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Provide Written Corrective Feedback

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Abstract

A phenomenological approach was used to collect data on the Iranian English as a Foreign Language (EFL) teachers' opinions about a newly designed messenger bot, which was introduced to provide English learners with written corrective feedback (WCF). This bot played the role of a mediator between the teacher and learners. Three teachers who were experienced in instructing TOEFL candidates were asked to utilize this messenger bot in their classes. They introduced it to their students and asked them to do ten speaking tasks on the bot. They used the bot to send WCF to their students after each task and the bot provided the teachers with smart reports on students' development in accurate use of the target forms. After the treatment, the teachers were requested to attend semi-structured in-depth interviews. The data were analyzed based on Colaizzi's (1978) methodological framework, coded and explicated using NVivo. After coding the data, three major themes emerged (1) pedagogical issues, (2) technological issues, and (3) timing issues with two subthemes called (a) time-saving process and (b) flexitime work schedule. Although there were some drawbacks to the designed bot, the teachers had positive attitudes toward using it. Pedagogic implications stemming from the findings and recommendations for improving the bot are discussed.

Keywords: computer-assisted language learning (CALL), messenger bot, phenomenology, teacher perception, written corrective feedback (WCF)

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1. Introduction

Nowadays, technology has become a popular and inevitable means of communication and education, where language learning is not an exception. Significant changes have occurred in expectations about the teachers and students' abilities to be successful language users (Andoh, 2012). Moreover, the relationship between technology and language use in the modern world

should make all language professionals reflect on the ways in which technology is changing the realm of English Language Teaching (Chapelle, 2003).

One of the technologies designed to be implemented in education is Learning Analytics. It is defined as the collection and analysis of data about learners and for the purpose of improving their learning outcomes (Duval & Verbert, 2012; Greller & Drachsler, 2012; Winkler & Sollner, 2018). It can also be used by teachers to continuously assess their students' efforts and provide feedback (Winkler & Sollner, 2018). Another educational technology is Intelligent Tutoring Systems, which refers to computerized learning environments in which feedback can be provided based on learning progress (Graesser et al., 2001; Guan & Jiang, 2020; Mousavinasab et al., 2018). In these environments, conversational patterns are simulated through natural language.

One of the tutoring systems that was recently implemented as technological tool is called bot. Bot is a generalized term used to describe any software that automates a task (Smutny & Schreiberova, 2020). They are designed to interact with users through text, voice, or image (Abushawar & Atwell, 2007; Bii, 2013; Smutny & Schreiberova, 2020). They can be implemented in different messaging frameworks, such as Facebook Messenger, Telegram, Slack, and so on (Schmulian & Coetzee, 2018). Based on Schmulian and Coetzee's definition, bots that interact with users through Messenger, not a standalone platform, are called messenger bots. According to Kim et al. (2019), language instructors should be able to select suitable and appropriate chatbots for their learners in their teaching environment, based on the learners' needs and learning styles, since they can affect the way the learners receive and learn new information and instructions.

Although most educational technologies and subsequently bots are innovative, most of the commonly used bots do not change teachers' roles (Schmulian & Coetzee, 2018). Some teaching activities such as providing students with feedback and motivating them are still entrusted to teachers. Furthermore, considering the COVID-19 pandemic, language learners have had limited opportunities to interact actively with teachers and peers (Kohnke, 2022). The importance of the role of technology in education has largely increased during the pandemic as they can help teachers maintain high-quality teaching and learning (Pappas & Giannakos, 2021). Messenger bots as technological tools can fill the gap mentioned, because they may make distance communication and learning much more convenient and motivating. In the present study, a messenger bot named ABD Bot was designed and implemented. This bot was used as a mediator between the teacher and students for the purpose of providing written corrective feedback (henceforth WCF) on students' speaking. The reason WCF is provided is that language learners have different learning styles and some of them are visual and prefer to receive WCF (Sauro, 2009), so that they can concentrate on the text. However, almost in all the studies conducted on the corrective feedback (CF) on oral production, the feedback was provided orally (Rassaei, 2019). The teachers' perceptions of using the aforementioned bot were gained through semi-structured interviews in order to improve the quality of the bot and refine it for future implementation.

