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Classroom management: Strategies and challenges of Iranian teachers

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Abstract

The present study aimed to explore the strategies and challenges faced by Iranian teachers in classroom management. The importance of this study lied in its potential contribution to effective approaches in classroom management, professional growth of teachers, and research knowledge. To serve that end, it utilized a qualitative research design, employing semi-structured interview and open-ended questionnaire to gather data from a sample of Iranian teachers. The findings revealed that Iranian teachers were required to use different strategies to put their knowledge resources and practices of classroom management into the real context of classroom with high effectiveness. The study also indicated several challenges faced by Iranian teachers, such as students' misbehavior, class communication, fulfillment of learner expectations, time management, care for and attention to learners, giving and receiving feedback, interactions with students' families, flexibility, accountability and commitment, lesson planning, group work planning, and professional ethics. It can be concluded that teachers' classroom management literacy is fed by different knowledge resources. Moreover, classroom management literacy is not formed overnight, but it is the product of various knowledge domains. More importantly, classroom management is not an easy task for Iranian teachers. These findings have significant implications for Iranian teachers, teacher educators and curriculum planners.

Keywords: Classroom Management, Classroom management Strategies, Classroom management Challenges

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1. Introduction

Classroom management has created a lot of concerns for the educational contexts and moreover, it is amongst the most frequent topics for the teacher. In fact, the role the teacher plays in the L2 classroom and the strategies he/she adopts to manage the classroom would definitely affect learners' L2 development and task achievement (Demirdag, 2015). Also, instructors' teaching effectiveness is assessed through their classroom management abilities and viably dealing with learners' misbehaviors in the classroom (Tartwijk & Hammerness, 2011). Successful teachers are expected to establish a thriving learning atmosphere and environment which is invigorating, empowering, and helpful for learners' language acquisition (Wehby & Lane, 2019).

In the broadest term, classroom management alludes to the full scope of teacher efforts to manage classroom activities and learning procedure of the learners, supervise learners' behaviors in the classroom, and lead them toward selecting and conducting appropriate social behaviors (Brorphy, 2006; Burden, 2020). Likewise, Chichermir and Obrazisove (2020) defined classroom management as “the actions taken to create and maintain a learning environment conducive to attainment of the goals of instruction” (p. 185). Hence, activities such as arranging the physical environment of classroom, establishing rules and procedures, maintaining attention to lessons and engagement in academic activities could be considered as significant classroom management tasks (Korpershoek & Kuijk, 2014). Thus, classroom management is broader than disciplining learners. This includes what instructors need to apply in order to improve the learners' participation in classroom discussions, collaboration in class activities, and establishment of a productive classroom (Cafferata & Gonzalez, 2013). According to Everstone and Weinstein (2006), classroom management encompasses any specific action the teacher takes in an attempt to encourage learners follow his/ her instructions and move toward both L2 development and social learning. Considering this definition, one might think that relying on instructional procedures is an indispensable notion in classroom management and an ideal status of management in which learners are self-organized is hard to achieve (Akbari & Yazdanmehr, 2015). Provided that Iranian teachers use such cues effectively; they can pave the way for their learners' success in well managed classroom context.

Fuller (2016) categorized teachers' classroom management practices into three domains: planning, implementing, and assessing. This categorization was rooted in strategies used before actual teaching (planning), during teaching (implementing), and after teaching (assessing). Other researchers have also addressed different phases and domains of classroom management (Asghari, Alemi, & Tajeddin, 2021; Moghadam & Mehrpour, 2017; Phillips, Kovanović, Mitchell, & Gašević, 2019; Phillips, Siebert-Evenstone, Kessler, Gasevic, & Shaffer, 2021) have addressed teachers' classroom management. However, a review of studies in the area of teacher classroom management highlights the need to learn more about this topic in Iran. The first step in this regard is to explore the Iranian teachers' strategies in classroom management. The second step is to explore the challenges Iranian teachers experience in classroom management. In order to meet the objectives, the following research questions have been raised:

1. What are Iranian teachers' strategies of classroom management?
2. What are the challenges Iranian teachers experience in classroom management in practice?

2. Review of the Related Literature

Ababneh (2012) studied the students' views concerning classroom management and the way the staff at Al-Balqa'a University managed classes. The findings revealed that active and effective classroom management could help the students improve their abilities in different aspects and make use of the class time more effectively. It was interesting that both genders had similar views in this respect. Moreover, evaluation of teachers' classroom management by the learners could have positive consequences in this respect and would help the teachers reconsider their methods of classroom management. Likewise, they mentioned that the atmosphere in which teachers paved the ground for the active involvement of the learner in the classroom activities could be conducive to better results in terms of learner cooperation and more organized behaviors.

LeFebvre and Allen (2014) analyzed teachers' immediacy in lecture/laboratory setting and independent classrooms. Two hundred fifty-six learners answered to instruments evaluating instructors' immediacy behavior recurrence, impressions of

teaching quality, and cognitive learning. No significant difference was observed between lecture/laboratory setting and independent instructing immediacy practices. However, all learners who perceived recurrent immediate behaviors showed greater levels of cognitive and affective learning. Higher levels of faculty-learner communication were reported in self-contained classrooms while lecture/laboratory settings were significantly superior with regard to learner endeavor and participation.

Akbari and Yazdanmehr (2015) studied the expert teacher class management. The research sought to investigate how expert teachers could manage their class and keep its discipline. 20 specialists including teacher educators, university professors of applied linguistics, mentor teachers and language institute supervisors were selected through purposive snowball and convenience sampling methods, and were interviewed. Four themes and three sub-themes were extracted from the qualitative content analysis of the interviews. The themes included: expert teachers' identification power, use of external control, use of preventive management strategies and monitoring student behavior. The three sub-themes of the second theme were: clarification of expectations, use of body language and establishing rules and routines. The researchers concluded that knowledge of these themes and sub-themes could shed light on a key behavioral aspect of expert English language teachers in class. These strategies, if followed properly, could set good examples for novice teachers and those who have problem managing their classes.

Kuusinen (2016) conducted a meta-analytic review of the relationship between teacher self-efficacy, structured classroom management, supportive classroom climate, and cognitive activation. As the participants of the study, 39 teachers attended the study. As shown by correlation tests, although a significant relationship was found between teacher self-efficacy, structured classroom management, supportive classroom climate, and cognitive activation, the relationship between teacher self-efficacy and cognitive activation was stronger. Macías (2018) also investigated the classroom management challenges, the approaches to confronting them, and the alternatives for improving pre-service teachers' classroom management skills. The finding of the study demonstrated that classroom management was a surmountable hurdle and the challenges ranged from inadequate classroom conditions to explicit acts of misbehavior. Besides, it was

discovered that the main approaches to classroom management could be establishing rules and reinforcing consequences for misbehavior.

To Sum up, the above studies focused on the classroom management from different angles. The present study considered the EFL teachers classroom management to explore the strategies and challenges that Iranian teachers experienced in classroom management. To the researchers' best of knowledge no study has so far been conducted on this issue, at least in the Iranian context. Therefore, the absence of research in this area highlighted the need to conduct the current study to tackle the missed issues to add to the richness of research on EFL context.

3. Methodology

The study population included the Iranian teachers teaching English at different private institutes and universities in Iran. From this population, 30 Iranian teachers (11 males and 19 females) were selected to participate in the study through convenience sampling from different virtual groups in WhatsApp or Telegram. They were PhD holders in TEFL and had more than 15 years of teaching experience. Ethical issues were observed by obtaining consent from the participants to participate in the study. Moreover, they were informed of the study's objectives and were assured of the anonymity and confidentiality of their personal information.

Two instruments were used for data collection in the present study. A semi-structured interview with five open-ended questions was used to gather the data. Interviews were conducted in a one-to-one format in English. The interview questions were developed based on a literature review. The researcher carried out the interviews herself through WhatsApp and Telegram, and each interview lasted around 35 to 45 minutes. The researcher audio-recorded the interviews for further in-depth analysis. The dependability and credibility of the interview data were checked through member checks and low inference descriptors. Using low-inference descriptors means quoting from the interviewees. Member checking involves checking interpretations with the interviewees to see whether their sayings have been correctly interpreted. The researcher developed an open-ended questionnaire with eight questions based on a thorough literature review and the results of the interviews to triangulate the collected data. The questions were

scrutinized by 10 teachers to ensure their relevance and accuracy. The Google Form containing the questionnaire was sent to the respondents via WhatsApp and Telegram.

