financial and technical support for designing OTPD courses, along with insufficient encouragement for teacher participation, may lead to teachers' demotivation and disappointment in their pursuit of professional growth. To sum up, we are in need of policy formation for the standardization and recognition of online TPD courses. Should the logistics issue be addressed, the availability of high-quality OTPD materials would significantly enhance the professional development of EFL teachers, thereby underscoring the necessity of preparing such resources, which will be explored further in the subsequent section.

4.5. *OTPD Materials*

4.5.1. *Multimodality*

Implementing mobile technologies to deliver rich multimedia, in general, and videos, in particular, supported online discussions between group members by using voice and text. The most intriguing aspect of both delivered materials and online discussions pertained to issues such as having several channels of communication and presentation (video, audio, voice, text), having everywhere, any time, wireless access to educational materials, having access to a variety of educational materials (audios, videos of classroom, video-casts, teachers' books, etc.), and providing interactive ways of delivering the content (using more interactive materials, e.g., less PDFs and more videos). In line with these findings, it can be argued that sharing of both content and experiences is enhanced due to using SNSs, which facilitate the exchange of diverse types of information, including textual materials, videos, and hyperlinked resources (Qi, 2018).

4.5.2. *Authenticity*

Incorporating pictures in online class sessions facilitated teachers' engagement in authentic learning experiences by offering visual, authentic teaching and learning materials accessible through a

Telegram group. In this connection, one of the participants of the study by Aldossary (2022) argued that another crucial aspect of teacher training involves the design of teaching materials utilizing SNSs to ensure that the overall content remains authentic.

Moreover, having access to authentic teaching and learning materials can be enhanced through using mobile technology that could be used at a time which is convenient to teachers. Furthermore, using pictures triggered teachers' interest and enthusiasm to be active participants in online class sessions. The pictures acted as the facilitators of teaching writing and speaking and teaching grammar through storytelling. Visualization, semantic mapping, and storytelling were taught by using pictures helping teachers to understand them better and be motivated to use them in their own classes.

4.5.3. Materials Preparation

In this study, attempts have been made to prepare, choose, and adapt high quality materials for each class session. In fact, quality took precedence over quantity. All the uploaded materials were high quality, innovative, and recent and EFL teachers saved the materials on their PCs or laptops to use them later. Maximum care has been made not to sacrifice quality over quantity. Videos were the most frequently-used type of material in our study provided by free mobile-enhanced resources. In fact, the provision of free mobile learning resources offers significant advantages and a user-friendly open learning management system enhances interaction and provides access to lectures, video tutorials, and online assessments (Dahri et al., 2024). In the current study, a variety of videos were chosen and used (see Figure 3):

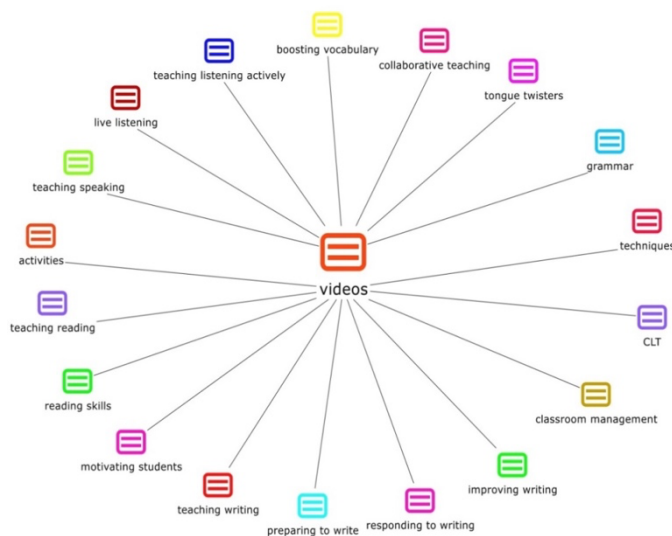


Figure 3. The Videos Used in Class Sessions

The teacher educators were quite active and expert in selecting and delivering the appropriate materials for each session. The EFL teachers used the delivered video clips as models to improve their teaching process. The flow of materials delivery was in suitable chunks preventing teachers from being overloaded cognitively providing them with opportunities to learn and retain

information. Similarly, Kauffman (2015) asserted that the successful delivery of course material relies significantly on trainers' understanding of the psychological dynamics of their trainees. The ability to deliver the course content effectively has a direct impact on trainees' satisfaction and their resulting performance outcomes in mobile-based training sessions.