2. Review of Literature

Some different chatbots have been designed and applied for the purpose of language teaching and learning. The first chatbot ELIZA was created in 1964 (Weizenbaum, 1966). ELIZA analyzed input sentences and created some responses. After some decades, chatbots were more developed and some of them did not use pre-programmed answers despite being smart. One of such bots was Cleverbot, which had a lot of input and could find the related keyword to type a comment or a response in order to answer the user's comment or question (Gehl, 2014). It simulated human-like conversation. When it received input in the form of a text, it compared it to the possible replies and sent a text reply. Kim (2017) claims that students' writing ability can improve through interaction with Cleverbot and it is useful for language learning.

According to Jia and Ruan (2008), bots could be more motivating to language learners. They allow learners to feel more comfortable while using the new language, which can lead to more effective learning. Some studies investigated student perceptions such as motivation, involvement, confidence, enjoyment, and interest in using bots in English classes (Bii et al., 2013; Yoo, 2010). In Bii et al.'s study, students' attitudes towards using a chatbot named Knowie were explored, which seemed to be positive. The implication of this study was to demonstrate that chatbots could be implemented for various types of activities.

Two other chatbots, Alexa and Google assistant, were used in a study by Kim et al. (2019). They investigated the difficulty of vocabulary use and the quality of the conversation with these chatbots. Both chatbots were highly satisfactory to the users and the researchers; however, Google assistant was easier to comprehend and more user-friendly.

Not much research, however, has been done on specific ways of using chatbots in language classrooms. Therefore, there is a need for systematic application and evaluation studies in this area. Furthermore, a majority of the studies on chatbots do not consider them from the teachers' perspectives. Since teachers are indispensable in language learning environments, investigating various dimensions affecting teachers regarding the use of chatbots seems essential. The current study sought to determine teachers' perceptions of the use of the newly designed bot for providing students with WCF on speaking tasks.

3. Research Question

In this phenomenology driven study, we seek to discover, understand, and describe the experience of three Iranian EFL teachers about using a newly designed messenger bot for providing TOEFL candidates with WCF. Our research thus attempts to answer the following question: What were the EFL teachers' perceptions of using the messenger bot for providing WCF?

4. ABD Bot: The Architecture of the Designed Bot

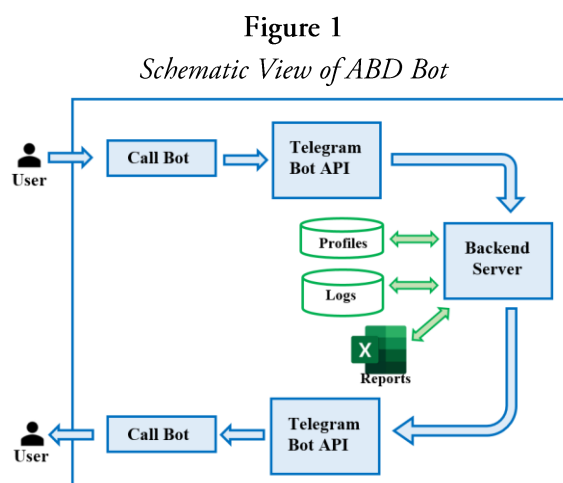
The designed bot, called ABD, is a user-initiative messenger bot that interacts with users in two modes with respect to their roles, i.e., teacher and student. Figure 1 shows the schematic view

of ABD bot's architecture. In this framework, each user initiates a request, which is received by the ABD bot and routed to the Telegram bot API. Then, an HTTP request is sent to the backend server. The backend server processes the request, stores the logs, extracts the statistical reports/logs and generates an answer. The answer is sent in the form of an HTTP request and routed back to the user through the channel of Telegram bot API and ABD bot. Finally, the user receives the answer.