For conducting the present research, first the instruments were developed and validated by the researcher. Then, 10 teachers were randomly selected for a preliminary interview to pilot the interview guide. After that, the researcher interviewed 30 teachers through WhatsApp and Telegram to elicit their knowledge resources and perceptions of classroom management. Then, the open-ended questionnaire was administered to the participants. The participants received the Google Form containing the questionnaire through WhatsApp and Telegram. Next, the collected data were analyzed through thematic analysis using MAXQDA.

4. Results

Concerning the first research question “*What are Iranian teachers’ knowledge resources of classroom management?*”, the following strategies were identified for Iranian teachers’ classroom management (Table 1):

Table 1. Iranian teachers’ classroom management strategies

Resources/Practices	Strategies
Academic knowledge	Using knowledge received through academic education Using knowledge received through reading papers Using knowledge received through reading books Using knowledge received through reading theses
Personal opinions	Using personal beliefs Using personal ideologies Using personal opinions
Past experiences	Using teaching experience Learning from university professors’ classroom management Learning from colleagues’ classroom management
Professional events	Participating in in-service training courses Participating in professional group meetings Participating in workshops
Contextual interpretations	Interpreting class situations Taking environmental factors into account
Feedback	Using feedback received from supervisors Using feedback received from students, and colleagues
Response to students’ misbehavior	Managing naughty students Managing students with misbehavior Managing students’ aggression Managing students’ inattention to assignments
Class communication	Managing teacher-students interaction Managing student-student interaction
Fulfillment of learner expectations	Managing learners’ expectations Managing students’ desires Managing students’ needs

	Managing students' priorities
Time management	Managing time of classroom
Showing care & attention to learners	Showing support to students Showing empathy to students Showing sympathy to students Showing care to students Showing attention to students
Giving & receiving feedback	Giving conducive feedback on students' learning Giving feedback on students' behavior and performance Receiving feedback from students on teaching methods Receiving feedback from students on class behaviors
Interaction with students' family	Being in regular contact with students' family Being informed of students' family background
Showing flexibility	Being flexible in teaching Being flexible in evaluation Being flexible in class interaction
Showing accountability & commitment	Being accountable and committed to students Being accountable and committed to students' families Being accountable and committed to authorities
Planning lessons	Preparing lesson plans before coming to the class
Planning group works	Taking advantage of group activities in the class Taking advantage of group tasks in the class
Following professional ethics	Teaching based on professional ethics Behaving based on professional ethics

Regarding the second research question “*What are the challenges Iranian teachers experience in classroom management in practice?*” as the result of the grounded-theory based thematic analysis of the qualitative data, seven challenges were experienced by the Iranian teachers in classroom management in practice which are shown in Table 2 along with their descriptions.

Table 2. Challenges Iranian teachers experience in classroom management

Challenge	Description
Shortage of time	Short time of classes which are crowded and too difficult to be managed
Shortage of facility	Constraints in the facility of high schools, lack of new technology devices
Low motivation of students	Students whose motivation level to learn English is low
Students' behaviors	Students' impoliteness, naughtiness, and misbehavior in the classroom
Personal concern	Personal life problems and challenges
Demanding textbooks	Textbooks with lots of materials that should be covered in a short time period
Supervisors' misbehavior	Misbehavior of supervisors who regularly observe high school teachers' classes

As shown in the Table 2, seven challenges were identified for the Iranian teachers in classroom management. One of these challenges was shortage of time. By this, the participants meant that the time of classes was short. The following excerpts show this.

Mohammadi: *Time of classes is so limited that you cannot cover the planned works and activities. I myself can just cover half of the works in my mind.*

Yavari: *The challenge of time constraint is problematic for me. Practically, 20 minutes of the time of class is wasted. Just 70 minutes remain which is too short to permit you to do whatever you have decided to do before coming to the class.*

As the second challenge shown in Table 2, shortage of facility was identified. This refers to physical facilities which must be available in the classroom or high school to make English teaching more effective. The following excerpts illustrate this:

Rezaei: *We have a big problem in classroom management and that is shortage of physical facility. For instance, there is no language lab in our schools. This is a basic need for English teachers.*

Taheri: *A main challenge of classroom management is lack of facility. Teachers cannot even show a video to the students in the classroom. Most of the classes have no computer. These make classroom management a challenging task for teachers.*

As the third challenge, low motivation of students was shown in the Table 2. This refers to students' low motivation or lack of motivation to learn English language. This is confirmed by the following excerpts:

Naderi: *Students don't show any motivation to learn English. They think that learning English is useless and time consuming. I think that my students are not motivated to learn English.*

Jaberi: *Lack of motivation in English learning is the main challenge of classroom management. Students don't have interest to learn English. Students' motivation is constantly reducing in these years.*

The fourth challenge illustrated in Table 2 was students' behaviors which referred to students' impoliteness, naughtiness, and misbehavior in the classroom. This point is clear in the following excerpts:

Pakdaman: *A challenge which affects classroom management is that students behave impolitely. Students' impoliteness is reflected in all aspects of their behavior. This makes me exhausted in managing the classroom.*

Zahedi: *Impoliteness of students is a preventive factor in classroom management. They do not behave with their teacher politely. Politeness is really observed in few students.*

Personal concern was the fifth challenge identified in the data. This is referred to the

teachers' personal life problems and challenges. The following excerpts describe this issue:

Zarei: *I am not satisfied with my life. My mind is always occupied with so many matters from financial problems to family issues. This puts no energy for managing the classroom.*

Amiri: *My personal life is a block in classroom management. Sometimes I am physically in the class but my mind is miles away. Thus, I am not well prepared to manage my class.*

The sixth challenge indicated in the Table 4.4 was heavy textbooks. By this, textbooks with high number of materials that should be covered in a short time period are meant. See the reflection of this challenge in the following excerpts:

Mansouri: *The volume of materials of the textbooks is very high. A teacher finds it too hard to cover this number of materials. Because teachers are always busy with finishing the textbooks, they ignore other aspects of classroom management.*

Safari: *Practically, the proportion of textbook materials to the time of each class session is not reasonable. In each session, we should teach about 10 pages of the book. This is a hard task for teachers. This challenge is inevitably effective on classroom management.*

The last challenge indicated in the Table 4.4 was supervisors' misbehavior. By this, the misbehavior of supervisors who regularly observe high school teachers' classes was meant. See the representation of this challenge in the following excerpts:

Ghaderi: *In education ministry, a well-known procedure is that some supervisors observe the classes. Unfortunately, the behavior of them is very negative, instead of being negative. This reverse effect demotivates me in managing the classroom.*

Ebrahimi: *Supervisors' comments in their regular visits from my class have a bad influence on my energy on classroom management. They think that they are the bosses of teachers. This approach towards teachers prevents them from taking appropriate measures to manage the classes.*

5. Discussion

In discussing findings related to the first research question, it can be argued that Iranian teachers are required to use different strategies to put their knowledge resources and practices of classroom management into the real context of classroom with high effectiveness. According to Čiuladienė and Račelytė (2016), classroom management

needs plans or strategies to be efficient in real teaching contexts. By the strategies which are related to and congruent with knowledge resources and practices of classroom management, classroom management is operationalized through being converted from a theoretical construct into a practical construct. To this end, as put by Jasso et al. (2016), teachers are needed to resort to various strategies in sequential or simultaneous form in a way that classrooms can be appropriately managed.

Considering the second research question, the following challenges were extracted for the Iranian teachers' classroom management: Shortage of time, shortage of facility, low motivation of students, students' behaviors, personal disturbance, heavy textbooks, and supervisors' misbehavior. In the same line with the present study, in the studies by Chory et al. (2017) and Derakhshan et al. (2020), shortage of time, behavior of students, and personal problems were found as the main challenges experienced by teachers when managing the classroom. Students' low motivation, shortage of facility and large curricula, were consistent with the results of Kazemi and Tornbolm (2008), Rasooli et al. (2019) and Taha (2022). However, supervisors' misbehavior was unique to the present study.

The Iranian teachers apparently experience challenges of classroom management due to factors which are individual, system-based, and social. Personal disturbance is obviously an individual factor. This causes classroom management malfunction/dysfunction at the individual level by occupying teachers' mind and disturbing their concentration. Shortage of time, shortage of facility and heavy textbooks are challenges which are rooted in the educational system. These are limitations which are out of the personal hands and removing which requires taking appropriate measures by top-level authorities. Low motivation of students, students' behaviors and supervisors' misbehavior are social factors which are related to inter-personal relationships of teachers with others. These act at the social level by distorting teachers' interactions and communications.