In the present study, the participants were engaged as active contributors rather than passive recipients of content, knowledge, and information. They were active co-creators of the materials by disseminating valuable information, recording their own classroom videos, and sharing these videos within the Telegram group. Additionally, they uploaded a substantial number of voice messages, classroom audio recordings, and photographs. All these substantiate the democratic and participatory nature of Telegram use, giving rise to EFL teachers' empowerment through contributing and changing the content of the online lessons in different ways. In opposition with this finding, Deen and Aziz (2023) argued that a notable challenge impacting a TPD program for EFL teachers in their study was the ongoing neglect of their contributions in the formulation of TPD training programs. EFL teachers were not afforded the authority or empowerment necessary to engage in the design or enhancement of TPD initiatives confining teachers to be passive syllabus implementers, thereby restricting their influence and potentially diminishing their motivation to pursue professional improvements (Deen & Aziz, 2023).

It is noteworthy to mention that in the process of planning the lessons in the present study, a team consisting of teacher educators, researchers, and EFL teachers worked together to co-plan the lessons. During this planning process, several resources in ELT consisting of textbooks, research studies, Internet resources, innovative teaching techniques and strategies were used. The team cooperated and collaborated in each stage to plan the lessons in the most appropriate ways.

To sum up, preparing and delivering special TPD materials which are authentic and multimodal were essential for enhancing teachers' PD in this study. Preparing the above-mentioned OTPD materials could improve teachers' PD more if the following challenges could be resolved successfully.

4.6. Reflections

4.6.1. Challenges of OTPD

To shed light on teachers' reflections, teachers' biggest problems with the course are discussed. First, some of the teachers mentioned that being online and attending an online meeting three times a week was a problem for them. For instance, Mahboobeh said that

I favored utilizing the materials independently and at my convenience. Nevertheless, the current online course required participants to attend synchronous online meetings three times a week at predetermined times (Checklist).

In opposition with this finding regarding the word 'convenience', in a study by Hagan (2013) "all interviewees and many online survey respondents used the word "*convenience*" as a reason for engaging in online CPD" (p. 99). For instance, one of the teachers said that "you were in the comfort of your own home and you were able to bounce ideas off of each other and still get the information and get that immediate feedback without having to be actually physically in the classroom" (p. 129). Furthermore, convenience, anytime, anywhere and online accessibility make up for the inconvenience of commuting to face-to-face classes, providing teachers with opportunities to grow professionally (Trust et al., 2016). Significantly, the technical attributes of SNSs facilitate teachers' ability to connect and collaborate with a high degree of flexibility, convenience, and diversity (Le et al., 2022).

In our study, the researchers believed that providing greater flexibility in schedules (e.g., asynchronous learning) might increase participation. However, some teachers who preferred the convenience of online learning believed that synchronous learning could provide them with opportunities to receive immediate feedback, have social interactions, access to the course instructor and real-time discussions.

Second, approximately all the participants said that some technical problems such as connecting to the Internet and downloading some files were their main challenges. In line with this finding, lack of necessary infrastructure and poor Internet connectivity were mentioned by Aldossary (2022) as two main challenges in an OTPD course for EFL teachers in Saudi Arabia. In order to cope with this issue in the current study, the teachers who had problems with their Internet connection for that particular session were allowed to use the materials later at their convenience and share their opinions with the group later. Moreover, the teacher educators made an attempt to deliver shorter videos which could be downloaded easily.