Two groups of scenarios can be defined in this system, (1) teacher-specific scenarios and (2) student-specific scenarios. Teacher-specific scenarios include five tasks, which are

- Defining questions
- Reviewing students' answers
- Viewing statistical reports
- Viewing students' progress
- Adding students' profiles

Student-specific scenarios enable students to (1) answer questions and (2) view the teacher's feedback and answers. We should note that a student request for answering a question would be accepted after defining at least one question by the teacher. Similarly, an answer viewing request by a student cannot be accepted before teacher's reviewing requests. It means that the teacher's requests are prior to the requests of students and each loop of interaction is initiated by a teacher's request.



To explain more, the ABD bot is a multi-modal messenger, which supports interaction via text, voice, and click. The interaction flows of the ABD bot are defined using a Wizard-of-Oz study including students and one teacher. Interactions in this study are simulated using a rapidly prototyped GUI (Graphical User Interface). Since Telegram is one of the popular messengers in Iran and the researchers' students were in touch with them through this application, a finalized prototype using Telegram's bot API was implemented in the current study.

The interaction loop of the implemented bot is initiated by a question-definition request issued by the teacher. In the second step, the teacher provides the students with profile generation

requests. The students who received their registration IDs are able to interact with the bot. They receive a question and submit their answers. The teacher reviews the answers and posts the feedback requests. The backend server, which is responsible for data analyzing and logging, processes the feedback, and extracts progression reports and statistical reports. The students' answers are appended to their profile for further analyses. Communication logs are stored in a No-SQL database, profiles are stored in a transactional SQL (T-SQL) database and statistical reports are saved as an excel file. Each time the teacher initiates a report/progress view request, the required information is extracted and demonstrated by the bot. A demo of the ABD bot is presented in Appendix A.

4.1. The Advantages of the Messenger Bot

It is worth mentioning that using a messenger bot in language classes for the purpose of teaching and providing CF has several advantages over other applications and platforms, such as IM. Some of the merits are mentioned:

1. The possibility of collecting information on external servers and personal external servers; utilizing this possibility, learners' files can be saved for a long time.
2. The possibility of customized security actions and privacy-preserving action for learners. The data will be saved on an external server; as a result, the saving and anonymity procedure can be better organized than Telegram, for instance.
3. The possibility of group-wise retrieval by student ID; all the posts and students' questions and received answers will be categorized based on student ID feature. Consequently, data regarding one or more students can be retrieved as a batch.
4. The possibility of collecting data and information any time during the day or night (24/7 information collection).
5. Possibilities of making comparative reports based on individual or group performance.
 - 5.1. Providing comparative reports among individuals based on features like various errors.
 - 5.2. Providing comparative reports based on accuracy in performance for individuals in different parts of the day (e.g., higher rate of errors among people who text late at night because of fatigue).
 - 5.3. Providing comparative reports based on age and gender.
 - 5.4. Providing comparative reports for each group and comparing their performance.
 - 5.5. Providing weekly, monthly, and annual reports on the activity of each teacher and the allocated time for each individual.
6. Intelligent retrieval of learners' errors.
7. Creating an index of students' errors.
8. The possibility of taking advantage of a directory; the teacher can arrange some grammatical tips and allow access to the bot. Whenever there is a related error, the teacher can activate the related code and the grammatical tip will be displayed.
9. Requiring less effort and fewer expenses to make changes in the menus and questions of a bot than of a website.

10. No need for a special computation process on the side of the students.

5. Methodology

5.1. Research Design

Phenomenology is taken up differently by different disciplines in academia, including social sciences, sociology, nursing and health sciences, and education (Creswell, 2013). In order to effectively understand one's experience in an in-depth manner, we need to explore how one's knowledge of understanding reality informs the methodology of inquiry. Giorgi et al. (1971) state that choosing a research method must come from trying to be responsive to the phenomenon in question. Therefore, in the present study, we situate ourselves in phenomenology. The phenomenon in question is teachers' perceptions of using a messenger bot in their EFL teaching environment based on their experience. Conducting interviews helped the researchers find out the essence of teachers' experiences and generate some themes, which are mentioned in the following sections.