6. Conclusion

The findings of the present study led to some conclusions on Iranian teachers' classroom management. Teachers' classroom management literacy is fed by different knowledge resources. Proof for this deduction can be found in the types of knowledge resources

extracted from the data through thematic analysis. Moreover, classroom management literacy is not formed overnight but it is the product of various knowledge domains. More importantly, it can be concluded that classroom management is not an easy task for Iranian teachers. Evidence to this deduction is the mentioned challenges by the participants of the present study. They perceived classroom management as a challenging construct wherein several factors including shortage of time, shortage of facility, low motivation of students, students' behaviors, personal disturbance, heavy textbooks, and supervisors' misbehavior prevent them from managing classrooms. These challenges pave the way for the sixth conclusion: teachers are required to resort to different types of strategies to convert classroom management knowledge resources and practices into practical activities namely classroom management, in real situations. Coping with the challenges of classroom management requires using different strategies.

Findings of this research have useful insights to those involved in teaching on how to manage their classroom. The results of this study also sensitize the stakeholders to the importance of exploring classroom management among teachers, as a relatively under-probed research area. Further, the present study developed a model which can be used for guiding the pre-service and in-service teachers in classroom management. Additionally, the developed model in this study can be used as an evaluative instrument by supervisors in evaluating classroom management performance of teachers.

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EFL teachers' pragmatic awareness and classroom practices influenced by an in-service training course of meta-pragmatics**Article info****Article Type:**

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Abstract

The present study focused on the effect of an in-service meta-pragmatics training course on Iranian English as a Foreign Language (EFL) teachers' pragmatic awareness and classroom pragmatic practices. A mixed methods design was used to achieve the objectives of the study. In the quantitative phase of the study, 300 EFL teachers were selected through convenience sampling and filled out the Pragmatic Awareness Questionnaire. In the qualitative phase, 60 of those teachers participated in a pragmatic training course. They were divided into experimental and control groups and underwent the processes of pretesting, intervention, and post-testing. Furthermore, 30 of these teachers were observed in terms of their teaching inter-language pragmatics both before and after the training course of meta-pragmatics. The results of the multivariate ANOVA (MANOVA) revealed that EFL teacher's pragmatic awareness was relatively low. In addition, the findings unveiled a statistically significant difference between the EFL teachers' meta-pragmatic awareness and their practices in terms of the 'language teacher' component. Moreover, the findings showed a statistically significant improvement in the EFL teachers' pragmatic practices regarding teaching pragmatic features after receiving the instructions. The results of this study have some implications for stakeholders, namely EFL teacher trainers, EFL teachers, and EFL students.

Keywords: Classroom pragmatic practices, In-service training course, Meta-pragmatics, Iranian EFL teachers, Pragmatic awareness, Teaching pragmatics

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1. Introduction

Pragmatic competence is one of the most important aspects of communicative competence that contributes to the proper use of a second language (L2) (Bachman & Palmer, 2010). As a result, one of the primary objectives in L2 education has been to increase pragmatic awareness among L2 instructors and learners. This issue gains importance considering the fact that if EFL instructors and learners do not routinely engage with native target culture speakers, the lack of chances to be exposed to the target language in the EFL setting might make it more difficult for them to demonstrate the functional skills of the target language. As a result, they start to emphasize the appropriateness of language functions less and strive to emphasize grammatical precision (Bardovi-Harlig & Dörnyei, 1998; Hassall, 2003; Niezgoda & Roever, 2001). In other words, EFL contexts often lack sufficient opportunities for social interactions and have simple and short discourse organizations, ordinary routines, and a small number of politeness markers, resulting in a failure to fully develop pragmatic competence with limited target language input (Source needed). Teachers and learners also tend to share the same first language (L1) and cultural background. This is a serious issue for people learning a foreign language in the Iranian setting. L2 learners may thus be unable to utilize the target language correctly in communicative circumstances if they don't receive enough pragmatic training, as is the case in Iran.

A lot of foreign language education programs are run in Iran. However, there is a deficiency in teaching pragmatics adequately in such programs (Ravari & Rashidi, 2024; Shakki et al., 2020; Tajeddin et al., 2017). Besides, the English Language Teaching (ELT) teaching materials utilized in the Iranian EFL context lack pragmatic information and do not adequately prepare EFL instructors and learners for the social elements of the target language (Meihami & Khanlarzadeh, 2015). As Taguchi (2012) argues, to be successful, EFL instructors should be more aware of their capacities for pragmatic analyses. They will work harder to emphasize and include pragmatic information in the classrooms they are preparing for. Moreover, limited comprehensive research has been conducted on the impact of pragmatic instruction on Iranian EFL teachers' real classroom practices (Amiri & Birjandi, 2015; Tajeddin et al., 2018). Accordingly, the present research examined how meta-pragmatics training affected the pragmatic awareness of Iranian EFL

instructors. Furthermore, an attempt was made to investigate the effect of such training on the teachers' real classroom practices in terms of teaching pragmatics and the strategies they usually employ or develop in this respect.

2. Review of the Related Literature

Globalization, with its concomitant rapid economic development across the globe, has created an urgent need for effective communication through international languages such as English worldwide. Becoming a multilingual speaker has changed to a strategic objective that individuals from different classes of society have been spending their time, effort, and wealth to realize. It is widely recognized that engaging with individuals from diverse nationalities, cultures, and linguistic backgrounds constitutes a significant endeavor (Amiri et al., 2015). It involves the acquisition of a second/foreign language (L2), as well as the comprehension and effective expression of ideas in communication and interaction (Brown, 2014).

To accomplish such a grand objective, various approaches have been adopted, among which the communicative approach highlights the importance of attaining not only the linguistic aspect but also the functional component of the L2. Numerous researchers (e.g., Basturkmen & Nguyen, 2017; Cohen, 2020; Kasper & Roever, 2005; Savvidou & Economidou-Kogetsidis, 2019; Watson et al., 2020) have contended that language learners must cultivate their linguistic proficiency and their pragmatic proficiency, which pertains to the purpose and application of the target language, in order to effectively engage in real-life communication situations. The review of the literature on Second Language Acquisition (SLA) reveals that L2 instruction has radically shifted regarding its underlying aims and beliefs between helping learners communicate through L2 rather than pushing them to master a body of grammatical rules (Cohen, 2020; Guo & Ellis, 2021; Römer, 2023). This shift in L2 instruction can be viewed from the decline of the Grammar-Translation Method in the 20th century when Communicative Competence (CC) and Communicative Language Teaching (CLT) were proposed (Halliday, 1973; Hymes, 1972; Savignon, 1972). From that time onward, the focus of L2 teaching has been swinging between teaching the bits and pieces of language to teaching the language utility (Celce-Murcia, 2014).

Similarly, some other scholars indicate that pragmatic competence has only fairly recently become the focus of attention in SLA studies (Adlan, 2022; Alcón-Soler, 2015; Amiri et al., 2015; Bardovi-Harlig, 2018; Cohen, 2020; Glaser, 2020; Liu, 2023; Tajeddin & Alemi, 2014; Wahyuni & Arieffiani, 2021). The rationale for this recent attention, as Cohen (2020) has proposed, is three-fold. First, a theoretical enthusiasm to explore a neglected component of communicative competence has emerged, particularly in view of its significance as one of the two principal components of language competence. Second, new trends in inter-language studies view pragmatic competence as a field of study pertaining to inter-language pragmatics. Third is the necessity of preparing students to acquire pragmatics or speech acts. Therefore, to remove the above-mentioned dearth of pragmatic knowledge, L2 teachers need to receive instruction regarding the importance of pragmatic and learn how to teach and highlight pragmatic features in their classes. Besides, it has been wildly argued that developing a good command of pragmatic competence demands a more noticeable amount of instructional time and attention since it has a more complex nature, and hence, it is much harder to acquire through mere exposure to input (Alkawaz et al., 2023; Bardovi-Harlig, 2013, 2016; Cohen, 2019; Ishihara & Cohen, 2014; Taguchi, 2012). Therefore, some researchers have suggested a more explicit approach to teaching different aspects of pragmatic competence (e.g., Bardovi-Harlig, 2018; Cohen, 2020; Ishihara & Cohen, 2014; Savvidou & Economidou-Kogetsidis, 2019).