Third, all the teachers unanimously mentioned their heavy workload and their follow-up tiredness as a big problem, preventing them from participation in some sessions. They also argued that three sessions of online class increased their workload more. This finding corroborates one of the results of a study by Aldossary (2022) in which EFL teachers often faced challenges related to time constraints stemming from their hectic schedules and heavy workloads, preventing them from participating in effective PD interventions in professional learning communities. One of the EFL teachers in our study argued that

Having a heavy workload was my biggest problem to participate in the course. Sometimes having a very technical language made it difficult for some of the teachers to be more participatory (Final interviews).

To facilitate the regular participation of teachers burdened with heavy workloads, a two-week break was given following each month of participation. Additionally, teachers were offered small rewards as incentives to maintain their motivation to engage despite their demanding responsibilities.

Fourth, Mohammad believed that lack of active participation on behalf of teachers was because of the heterogeneity of teachers in terms of their proficiency level and years of English teaching experience. Thus, it can be concluded that differences in teachers' background and experience can impact group learning outcomes. For instance, more proficient and more experienced teachers participated in OTPD course more actively. Consequently, it is essential to take these factors into consideration in designing future OTPD programs. Future researchers can ask teachers to take proficiency tests prior to their participation in such courses and recruit a more homogeneous group of EFL teachers in their research projects. Another solution is that when the participating teachers in technology-mediated TPD in low- and middle-income countries are heterogeneous and they differ significantly in terms of their confidence, knowledge, and skill levels, as well as their workloads and the time they have available for professional development and self-reflection, the course instructors should provide certain individuals with greater support and potentially more organized resources than their peers (Hennessy et al., 2022).

In sum, being online and attending an online meeting three times a week, technical problems, teachers' heavy workload and their follow-up tiredness, and the heterogeneity of teachers in terms of their proficiency level and years of English teaching experience were the main challenges during this OTPD course which should be solved in future studies.

5. Conclusion

The OTPD model in this study consisted of different facets incorporating online training, EFL teachers, OTPD materials, peer support, logistics, and reflections. A key advantage of this model of OTPD, compared to alternative approaches, is its local applicability, which renders it particularly fitting for the Iranian context as a developing nation. This model has been specifically designed to address the potentialities, obstacles, and limitations unique to Iran. The secondary advantage of this model lies in its capacity to adopt a virtual ethnographic approach, allowing researchers to delve into the intricacies of online TPD as a social community characterized by shared practices, thereby gaining a profound understanding of the learning behaviors of EFL teachers. As a matter of fact, the framework tackles the issues of accessibility, flexibility, and effectiveness in delivering professional development opportunities for teachers. Furthermore, this mobile-based model facilitates personalized and on-the-go learning experiences and incentivizes and acknowledges teachers' endeavors to enhance their competencies. The proposed framework is characterized by its cost-effectiveness, flexibility, contextual relevance, and collaborative nature. Additionally, resourcefulness and user-friendliness are considered as important quality metrics of this model in which the prior TPD needs of EFL teachers were taken into consideration in contrast to previous TPD models which did not focus on teachers' TPD needs.

The implications of this study or the practical impacts of this model on teacher development are quite enticing. The model will help EFL teachers to optimize their professional knowledge and skills. That is to say, the rapid development of applications and widespread network connectivity enable teachers to autonomously develop, share knowledge, and access information at any time. Moreover, the model can provide teacher educators with opportunities to design and deliver mobile-enhanced OTPD courses in Iran and even within a global teaching community which in turn can improve the quality of EFL teachers' education, in general and in Iran, in particular. This framework may also assist materials developers to design mobile-enhanced TPD lessons and courses. At last, the proposed framework for the implementation of mobile learning aimed at improving professional development can empower EFL teachers in their professional development journey.