Colaizzi's (1978) descriptive phenomenological method was employed for analyzing the data in this study. His distinctive seven-step process provides a complete and concise description of the phenomenon, confirmed by the participants who experienced it. This framework depends on first-person accounts of experience. In the current study, these accounts came from face-to-face in-depth interviews. The following steps represent Colaizzi's process for phenomenological data analysis (Morrow et al., 2015):

1. Familiarization: All the participants' answers are read through several times.
2. Identifying Significant Statements: All statements that are relevant to the phenomenon are identified.
3. Formulating Meanings: Meanings related to the phenomenon should be formulated from the significant statements.
4. Clustering Themes: Themes that are common across all accounts are clustered out of the identified meanings.
5. Developing an Exhaustive Description: A full description of the phenomenon is written.
6. Producing the Fundamental Structure: The essential aspects are captured.
7. Seeking verification of the fundamental structure: The fundamental structure is presented to all the participants for member checking and the results are verified.

This study was rooted in the phenomenological framework to explore EFL teachers' experiences of using the messenger bot and to develop a composite and thick description of the essence of their experience. Data from this research was collected and analyzed using the steps from Colaizzi's (1978) descriptive phenomenological method. Significant themes and meanings were interpreted through rigorous analyses of data and some findings were formulated.

5.2. Participants

The data for this phenomenological study were obtained from a purposive sampling of Iranian TOEFL instructors who have been teaching English for years. Purposive sampling aims to look for those participants who are of interest, meet the criteria of the study, and who would answer the research questions (Denzin & Lincoln, 2018). Since, in the current study, the focus was on describing teachers' perceptions of using a newly designed messenger bot for the purpose of providing students with WCF, and because the tasks applied in the bot were TOEFL iBT speaking task II, the researchers needed experienced teachers who had the ability to instruct TOEFL iBT candidates. Participants of this kind could provide intended information about the messenger bot because they were experienced enough in applying various methods and tools for years. Three teachers with the following characteristics were selected for the purpose of this study. The first teacher was a 38-year-old woman (Aylin) who had taught English for 12 years and instructed TOEFL candidates for five years. She had the experience of using software to correct her students' writing drafts. The other teacher was a 32-year-old man (Ali) who had the experience of teaching TOEFL candidates for two years. Another female teacher (Hani) who was 36 with 14 years of teaching experience participated in this study. She had the experience of providing her students with materials in group chats on social media. In order to follow the ethical issue of the research, the researchers used informed consent by which participants were provided with information about the purpose of the study, benefits of the research, method of the data collection, and what will be done with the data to protect the confidentiality of the interviewees.

5.3. Instrument

In the current study, the data were collected through in-depth semi-structured interviews, as it is the major way of data collection in phenomenological research (Creswell, 2007). The open-ended questions were formulated by the researchers and revised by a Ph.D. candidate in English Language Teaching and an Artificial Intelligence (AI) assistant professor according to the phenomenon under investigation (see Appendix B). The questions did not provide the participants with any directions.

The teachers participated in the interviews with the researcher to assure saturation of the data (Ary et al., 2012). The data collected through interviews were sorted and organized in ways that illustrated an emergence of common themes. Finally, the data were analyzed using coding. The coding procedure was conducted through NVivo.

5.4. Procedure

For the purpose of this study, a messenger bot, which can be applied on Telegram was developed by an IT expert based on what the researchers requested. An AI assistant professor guided the researchers with her constructive comments. The bot contained 10 TOEFL iBT speaking tasks which the students were asked to respond randomly, so that the validity was assured. The messenger bot sent the voice messages the students had recorded to the teacher. Three teachers