The importance of teaching pragmatics and the superiority of explicit teaching of L2 pragmatics over its implicit instruction have been proven (Sanchez-Hernandez & Martinez-Flor, 2022; Taguchi, 2011; Ziafar, 2020). The influence of explicit, implicit, and contrastive lexical approaches on pragmatic competence: The case of Iranian EFL learners. *International Review of Applied Linguistics in Language Teaching*, 58(1), 103-131.), and this indicates the need for preparing teachers to become able to implement the strategies of explicit teaching in their classes to make their students aware of the pragmatic features of English and create opportunities for them to use these features in a proper way to transfer their intended meaning (Ravari & Rashidi, 2024). With respect to the teachers' role in teaching pragmatics, Cohen (2012) points out that teachers' provision of strategies for instructing pragmatics is that L2 learners can learn pragmatic

features based on their priorities. Furthermore, he adds that L2 teachers need to raise L2 students' awareness regarding pragmatic features, as the enhancement and refinement of pragmatic competence cannot be accomplished by teachers alone. Teachers have a leading role to play in educating pragmatically competent language users. Nevertheless, their perspective and understanding of pragmatics are among the elements that affect how successful their educational sessions are. In fact, teachers' perception and awareness can have a determining effect on the time they allocate to materials and the approaches they use to teach them (Jia et al., 2006; Savvidou & Economidou-Kogetsidis, 2019).

Another pertinent aspect concerns the ELT instructional materials that are used in the L2 classroom. Since, in the EFL context, ELT textbooks are the major source of sufficient input, it seems necessary that EFL teachers highlight the pragmatic features during their teaching processes (Yeh & Swinehart, 2020). All in all, to boost pragmatic competence in L2 learners, the effects of L2 teachers, the ELT instructional materials, and the teacher education courses should be given enough attention (Meihami & Khanlarzadeh, 2015).

Instructional intervention has been shown to have "acquisitional advantages" in several pragmatic notions (Bardovi-Harlig, 2013, 2016, 2018; Bardovi-Harlig & Griffin, 2005; Povolná, 2014; Savvidou & Economidou-Kogetsidis, 2019). EFL teachers and learners are highly required to get proper pragmatic training in various circumstances. Povolná (2014) argues that it is crucial to figure out how to assist EFL instructors in becoming more aware of L2 pragmatic structures so that they may carry out assignments that improve their students' pragmatic competence (PC). As a result, EFL instructors should be made more cognizant that providing their students with the linguistic skills necessary to understand and speak the target language in context is an absolute need. To support this claim, Bardovi-Harlig and Dörnyei (1998), Kasper and Rose (2002), and Basturkmen and Nguyen (2017) argue that L2 learners who may not get enough pragmatics training may vary significantly from other learners with enough exposure to pragmatic competency instruction in their classrooms. Because pragmatic ineptitude may have a negative impact on communication, it was shown that natural speakers tolerate grammatical mistakes and errors (Cohen, 2019).

Moreover, following an examination of eight ELT textbooks for cultural content, appropriateness, politeness, speech acts, and register, Vellenga (2004) deduces that there exists an insufficiency of pragmatic information in EFL textbooks, both in terms of quantity and quality. According to Crandall and Basturkem (2004), who share the same assessment of English for Academic Purposes (EAP) textbooks, foreign language teaching and learning textbooks lack pragmatic expertise. In addition, the lack of interaction with the target language in EFL situations, as well as the absence of opportunity to practice the target language, made acquiring the functional skills of the language considerably more difficult. As a result, it seems necessary to inspect whether the ELT instructional materials have covered the pragmatic contents as well as how they have been embedded in them (Cohen, 2018).

A review of the literature indicates that the pragmatic awareness of Iranian EFL teachers and the way they actually deal with pragmatics inside their classrooms have yet to be fully investigated (Bazaei et al., 2023; Norouzian & Eslami, 2016; Ravesh & Tabrizi, 2017; Sadeghinezhad, 2023; Tajeddin et al., 2017). Moreover, despite the recent call for incorporating pragmatics into teacher training courses, it has not been shown if such courses can affect the participating teachers' awareness (Ekin & Damar, 2013). Hence, this study firstly attempted to explore the present status of Iranian EFL teachers' awareness of meta-pragmatic notions and the extent to which they were aware of pragmatic concepts. Secondly, it aimed to find out how the pragmatic awareness of Iranian EFL teachers might change after attending a meta-pragmatic instruction course. The last purpose of the study was to investigate the extent to which participating in the in-service meta-pragmatics training course could lead to improved performance in teaching pragmatic features of the textbook in the classroom context. To accomplish the objectives of the study, the following research questions were formulated:

1. To what extent are Iranian EFL teachers aware of meta-pragmatic notions?
2. Does an in-service training course on meta-pragmatics affect pragmatics awareness among Iranian EFL teachers?
3. To what extent does participating in the in-service training course on meta-pragmatics lead to Iranian EFL teachers' highlighting pragmatic features in ELT textbooks to improve their teaching of pragmatics?

3. Methodology

3.1. Design

An exploratory sequential mixed methods study was designed to get a deeper grasp of the study. The reason was that according to Mackey and Gass (2016), combining quantitative and qualitative methods may help researchers better grasp their subject. As a result, In this study, the independent variable was the in-service training course focusing on meta-pragmatics, while the dependent variables encompassed Iranian EFL teachers' pragmatic awareness, pragmatic classroom practices, and the formulation of strategies for teaching pragmatics.

3.2. Participants

The participants of the current study in the quantitative phase were 300 Iranian EFL teachers selected by convenience sampling method from eight different school districts in Tehran, including districts one, three, six, seven, eight, eleven, fourteen, and seventeen. A total of Iranian EFL male (n=93) and female (n=107) teachers with different age ranges (22 and above) were selected based on their willingness to attend the study. All the participants held a B.A. or M.A. in English teaching, English translation, or English literature and had at least three years of teaching experience.

In the qualitative phase of the study, and more specifically, for the purpose of classroom observation, which occurred both before and after the in-service training, in line with Creswell and Plano Clark (2023), 10 percent of the total participants (30 out of 300) were selected through convenience sampling, and their classes were observed. These participants were selected from among the 60 participants who voluntarily attended the training course. Thirty EFL teachers' classes were observed to investigate their practical approaches to teaching pragmatics. There were 18 female and 12 male participants with an age range of 22-35 years and experience range of 5-12 years of teaching. Eleven of them held a Master's degree and 19 a Bachelor's degree in TEFL and other related fields, as mentioned above. Subsequently, their classes were observed to scrutinize their practical implementation of teaching pragmatics.

3.3. Instrumentation

A Pragmatic Awareness Questionnaire (Bardovi-Harlig & Griffin, 2005) and Class

Observations were used to collect the required data in the current study. The pragmatic Awareness Questionnaire developed and validated by Bardovi-Harlig and Griffin (2005) was used to test the EFL instructors' pragmatic awareness. The survey involves 30 items that ask EFL instructors to rate their pragmatic awareness on a Likert scale of one to five, with one being the most pragmatically unaware and five being the most pragmatically aware (See Appendix A). The reliability of the questionnaire was estimated in the current study through Cronbach's alpha. The internal consistency of the scale was reported to be 0.93, and the internal consistency of individual factors (1, 2, 3, 4) were 0.94, 0.93, 0.86, and 0.7, respectively. Since developers of the scale have already validated the questionnaire based on factor analysis and due to the fact that no alterations were made to the questionnaire in the current study, the validity check was not taken into account.

In order to explore the third research question, the researchers observed EFL teachers' classes both before and after the in-service training program. Observations were done according to a pre-defined checklist validated through an expert judgment approach. That is to say, the checklist items were developed in line with a thorough literature review on interlanguage pragmatics in the L2 classroom and the constructed checklist underwent scrutiny in terms of both language and content by a panel consisting of five experts. Then, the researcher made the required modifications according to their comments and suggestions (see Appendix B). For each question, a five-point Likert scale was used, which ranged from one (never) to five (always). EFL instructors' emphasis on pragmatic characteristics in textbooks was examined. The researcher paid close attention to the EFL instructors' performance in the classroom. It should be noted that the researcher attended the classroom sitting in one corner where it was guaranteed that he would not affect the performance of the EFL teachers and students in order not to affect classroom activities.

3.4. Data Collection Procedure

The data collection procedure was basically categorized into four distinct phases, as described below.

Phase One: The current study was conducted through the administration of questionnaires. The questionnaires were distributed among 300 EFL teachers employed in schools across eight school districts in Tehran. It should be noted that the

questionnaires were given to the participants at their workplaces. Before the participants responded to the questionnaires, some pieces of information, including the aims of the research, various sections of the questionnaires, and simple definitions, were provided for them.

Phase Two: In the second phase, using a researcher made and validated checklist, researchers observed the classes of 30 participating EFL teachers to assess whether they incorporated and emphasized pragmatic elements within their teaching. Specifically, the researchers sought to investigate how these EFL teachers addressed pragmatic content in the ELT instructional materials before being exposed to pragmatic instruction through an in-service training course.