Because of the limited scope and sample size of the present study, it can be replicated with larger samples in various contexts to obtain different findings. That is to say, more research is required to study a larger group of teachers from different schools, universities, and language institutes. Additionally, suggestions for future research include investigating the TPD model in different SNSs and courses and adding other different variables to the model to examine their effects. Further, some longitudinal studies may be conducted to further explore the effects of utilizing SNS on EFL teachers' TPD during a longer period of time, because by lengthening the duration of the study, additional points can come up. New models of EFL teachers professional development by the use of SNSs and immersion of teacher educators in OTPD courses can be developed in the context of both developed and developing countries. In view of these, considering the tentative nature of the findings of this study, the challenge for future research will be to investigate this burgeoning research base meticulously.

Some limitations on this research need to be also acknowledged. First, the small sample size which was bound to 10 participants may not be fully representative of the EFL teachers in Iran. Second, a huge amount of time was spent by the researchers, EFL teachers, and teacher educators during a two-year research project. Third, the process of data collection was quite time-consuming. Be that as it may, data analysis of a huge amount of data by using MAXQDA software which was not available free of charge was quite difficult. Another limitation of this study becomes evident if one considers the online TPD courses in developing countries including Iran. The lack of specific preliminary OTPD courses within teacher education programs has left EFL teachers unfamiliar

with the subject matter. Consequently, the researchers and teacher educators dedicated an inordinate amount of time and effort to instructing the teachers participating in this study.

As a concluding remark, it can be argued that the model presented in the current study may revolutionize the ELT teacher education programs in developing countries by focusing on the multifaceted nature of the construct of professional development and identifying different modules, components, and multiple dimensions thereof. In summary, the suggested model offers a promising approach to improve EFL teacher professional development, thereby ultimately enhancing the quality of second language teacher education.

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Appendix A. Final Semi-structured Interview Questions

1. What were your expectations of the course?
2. Were these expectations met?
3. Was your overall experience of the online course a positive one? Can you elaborate?
4. Things that you liked.
5. Things that you did not like.
6. As a result of taking this course, are you more likely to integrate Mobile Social Network Sites in your curriculum delivery? If yes / no please give details.
7. Was there anything about the course that you thought could be improved for future teachers?
8. Would you take an online teacher professional development course again in the future?
9. What is your impression of online courses in general?
10. If you were planning this lesson, what would you have done differently?
11. Describe the content of the lessons delivered via Telegram as a Mobile Social Network Site.
12. Would you use Telegram to tutor an EFL course outside of your classroom? Why or why not?
13. Can you describe your experience as a student teacher during the online TPD course delivered via Telegram?
14. What seems to be the biggest problem with the course?
15. What do you think about the impacts of technology like social media on teachers' professional development?
16. In your opinion, should teachers use Telegram as a teaching and learning tool in EFL classroom? Why?
17. What do you think you learned most about participating in the course?
18. Does your institute have a policy on access to technology (Infrastructure, specific technologies, smart phones, etc.), specifically on social media access and use? Please elaborate.
19. Does government policy impact on funding/ access to Internet and social media technologies?
20. What are elements that you think will be important for the design of an online professional development course for EFL teachers?
21. How did you feel about the way the material was presented? Why?
22. What kinds of professional development efforts have you done to improve your professional competencies as a teacher?
23. What is the role of your institute in supporting your professional development?
24. How do you think the government has supported you in developing your professional competencies?
25. How do your colleagues support you in your professional development?

26. How would you describe your pattern of participation/interaction in whole-class, face-to face discussions and in Telegram discussions in the current project? How do you compare your interaction patterns in the two settings?
27. Is there anything else you would like to add about the course design or the way that the course was taught?
28. Much of the literature I have reviewed indicates budget is a factor that must be considered when planning professional development. Describe your thoughts on the budget for professional development in your institute.
29. How does engaging in the online teacher professional development (OTPD) affect your teaching/classroom practice?
30. What are your feelings about the OTPD experience?
31. What are the advantages and disadvantages of OTPD courses delivered via Telegram?
32. What is your main goal of teaching?
33. Is there anything else about professional development that I didn't ask you that you would like to share?

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