(each teacher worked with 10 students) provided them with WCF on the target form (i.e., definite/indefinite articles in this study). The target form was chosen according to the researchers' experience with the selected task, as it has occurred frequently. The teachers received their students' audio files and corrected them in written form through the messenger bot. After the treatment sessions, the teachers were asked to attend face-to-face, in-depth interviews individually to describe their experience and talk about their impressions of the bot. The interview included six questions and the maximum time allocated for each teacher was 15 minutes. The teachers were requested to speak as much as possible to make it more convenient for the researchers to generate various themes. The interviews were recorded and transcribed. The data went through coding, based on Colaizzi's (1978) method. The transcripts of the interviews were all analyzed using the NVIVO. Data were meticulously read to find and locate the meaningful units of text that were relevant to the research foci. The units of texts related to same topic were put together in analytic categories and were given a tentative definition. Data were systematically reviewed to make sure that right units were in the analytic categories. During the reassessment of analytic categories some of the categories were collapsed and their titles were refined. In analyzing the data, our approach was to allow themes and a core phenomenon to emerge naturally from the categories. The teachers' perceptions could help the researchers improve and refine the messenger bot for the future.

5.5. The Trustworthiness of the Study

The recommendations made by Creswell (2008) were taken into account to ensure that the findings of the present qualitative research are trustworthy. In this study, the primary data source was the data collected from the semi-structured interviews with the teachers who had participated in the study and provided feedback through the messenger bot. According to Lincoln and Guba (1985), peer-debriefing helps restrict bias in interpretation. The data and interpretation within and across each category were crosschecked by two raters in order to enhance credibility.

Creswell (2008) emphasizes thick description as the second recommendation to ensure trustworthiness of qualitative data. The researcher provided a full description of the themes and codes. In the data analysis process, the data collected through the interviews were transcribed and read by the researcher many times to extract the meaning behind the texts. Afterwards, the participants were provided with the transcription of the interviews accompanied by a comment sheet to validate their experience. In the next stage, the transcriptions were coded through NVivo. The main statements and phrases related to the topic of the research were highlighted and presented as a sample in NVivo; the coding of the rest of the transcriptions was automatically performed by the NVivo. The clustering themes were later identified by the aid of the software and an exhaustive description of the phenomenon was developed.

The fundamental structure obtained from the collected data were condensed down to a dense statement, which was shorter than the original one capturing those aspects essential to the structure of the phenomenon. To make certain that the experience of the participants was captured,

the final structure statement was returned to all of them for member checking. The earlier steps were modified based on the feedback received by the participants later on.

6. Findings

Based on the information gathered from the teachers and coding performed through NVivo, three major themes of 1) Pedagogic issues, 2) Technological issues, and 3) Timing issues were revealed.

Pedagogic Issues

The teachers mostly had positive attitudes toward the use of the messenger bot. They claimed that trying to fill the gap between the two generations of teachers and students through technology is the last resort. Aylin (one of the teachers) believes that the students can trust the teacher more easily if they feel that he is speaking through the same language, i.e., technology:

Extract One. *Working with the students who think their teacher is living through technology is so pleasing. They accept whatever the teacher says more easily and believe in his capabilities. It really boosts my confidence. I feel they even learn better. It works like a kind of motivation for the students.*

Another teacher believes that technology can work as the medium between teachers and students. The teacher can understand how his/her students see the world:

Extract Two. *Using technology in classes showed me a different world; easy access, different timing, connection, interaction, and above all avoiding invasion of privacy. I can check my students' assignments sent to me through the bot whenever I feel it would not interfere with my personal life. Therefore, I can have my own schedule as well as doing my job.*

In relation to the question "How can the bot help you with providing feedback," Hani (the second teacher) mentioned that:

Extract three. *You know, everything seems more organized in this bot, much more organized. The teacher provides feedback and can check the previous feedback to see how much the learner has improved by checking the form and type of feedback. The learner is able to monitor his own learning process as well. You are a person willing to deal with numbers? Fine; there are numbers out there to show you how much the students have improved. Therefore, everything is ready; you just need to check it out.*

The organization of the feedback provided by the teachers and easy access that the bot provides is pleasing for the teachers. They find it easy to reflect on what they had said before and decide what form of feedback is going to suit the learners' situation at the moment.