Phase Three: The next step of the study, which was considered the main part, was running the pragmatic training course. At this stage, 60 EFL teachers, including the 30 teachers whose classes were observed, were selected from the volunteer participants and invited to attend the pragmatic training course lasting 10 one-hour sessions. They attended the course in two experimental and control groups, with 30 individuals each. The classes were held online through *Skyroom*, a reliable Learning Management System (LMS). During this course, the EFL teachers in the experimental group became familiar with the diverse aspects of pragmatic instruction.

In the control group, the teachers worked with the school course books (i.e., Vision 1, 2, and 3) and focused on the language functions and pragmatic issues the way the teacher books mainly emphasized. Two weeks after the in-service training course enclosure, the 60 EFL teachers taking the course were tested against their pragmatic awareness knowledge as they completed the questionnaire of pragmatic awareness again.

Phase Four: After the pragmatic training course, the 30 EFL teachers' classes were observed again three times. In this phase, the classroom observations, similar to the first phase, were run according to the pre-defined checklist. The checklist investigated how the pragmatic training course had affected the teaching and assessment of the pragmatics of EFL teachers. In short, this was done to examine if the EFL teachers' pragmatic awareness had increased and was evident in their classroom practices.

4. Results

Research Question One

The first research question aimed to assess the level of awareness among Iranian EFL teachers regarding meta-pragmatic concepts. The teachers' responses to the Pragmatic Awareness Questionnaire (Bardovi-Harlig & Griffin, 2005) were subjected to descriptive statistical analysis to address this inquiry. Item 8 had the highest mean score of 3.43, indicating the need for teacher training workshops to increase language instructor's understanding of pragmatics. This indicates a perceived deficiency in understanding how to teach pragmatics among teachers, which they believe can be rectified through participation in teacher training workshops. In contrast, questions 4 and 9 had the lowest average scores ($M=2.4$). The first item expressed the intention to improve one's pragmatic competence, while the second item emphasized the importance of teachers possessing pragmatic competence as a qualification for their teaching profession. Around a quarter of the instructors concurred with item 4, but almost one-fifth agreed with item 9. Roughly 50% of the participants maintained a neutral stance on these issues, whilst approximately 20% indicated their disapproval. These data indicate that a significant number of instructors may not see improving their understanding of pragmatics as a necessary need for their career.

Concerning the EFL instructors' understanding of teaching pragmatics (questions 11-20 on the questionnaire), the item with the highest average score ($M=3.4$) was item 18: "My students inquire about pragmatic matters." This implies that learners exhibit a certain degree of interest in learning information concerning pragmatic aspects. In contrast, questions 14 and 19 had the lowest average scores ($M=2.4$). The first item expressed the idea of correcting the pragmatic faults made by my pupils, while the second item conveyed the notion that my students are conscious of their pragmatic competency. Around 25% of the instructors indicated "seldom" as their answer for both issues, while a comparable percentage chose "usually" and "always" as their replies. In relation to item 14, 60% of the participants responded with "sometimes," but 48% of the instructors selected this choice for item 19. These results suggest that, based on the instructors' perspective, learners typically have a limited understanding of pragmatic aspects, and their teachers do not consistently correct their pragmatic mistakes.

Regarding the teaching of pragmatics in schools and institutions, almost 74% of instructors answered "Never" for questions 21, 22, and 25, which asked if pragmatics is included in the teacher training courses offered by the school. "My colleagues and I engage in discussions regarding pragmatic competence," and "Supervisors and colleagues view my pragmatic competence as a characteristic of my professional effectiveness." For items 23 and 24, which refer to receiving comments from supervisors and coworkers about my ability to use language effectively and appropriately, and discussing the importance of emphasizing practical aspects in the course book with colleagues, about 71.3% of the participants chose the response option "Never." The replies suggest that most participants believe that pragmatic competence is not a central focus in the educational methods of the majority of institutions.

Regarding pragmatics instruction within course books and exams, over 55% of the teachers selected "Never," while approximately 20% chose "Seldom" for all five items. Less than 10% of the participants selected responses indicating "Usually" or "Always". Additionally, all items exhibited low mean scores, ranging from $M=1.53$ to $M=2.55$. These findings suggest a dearth of adequate activities or supplementary materials targeting teaching pragmatic features within educational settings.

Research Question Two

To address the second research question regarding the impact of an in-service training course on meta-pragmatics on pragmatics awareness among Iranian EFL teachers, a multivariate analysis of variance (MANOVA) was conducted to compare the means of the two groups across the components of meta-pragmatic awareness, including schools, language teachers, course books and exams, and language learners, to ensure their homogeneity in terms of pragmatic awareness instruction prior to the main study. Before discussing the results, it is important to note that the three main assumptions of MANOVA (i.e., normality, homogeneity of variances, and homogeneity of covariances) were met. It was reported that the ratio of skewness and kurtosis to their respective standard errors was lower than ± 1.96 . Consequently, the normality of the data was approved. Moreover, the assumption of homogeneity of variances was satisfied as the outcomes of Levene's tests indicated non-significance for all variables ($p > .05$). Additionally, the assumption of homogeneity of covariance matrices, as assessed through Box's M test, was also met

(Box's $M = 2.39$, $p = .995$).

As illustrated in Table 1, it was noted that the experimental and control groups exhibited nearly identical means on the pretest for the components of the ELT teachers' pragmatic awareness questionnaire, including schools, language teachers, language learners, and course books and exams.

Table 1
Descriptive Statistics: Pretest of Pragmatic Awareness by Groups

Dependent Variable	Group	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Schools	Experimental	34.050	.498	33.041	35.059
	Control	34.250	.498	33.241	35.259
Language Teacher	Experimental	33.000	.819	31.341	34.659
	Control	33.300	.819	31.641	34.959
Language Learners	Experimental	6.013	.146	5.718	6.307
	Control	6.113	.146	5.818	6.407
Coursebook and Exams	Experimental	6.350	.171	6.004	6.696
	Control	6.175	.171	5.829	6.521

The results of between-subjects effects (Table 2) indicated that;

1. There was no significant difference between the experimental ($M = 34.05$, $SE = .49$, 95 % CI [33.04, 35.05] and control ($M = 34.25$, $SE = .49$, 95 % CI [33.24, 35.25] groups in the pretest of *schools* ($F(1, 58) = .081$, $p = .778$, Partial $\eta = .002$ representing a weak effect size).
2. There was no significant difference between the experimental ($M = 33$, $SE = .81$, 95 % CI [31.41, 34.65] and control ($M = 33.30$, $SE = .81$, 95 % CI [31.64, 34.95] groups in the pretest of *language teacher* ($F(1, 58) = .067$, $p = .797$, Partial $\eta = .002$ representing a weak effect size).
3. There was no significant difference between the experimental ($M = 6.01$, $SE = .14$, 95 % CI [5.71, 6.30] and control ($M = 6.11$, $SE = .14$, 95 % CI [5.81, 6.40] groups in the pretest of *language learners* ($F(1, 58) = .236$, $p = .630$, Partial $\eta = .006$ representing a weak effect size).
4. There was no significant difference between the experimental ($M = 6.35$, $SE = .17$, 95 % CI [6, 6.69] and control ($M = 6.17$, $SE = .17$, 95 % CI [5.82, 6.52] groups in the pretest of *course book and exams* ($F(1, 58) = .525$, $p = .473$, Partial $\eta = .014$ representing a weak effect size).

Table 2
Tests of Between-Subjects Effects; Pretest of Pragmatic Awareness

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	Schools	.400	1	.400	.081	.778	.002
	Language Teacher	.900	1	.900	.067	.797	.002
	Language Learners	.100	1	.100	.236	.630	.006
	Course book and Exams	.306	1	.306	.525	.473	.014
Error	Schools	188.700	58	4.966			
	Language Teacher	510.200	58	13.426			
	Language Learners	16.119	58	.424			
	Course book and Exams	22.188	58	.584			
Total	Schools	46838.00	60				
	Language Teacher	44468.00	60				
	Language Learners	1486.375	60				
	Course book and Exams	1591.250	60				

A multivariate analysis of variance (MANOVA) was performed to compare the means of the two groups on the posttests for the components of schools, language instructors, language learners, and course books and examinations. This analysis addressed the second research question in the study. Prior to examining the outcomes, it is important to acknowledge that the assumption of homogeneity of variances was met. The outcomes of Levene's tests indicated non-significance for all variables ($p > .05$). Additionally, the assumption of homogeneity of covariance matrices, as assessed through Box's M test, was also met (Box's M = 18.49, $p = .090$).