Developing autonomy in learners is one of the teachers' concerns, something that they think the bot can help fulfill:

Extract Four. *Using the bot in class for the students means that they should take responsibility of their own learning. They need to manage their time and check the feedback, or they won't improve. They need to know that if they don't study, the first person who is hurt is them. Maybe it takes time to teach them how to become autonomous, but I think the bot can help us make it.*

The interviews show that the teachers were satisfied with the use of the bot in their classes and for their learners as they mentioned the capability of the bot to help the learners become autonomous in language learning. Using bots can lead to more effective learning in students since they feel more comfortable working with the bots, which can reduce stress in learners.

Another issue that raised the teachers' interest was the user-friendly nature of the bot. The teachers appreciated the fact that they did not need to install any other software or application to use the bot and it made it easy to work with. The reflection provided by two of them is an example, which can be considered in this regard.

Extract Five. *I haven't seen any other bot which is similar to this one. It is well-customized for its application. I certify that this design decreases the user's cognitive load and can be used by all level learners. If I wanted to develop it, I'd add a progress plot that shows number of positive and negative feedback in weekly basis.*

Extract Six. *I've always been afraid of using technology in language teaching. You know, you try to install something and then you click something and you feel that you are lost. Each time I wanted to try an application, I would remember this and decided to continue reading books. But using this bot is so simple. I liked it.*

In Extract Six, the teacher mentioned the fact that his lack of skills in working with applications and software or perhaps generally with computer made it difficult for him to integrate technology with language teaching. Hence, it is facilitated by the user-friendly nature of the bot.

The second teacher believes the real learning cannot sometimes happen through the medium of technology:

Extract Seven. *Technology works like a distractor for our learners. They prefer to interact with the device rather than real people. This is a threat to the social nature of human. Although I found the bot helpful, sometimes I cannot digest the logic behind the use of technology in classes.*

Technological issues

Experiencing something new was interesting to the teachers. They talked about the new method based on which they like to manage their class:

Extract Eight. *I feel up to date when I use the bot. It allows me have flexibility in choosing my materials as I know my students are eager to study a pdf rather than books. Using the bot has changed the atmosphere of my class. I teach differently as something different is used for the learners to send their assignments through. Besides, I have access to their information after a long time. This bot provides me with a lot of information about the improvement of each student and it can show the time I spend on each student's profile.*

Most people are enthusiastic about using technology in their work and they feel more self-confident and up-to-date when they try something new in what they have been doing for a long time. The possibility of customized security actions and privacy preserving action for learners is another merit. The data will be saved on an external server; as a result, storing and anonymizing steps can be better handled than Telegram chats, for instance. Fetching interaction is recorded

based on student ID; all the posts and students' questions and received answers will be stored as values in a key-value database in which student IDs serve as identifiers, i.e., keys. Consequently, data regarding one or more students can be retrieved as a batch.

The bot also generates comparative reports based on individual or group performance. Teachers mentioned that the reports that the bot provides can compare the performance of an individual and his/her improvement. The bot has the ability to provide weekly, monthly, and annual reports on the activity of each teacher and even the allocated time for each individual.

The bot makes intelligent retrieval of learners' errors possible. It creates index of students' errors. It takes advantage of a directory; the teacher can arrange some grammatical tips and allow access to the bot. Whenever there is a related error, the teacher can activate the related code and the grammatical tip will be displayed automatically. The messenger bot requires less effort and fewer expenses to make changes in the menus and questions of a bot than of a website. It will not necessitate especial computation process on the side of the students and teachers.

Extract Ten. *Cell phone and social media are accessible and popular. Consequently, the bot is the most accessible connectivity mode nowadays in the world.*

Despite the positive attitudes announced by two teachers toward the use of technology and specifically the bot, a teacher might not feel comfortable with technology use in general. As Ali (the third teacher) mentioned:

Extract Eleven. *I think it's a waste of time to spend so much time typing. I cannot do it. It's hard for me. Sitting at the monitor to make my things done is so irritating for me. I prefer work with paper and pencil.*

Timing Issues

Time-saving Process

One of the biggest problems that busy teachers are mostly dealing with is providing the students with feedback. The procedure gets boring for the teacher due to its time-consuming nature. The use of the bot seemed interesting to the teachers as it facilitates the process:

Extract Twelve. *I can't believe how fast I can provide my students with feedback. Of course, it can be quicker if I learn to type faster. I really like the bot to help me in other aspects, too.*

Extract Thirteen. *Oh, the bot makes everything so fast. It is unbelievable. Even it doesn't need to be installed. It's quite satisfying for me to use it. I don't have to look up the previous feedback to know what the process of learning and improvement looks like.*

Based on the teachers participating in the study, the burden of providing the learners with feedback can be enhanced by the assistance of the bot as they do not have to worry about looking up the previous feedback, checking the learners' improvement and waiting for the class session when the papers are going to be turned in.

Flexitime Work Schedule

Having a lot of classes will not leave hope for spare time. One of the teachers believes that working regular hours all the time will kill creativity:

Extract Fourteen. *I don't like to think I am going to work all the time. I like to spend an evening in a library reading my favorite novel. The bot gave me the hope that it is probable for a teacher to decide how to spend time beside doing his work. It helps me reflect on my teaching since I feel fresher and happier. The bot helps me feel I'm not living like a robot. The students will think so. As they are not dictated when to study, they are free to work on it whenever they feel comfortable; however, before the deadline.*

Two participants prefer to work when they like to. They think their performance will be more efficient if they are fresh:

Extract Fifteen. *I'm not a morning person. I don't like to start work so soon, but most of the schools and institutes want their teachers to take some morning classes. It's not my style. Using the bot means I can sleep late and do my job as well. Otherwise, I would feel tired all the time which affects my performance to a great extent.*

Time flexibility is one of the pleasing issues that people look for in their businesses. Teachers as busy people who are either teaching or developing their knowledge of general English and teaching welcome any method that helps them save some time to reflect on their own teaching process. The bot has the possibility of collecting data and information any time during the day or night (24×7 information collection).

7. Discussion

Pedagogic Issues

The teachers mostly had positive attitudes toward the use of technology in class. This finding was also shown in Aljohani's (2021) study due to the communication skills in the 21st century, in which technology plays a significant role. They believe that the students can trust the teacher more easily if they feel that s/he is speaking through the same medium. This finding is in line with the results of the previous studies that had examined experienced teachers' challenges and the shift in focusing on applying new technology into curriculum and professional development (Hubbard, 2008; Kim et al., 2013; Kuure et al., 2016). Dina and Ciornei (2012) also claim that technology can promote language interaction between the teacher and learners.

It is pleasing for the teachers to work with the bot due to the organization of the feedback and easy access that the bot provides. They find it easy to reflect on what they had said before and decide what form of feedback is going to suit the learners' mistake.

The teachers claim that their learners became more autonomous when they used the bot. These findings are in line with the work of Jia and Ruan (2008), who assert that using bots can cause more effective learning as they feel more comfortable working with the bots. Moreover, this can decrease their stress. However, researchers like Bowman et al. (2010) believe that the use of technology in the form of software and bots works like a distractor and blocks effective learning.

The findings of the study are a rebuttal to their claim and shows that the use of bots in language classes can be profitable to the learners as they help the learners take responsibility for their own learning and practice as much as they need.

Technological Issues

Another major finding of the study was that it seemed to be interesting to the teachers to experience something new. The positive attitude toward the use of technology in class is discussed by Kim et al. (2019), who mentioned the users' satisfaction with Alexa and Google assistant chatbots. They state that most people are enthusiastic about using technology in their work and they feel more self-confident and up-to-date when they try something new in what they have been doing for a long time. The possibility of customized security actions and privacy preserving action for learners is another advantage. However, Winkler and Sollner's (2018) review indicates that studies are not about replacing teachers with chatbots. It is preferable to create a co-dependent and intelligent relationship between the teacher and chatbot, utilizing both for their strengths and delivering the best student experience (Hughes, 2017).

For teachers, chatbots can be useful for monitoring students' progress (Fryer & Carpenter, 2006). Therefore, it is necessary that chatbots be designed to cover all the skills, especially productive ones. The messenger bot used in the current study can be developed to cover some different aspects of language teaching and learning. Furthermore, this bot will not necessitate especial computation process on the side of the students and teachers, because all the reports are provided by the bot.