Table 3 shows that the experimental group had higher means on the posttest of schools, language teachers, language learners, and course books and exams as components of ELT teachers' pragmatic awareness questionnaire than the control group. Hence, the null hypothesis, "attending an in-service training course of meta-pragmatics has no significant effect on the pragmatic awareness among Iranian EFL teachers," was rejected.

Table 3
Descriptive Statistics; Posttest of Pragmatic Awareness by Groups

Dependent Variable	Group	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Schools	Experimental	35.850	.645	34.544	37.156
	Control	33.750	.645	32.444	35.056
Language Teacher	Experimental	33.900	.974	31.927	35.873
	Control	31.750	.974	29.777	33.723
Language Learners	Experimental	6.375	.194	5.982	6.768
	Control	5.725	.194	5.332	6.118
Coursebook and Exams	Experimental	6.425	.210	6.000	6.850
	Control	5.620	.210	5.195	6.045

The results of between-subjects effects (Table 4) provided the researcher with information concerning the components of the pragmatic awareness questionnaire among Iranian EFL teachers following an in-service instructional program on pragmatics.

Table 4
Tests of Between-Subjects Effects; Posttest of Pragmatic Awareness

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	Schools	44.100	1	44.100	5.298	.027	.122
	Language Teacher	46.225	1	46.225	2.434	.127	.060
	Language Learners	4.225	1	4.225	5.599	.023	.128
	Coursebook and Exams	6.480	1	6.480	7.352	.010	.162
Error	Schools	316.300	58	8.324			
	Language Teacher	721.550	58	18.988			
	Language Learners	28.675	58	.755			
	Coursebook and Exams	33.494	58	.881			
Total	Schools	48802.00	60				
	Language Teacher	43867.00	60				
	Language Learners	1497.000	60				
	Coursebook and Exams	1490.795	60				

The results of between-subjects effects on the posttest of pragmatic awareness (Table 4) revealed that;

1. The experimental group ($M = 35.85$, $SE = .64$, 95 % CI [34.54, 37.15]) significantly outperformed the control group ($M = 33.75$, $SE = .64$, 95 % CI [32.44, 35.05]) in the

posttest of *schools* ($F(1, 58) = 5.25, p = .027, \text{Partial } \eta = .122$ representing an almost large effect size).

2. There was no significant difference between the experimental ($M = 33.90, SE = .97, 95\% \text{ CI } [31.92, 35.87]$) and control ($M = 31.75, SE = .97, 95\% \text{ CI } [29.77, 33.72]$) groups in the posttest of *language teacher* ($F(1, 58) = 2.43, p = .127, \text{Partial } \eta = .060$ representing a moderate effect size).
3. The experimental group ($M = 6.37, SE = .19, 95\% \text{ CI } [5.98, 6.76]$) significantly outperformed the control group ($M = 5.72, SE = .19, 95\% \text{ CI } [5.33, 6.11]$) in the posttest of *language learners* ($F(1, 58) = 5.59, p = .023, \text{Partial } \eta = .128$ representing an almost large effect size).
4. The experimental group ($M = 6.42, SE = .21, 95\% \text{ CI } [6, 6.85]$) significantly outperformed the control group ($M = 5.62, SE = .21, 95\% \text{ CI } [5.19, 6.04]$) in the posttest of *course book and exams* ($F(1, 58) = 7.35, p = .010, \text{Partial } \eta = .162$, representing a large effect size).

Research Question Three

To answer the third research question, the researchers observed and evaluated the classes of 30 EFL teachers taking part in the teacher training program of meta-pragmatics through a researcher-made observation checklist. This was done to find if participating in the in-service training course of meta-pragmatics could lead to Iranian EFL teachers' highlighting pragmatic features in ELT textbooks. Then, the observations for each teacher were merged, and the mean score for each item of the checklist and the valid percentages of each Likert scale (never, rarely, often, sometimes, always) were calculated.

For the teachers who attended the training course, items 19 and 20 of the checklist (Appendix B) had the highest mean score of 4.1. Detailed analysis of the valid percentage of the responses showed that the majority of the participants (90%) either often or always and 10% sometimes encouraged the students to personalize the pragmatic features and engaged the students in meta-pragmatic discussions.

It was also observed that items 1, 14, 16, and 17 had the second highest mean score ($M=4$). Concerning item 1, results of valid percentage showed that, after being exposed to the training course, all participants (sometimes= 8/26.7%, often= 13/43.3%, always=9/30%) gave feedback on the language learners pragmatic errors. With regard to

item 14, it was observed that all of the observed teachers highlighted social distance, relationship, and position between those performing a speech act in the textbook tasks (often=4/13.3%, often=22/73.3%, always=4/13.3%). It was also found that approximately two-thirds of the observed teachers (73.4 %) either often or always provided the learners with required pragma-linguistic resources (fixed chunks and phrases) and sometimes exposed the language learners to required fixed phrases and pragma linguistic resources in their classes.

Another related finding was that 70% (21) of the observed teachers often encouraged students to perform pragmatic features at the production level, and 8 (26.7%) always encouraged students to do so. It was also found that the same number of the observed teachers, 8 (26.7%), either sometimes or always provided learners with required pragma linguistic resources (fixed chunks and phrases), and about half of them (46.7%) did so.

Results also showed that 18 (60%) of the participants sometimes assigned students some homework on pragmatic features of the textbook, 9 (30%) often did so, but 3 (10%) rarely assigned the students to such homework. Finally, regarding the last two items, it was observed that 19 (63.3%) of the participants often encouraged the students to personalize the pragmatic features and engaged the students in metapragmatic discussions. In contrast, 8 (26.7%) of them always engaged the language learners in discussions and encouraged them to personalize the pragmatic features, and the rest (10%) sometimes did so.

The classroom observation results showed that items 5, 10, and 15 in the checklist had the third highest mean score (3.9) for the participants who received the training course. Detailed analysis of the valid percentage of the responses given to each item showed that all observed teachers (often/always=80%, sometimes=20%) explicitly explained socio-pragmatic features of the pragmatics cases. Concerning item 15, it can also be seen that all observed teachers (often/always=86.7%, sometimes=13.3%) compared L2 and L1 pragmatic features in their classes.

Results also indicated that items 3, 7, 12, and 13 for the observed teachers had the next highest mean score (M=3.8). With respect to items 3 and 7, it was seen that 70 percent of the observed teachers often/always referred the students to complementary

materials in their EFL classes and encouraged students to assess their peers' performance of speech acts, and 30% sometimes did so. However, with regard to items 12 and 13, the researcher observed that 28(83.6%) of the teachers sometimes corrected the pragmatic errors on the spot and sometimes after a delay, while only 2(4.4%) of the teachers often corrected the pragmatic errors either on the spot or after a delay.

Furthermore, it can be seen that items 4 and 6 had a mean score of 3.7. Detailed analysis of the valid percentage of the item options showed that two-thirds (70%) often and one-third (30%) sometimes used tasks to assess students' progress regarding pragmatic points (item 4) and made the students assess the appropriateness of speech acts they perform. Therefore, it can be argued that after receiving the training course, the teachers valued assessing the students' pragmatic performance.

Regarding the next item of the checklist, it was found that 11 (36.7%) of the teachers sometimes, 17 (56.7%) of them often, and only 2 (6.7%) of the observed teachers always got the students to assess the appropriateness of speech acts they perform. Therefore, it can be argued that the workshop increased teachers' practice of pragmatics in this regard.

Results of the classroom observation also showed that 9 (30%) of the teachers sometimes, 16 (53.3%) of them often, and only 5 (16.7%) always encouraged students to assess their peers' performance of speech acts. Teachers were also observed to see whether they addressed the textbook's pragmatic features. Results showed that 15 (46.7%) of them sometimes dealt with this feature, but 16 (53.3%) implicitly dealt with the textbook pragmatically. However, about 67.6 % (20) of the participants rarely/never overlooked the textbook pragmatic features, and only 10 (33.3) overlooked the textbook pragmatic features.

It can also be argued that after the treatment, about two-thirds of the participants (70%) rarely adopted a deductive approach to teaching pragmatic features, but 28 (93.3) of them often and 2 (6.7%) of them always adopted an inductive approach to teaching pragmatic features. About one-third of the teachers either sometimes (5, 16.7%) or always (4, 13.3%) adopted a deductive approach to teaching pragmatic features.