The teachers appreciated the fact that they did not need to install any other software or application to use the bot. They considered it easy to use the bot. Despite the positive attitudes displayed by two teachers toward the use of technology and specifically the bot, sometimes teachers might find using technology a little challenging. The teachers claimed that some people (i.e., teachers and students) with better technological skills could benefit more from chatbots. This finding is in agreement with the result in Ben Mimoun et al.'s (2015) study. Bii et al. (2018) also believe that teachers should be trained on proper educational technology integration strategies.

The teachers who participated in the current study suggested expanding the messenger bot to other skills and types of feedback. Their answers were similar to those of the teachers in Bii's study.

Theme Three: Timing Issues

A downside to the traditional class could be the procedure of providing students with feedback, which can get boring for the teacher. Sometimes it will be time-consuming. The use of the bot seemed interesting to the teachers as it facilitates the process. The teachers in Bii's (2018) research asserted that using the chatbot was not a waste of time and most of them agreed that they could save more time while utilizing the chatbot as a teaching tool.

According to some researchers such as Mayer and Moreno (2010), Williams and Zahed (1996) and Ricci et al. (1996), technology-based instruction that involves the use of software,

applications, and bots in teaching can reduce the cognitive load and help the user stay more concentrated and creative.

Since some teachers have a lot of classes, they complain about lack of time. They prefer to work whenever they are fresh to be more efficient. Time flexibility is one of the pleasing aspects that the teachers mentioned. The bot has the possibility of collecting data and information any time during the day or night (24×7 information collection). According to Kern (2006), in this century, people are looking for ways to enhance handling their hectic schedule. They require methods that help them show flexibility in what they are planning and the use of technology assists humans in accelerating what they are going through.

8. Implications and Conclusion

The most critical suggestion of this research is for teachers and language institutes to become aware of different interesting as well as effective ways of providing feedback in this era when technology is the main concern. As the mentioned messenger bot is different from other bots used for the purpose of teaching and learning regarding its role and usage, it is essential for the messenger bot to be introduced to EFL teachers and learners. Mostly, the candidates of international proficiency tests, such as the TOEFL do not have time to wait for some problems like a pandemic to come to an end. They have tight schedules and they have to enhance their performance as fast as possible. Not only can the bot be improved and implemented for different language skills and various target forms, but it can also be used for other types of corrective feedback. Language institutes and schools can make use of this messenger bot even for economical purposes. They can introduce it as a product and have students purchase the messenger bot and apply it on social media.

There are some limitations to the present study. This study includes only a limited number of Iranian EFL teachers. There needs to be further research including various perspectives from teachers with different educational backgrounds, degrees, and experience. Applying the same methodology utilized in this study can provide an opportunity for researchers to have a better understanding of teachers' perceptions of using the messenger bot for providing corrective feedback. Moreover, a longitudinal study of some samples could be conducted to see how the perceptions of the teachers change over time. Another limitation goes back to the messenger bot architecture. This bot merely provides WCF, which can be developed by providing other kinds of corrective feedback, such as oral feedback. In the designed messenger bot, only one task and one skill of the TOEFL iBT is used. This limitation could be overcome if we design a bot that includes different skills and different tasks, so that it will be more convenient for students to use it. Furthermore, this messenger bot can be intelligent and attached to a corpus glossary to be able to correct some part of the errors itself. It is costly and arduous to design such a bot.

A lot of quantitative data were collected based on students' errors and teachers' corrections. Therefore, a quantitative study could be done on students' improvement and their perceptions of using the bot for receiving WCF.

There is no doubt that in this era, we have to utilize technology to make the process of language learning and teaching more effective and motivating. Therefore, messenger bots, which are considered innovative in this realm, could be used in every part of teaching. Teachers should be able to choose the most appropriate and efficient bots for their students, based on their context and environment. Additionally, teacher education programs need to take up the challenge for making teachers prepared to accept newly introduced technological tools for teaching in this era.

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