With regard to the teachers' correction of the pragmatic errors on the spot or after a delay, results showed that 28 (93.3%) of the teachers corrected the pragmatic errors

either after a delay or on the spot, and 2 (6.7%) often corrected the pragmatic errors either on the spot or after a delay. Results also showed that after taking part in the workshop, 22 (73.3%) of the teachers often and 4 (13.3%) always highlighted social distance, relationship, and position between those performing a speech act in the textbook tasks, and 4 (13.3%) sometimes did this. Moreover, it was found that the majority of the participants, 24 (80%) mostly, and 2 (6.7%), always compared L2 and L1 pragmatic features.

5. Discussion

The first research question of the study aimed to find the extent which Iranian EFL teachers were aware of meta-pragmatic notions. The research findings revealed that the teachers' pragmatic awareness of a certain sub-construct, namely 'language teachers,' exceeded the hypothetical average to a modest extent. This indicates that they demonstrated a greater level of understanding of the importance of teaching pragmatics by language instructors. Nevertheless, their understanding of the other three sub-constructs was much lower than the expected average. The results align with the study undertaken by Ekin and Damar (2013) in the Turkish EFL setting, which examined the teacher trainees' understanding of metapragmatic concepts. Their research revealed that trainees had a broad understanding of the theoretical aspects related to the significance of teaching pragmatics. However, this understanding was frequently restricted and shallow. In a similar vein, Savvidou and Economidou-Kogetsidis (2019) discovered that instructors did not acquire a thorough understanding of pragmatics throughout their teacher education programs. Moreover, these findings are consistent with the results obtained in other contexts, as shown by Savic's (2016) research. The study indicated that EFL instructors' understanding of metapragmatics, specifically their perspectives on politeness, differed substantially and were shaped by the value systems they adopted.

The poor knowledge of pragmatics may be attributed to the characteristics of teacher training programs. According to Glaser (2020), pragmatics is often seen as an optional addition rather than a necessary part of achieving proficiency in a second language. Consequently, pragmatics is not typically integrated into many teacher training programs. As a result, prospective language teachers may not develop a deep understanding of various aspects of pragmatics.

The second question aimed at finding whether an in-service training course on meta-pragmatics affected pragmatics awareness among Iranian EFL teachers. The findings revealed that in all the components of the meta-pragmatic questionnaire, the experimental group had higher mean scores on the posttest than the control group. Hence, attending an online in-service training course on meta-pragmatics significantly affected the pragmatic awareness among Iranian EFL teachers. The findings of the study are in line with the results of some of the previous research conducted on L2 pragmatics (Chen, 2016; Seth et al., 2019; Shively, 2010; Takimoto, 2013). The literature recorded about the effects of both virtual and real classroom training on second language pragmatics development has confirmed the effectiveness of training techniques and strategies to enhance the inter-language pragmatics ability of EFL learners and teachers (Chen, 2016; Ishihara & Cohen, 2021; Taguchi, 2022; Takimoto, 2013). The current study's experimental phase was carried out in a virtual setting. When it comes to developing a second language, several studies have shown that virtual learning is effective for L2 learners. The results of this research corroborate those of Chen (2016), who studied Chinese EFL students over the course of 10 sessions using task-based teaching and 3D multi-user virtual learning to demonstrate the efficacy of virtual world training of meta-pragmatics in second language acquisition. Based on her research, Chen concluded that EFL learners benefit from the use of 3D multimodal resources in Second Life (SL) because they provide both verbal and visual assistance. Moreover, Ishihara and Cohen's (2021) study revealed that incorporating technology into teaching pragmatics in terms of getting connected to real language use, was effective. Likewise, Taguchi's (2022) study on employing virtual reality in developing pragmatic tasks proved effective in using correct speech acts. In the same vein, Takimoto's (2013) survey on the effect of virtual learning of Samoan, as a foreign language, on Japanese undergraduate students revealed that interlanguage pragmatic norms of the target language were learned effectively. Moreover, the present study findings can take support from Shively's (2010) study proposing a model of pragmatics instruction for EFL learners studying abroad. He found that learning of Spanish culture and pragmatics was successful as it provided a model for pragmatic instruction in the study abroad context for the students and helped them improve their pragmatic knowledge of the Spanish world.

The results of the present research question are in line with the findings reported by Alemi et al. (2014). Investigating the effect of teaching experience on the EFL pragmatic rating, they found that there is a positive linkage between the teaching experience and the amount of pragmatic rating; meaning that those participants who had more teaching experience enjoy a higher level of pragmatic awareness. Moreover, the findings of the present research question are partially in line with Ren's (2022) research. In brief, he found that pragmatic instruction is more seen in the EFL teachers' classes who have been teaching English for more years. All in all, it can be said that teaching experience is a reliable predictor for pragmatic instruction.

The third research question focused on the extent to which participating in the in-service training course on meta-pragmatics could lead to Iranian EFL teachers' highlighting pragmatic features in ELT textbooks to improve their teaching of pragmatics. The results revealed that before attending the training course, the teachers always used to ignore the learners' pragmatic errors observed, dealt with the textbook pragmatic features implicitly, and overlooked the textbook pragmatic features; whereas, after receiving the treatment, they never ignored the errors or overlooked the textbook pragmatic features. Results also showed that after the treatment teachers were more concerned with the pragmatic features in their class and as a part of their teaching process, they included practical examples of pragmatics in their classes. Therefore, it can be argued that the more teachers are aware of metapragmatics, the more they are concerned with teaching pragmatic to the language learners.

The observed changes in instructors' knowledge of metapragmatics may be ascribed to many sources. One example of how the results might be better understood is through the notion of zones of proximal teacher development (ZPTD) suggested by Warford (2011). This concept is based on Vygotsky's theory of the Zone of Proximal Development (ZPD). ZPTD, or Zone of Proximal Teacher Development, refers to the difference between a teacher's present level of ability and what they can achieve with the help of an adult or more skilled peer (Warford, 2011). It appears that the training course on metapragmatics served as a scaffold for English language teachers to enhance their understanding of various aspects of pragmatics. This is because the participating teachers were provided with hints and prompts within a reflective dialogic context. In other

words, through collaborative dialogues, the participating teachers pooled their cognitive resources to collectively shape metapragmatic awareness. This process may not have occurred or been as robust without such collaborative engagement.

According to Warford (2011), instructing teachers within ZPTD is a socially situated perspective of developing teacher cognition supporting them to gain pedagogical knowledge from intermental plane (i.e. between people engaged in joint sociocultural activity) and move it to the intramental plane (within the individual). In addition, in line with a series of studies on inter-language pragmatics instruction (Alkawaz et al., 2023; Amiri & Birjandi, 2015; Amiri et al., 2015; Ren, 2022), irrespective of the course books used in the L2 classroom, teachers can enhance L2 learners' pragmatic knowledge through explicit teaching and explaining the vague points to the students. Hence, teachers' strategy development in how to teach pragmatics takes significance in the L2 classroom.

Teachers exposed to the training course explicitly explained socio-pragmatic features of the pragmatics cases to the learners, which is in line with Taguchi (2012) arguing that in the EFL context, explicit teaching of socio-pragmatic notions would facilitate inter-language pragmatic development of the learner. Moreover, it can be argued that in line with a compelling body of interventional studies that have targeted explicit/deductive and implicit/inductive teaching designs, the present study suggests explicit instruction of inter-language pragmatic notions and functions. This aligns with an overall trend in support of explicit/deductive instruction (e.g., Ishihara & Cohen, 2014; Martinez-Flor & Uso-Juan, 2010; Takahashi, 2010).

Highlighting pragmatic notions take significance for the English as a second or foreign language from both globalization (Sánchez-Hernández & Barón, 2022) and international (Sanchez-Hernandez & Martinez-Flor, 2022) perspectives. Therefore, teachers' promotion in highlighting the pragmatic features in ELT textbooks is considered an important step forward and an attempt to improve their actual teaching of pragmatics in the L2 classroom.

6. Conclusion

According to the above discussions, it can be said that raising pragmatic awareness in EFL teachers is very important to pave the way for communication skills in the L2

classroom. When the EFL teachers have a clear understanding of the significance of PC and know how to cultivate it in their classes using appropriate instruction techniques, promising results in the communication skills of the EFL learners can be expected. One of the key factors that can lead to such a high pragmatic awareness in instruction is taking part in pragmatic training courses. As the results indicated, pragmatic training programs and workshops can be highly useful to affect the attitudes of EFL teachers toward PC. The results showed that the pragmatic training course contributed to the EFL teachers' pragmatic awareness of communicative capabilities. Nevertheless, despite the increasing recognition of the significance of pragmatic awareness, it is evident that certain problematic issues require close and meticulous attention to cultivate healthier environments conducive to successful pragmatic education. Unless these challenges are addressed, the cycle of difficulties hindering the teaching of pragmatic competence will persist in the Iranian EFL context.

It can be concluded that EFL teachers need to be well aware of the importance of pragmatic features and do their best to teach them to language learners. It can also be concluded that if the EFL teachers have a clear understanding of the significance of pragmatics and know how to cultivate it in their classes using appropriate instruction techniques, they can greatly contribute to the EFL learners' communication competence. The results of this study have some implications for stakeholders, namely EFL teacher trainers, EFL teachers, and EFL learners.

The findings of the present study can have implications for EFL teachers. They could use the findings to recognize that teaching English as a foreign language entails a challenging endeavor that necessitates appropriate English usage closely intertwined with cultural values, contexts, and interlocutors. It involves fostering EFL learners' proficiency in English while also fostering their awareness of the distinctions and similarities between their native language (L1) and English (L2). The current study highlights a significant instructional responsibility for EFL teacher trainers to enhance pragmatic awareness among EFL teachers, thereby ensuring adequate attention is given to pragmatic features in instruction.

Another major implication stems from results suggesting that EFL teachers exhibit a favorable attitude toward pragmatic instruction, indicating their willingness to incorporate

pragmatic features into their classes (Kim, 2016). To successfully handle the pragmatic components of the target language, it is highly recommended that EFL teacher trainers cater to their teacher students' requirements by developing a suitable teaching style that focuses on pragmatics. Furthermore, teacher trainers need to consider the subjectivity of their teacher students when delivering these pragmatics-oriented materials, ensuring that their students' self-perception and cultural identity are respected and not compromised.

Another significant teaching implication derived from the current findings underscores the role of the teacher-researcher in teaching pragmatics within EFL contexts. The positive instructional outcomes uncovered in this study indicate the necessity of integrating pragmatic instruction effectively into institutional curricula. By doing so, language learners can benefit from enhanced learning opportunities tailored to their needs. As noted by Cohen (2012), there exists a noticeable disparity between the findings of research in pragmatics and the prevailing approaches to language teaching. Therefore, teacher-researchers must proactively incorporate pragmatic instruction into curricula, utilizing authentic audio-visual inputs and naturally occurring resources, as Derakhshan and Eslami (2015) advocate.

The findings also carry significant implications for instructors of teacher training courses. A crucial aspect lacking in language teacher education programs appears to be sufficient emphasis on L2 pragmatic competence. This comprises two interconnected aspects. Firstly, teachers themselves require instruction on pragma-linguistic and socio-pragmatic facets of language. Pragmatics represents an area of language that demands greater focus, particularly within the EFL context of Iran. The lack of knowledge and awareness of pragmatics emerged as a notable issue among the teachers in this study.

EFL learners constitute another group that would benefit from increased instruction on the pragma-linguistic and socio-pragmatic dimensions of language. Instructors in teacher training courses should emphasize to teachers the importance of imparting instruction in these language aspects to their students. EFL students can take advantage of familiarity with different strategies to enhance their inter-language pragmatic knowledge once they are exposed to such strategies and pushed to have relevant and reliable outputs.

Given the fact that the participants selected for the teaching training course were

mainly from one region in the country, which can be considered a limitation for the present study, future studies are suggested to explore the status of the Iranian EFL teachers' awareness concerning pragmatic instruction. Accruing a larger pool of data from a wider spectrum could enhance the probability of the generalizability of the findings. In addition, it is suggested that more studies be done to examine the effects of pragmatic training courses on EFL teachers' pragmatic instruction and awareness over a long period. Other researchers could also adopt sociocultural approaches to training teachers and then compare the results. Moreover, since this study was limited to the context of public and private high schools, further research can be carried out to examine how teaching pragmatics is realized in Iranian universities, private language institutes, and ESP classes. Another line for further studies could be exploring the relationship between teachers' rise in pragmatic awareness and learners' gains in learning pragmatic competence. Finally, exploring how pragmatic features presented in the ELT world are actually taught in Iranian social media can be another fertile area for further research.

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Appendix A

ELT Teachers' Pragmatic Awareness Questionnaire

Participant Background

University degree:

Major:

Gender: Male Female

Age:

Years of experience in language teaching: 1-2 5 6-10 11+

Residence in an English-speaking country: No Yes (r.....years)

Name of the school you teach at:

The highest level you teach:

Name of the course book which is used besides the book which is main focus of teaching in this school:

Directions: The questions below aims to investigate your views about pragmatic competence or the ability to appropriately use language functions (e.g. request, refusal, apology, complaint, thanking, compliment) in different formal and informal situations.

A. Language Teacher

- I am familiar with the concept of pragmatics in language teaching.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
- Pragmatic competence is important for me as a teacher.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
- I evaluate my own pragmatic competence as very good.

1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
4. I try to improve my pragmatic competence.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
5. Pragmatics is an important aspect of language teaching.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
6. The instruction of pragmatic competence should be part of an effective language teaching program.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
7. The measurement of learners' pragmatic competence should be part of an effective language testing program.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
8. Teacher training workshops are required to raise language teachers' awareness of pragmatics.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
9. Teachers' pragmatic competence should be considered as one of their qualification for a teaching career.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree
10. Teachers' pragmatic competence should be considered as a factor in their promotion and professional development.
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree

B. Language Learners

11. I make my students aware of the significance of pragmatics competence in language learning.
1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always
12. I assess my students' pragmatic competence through various activities...
1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always
13. I pay attention to my students' pragmatic errors.
1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always
14. I correct my students' pragmatic errors.
1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always
15. I care about pragmatic competence in evaluating my students' classroom activities.
1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always
16. I encourage my students to notice the pragmatics features of the textbook to improve their pragmatic competence.
1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always
17. The exams in this language center include sufficient items to assess students' pragmatic competence.
1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always
18. My students ask me questions about pragmatic issues.
1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

19. My students are aware of their pragmatic competence.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

20. My students pay attention to the pragmatic features

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

C. Schools and Institutions

21. Pragmatics is addressed in the school's teacher training courses (TTC).

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

22. My colleagues and I discuss the issues related to pragmatic competence.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

23. Supervisors and colleagues comment on my pragmatic ability and appropriateness.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

24. My colleagues and I discuss the need to emphasize pragmatics features in the course book.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

25. Supervisors and colleagues consider my pragmatic competence as feature of my professional efficacy.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

D. Course book and Exams

26. Activities in the course books include features related to pragmatic competence.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

27. Activities in the course books are sufficient for improving my students' pragmatic competence.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

28. There are supplementary materials in this school to teach pragmatic competence to students.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

29. There are questions in the school's exams which assess students' pragmatic competence.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

30. The school's exams encourage students to focus on pragmatic features in their course books.

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

Appendix B

Class Observation Checklist on the Pragmatic Features

Never=1 | **Rarely=2** | **Sometimes=3** | **Often=4** | **Always=5**

No.	Item	1	2	3	4	5
1	The teacher gives feedback on pragmatic errors.					
2	The teacher neglects pragmatic errors.					
3	The teacher refers the students to complementary materials.					
4	The teacher uses tasks to assess students' progress regarding pragmatic points.					
5	The teacher explicitly explain socio-pragmatic features of the pragmatics cases.					
6	The teacher get the students to assess the appropriateness of speech acts they perform.					

7	The teacher encourages students to assess their peers` performance of speech acts.						
8	The teacher implicitly deal with the textbook pragmatic features.						
9	The teacher overlooks the textbook pragmatic features.						
10	The teacher adopts a deductive approach to teaching pragmatic features.						
11	The teacher adopts an inductive approach to teaching pragmatic features.						
12	The teacher corrects the pragmatic errors on the spot.						
13	The teacher corrects the pragmatic errors after a delay.						
14	The teacher highlights social distance, relationship and position between those performing a speech act in the textbook tasks.						
15	The teacher compares L2 & L1 pragmatic features.						
16	The teacher encourages students to perform pragmatic features at production level.						
17	The teacher provides learners with required pragma linguistic resources (fixed chunks and phrases).						
18	The teacher assigns students some homework on pragmatic features of the textbook.						
19	The teacher encourages the students to personalize the pragmatic features.						
20	The teacher engages the students in meta-pragmatic discussions.						

The impact of interactionist vs. interventionist dynamic assessment on writing fluency and complexity of young vs. adult IELTS candidates

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Abstract

According to sociocultural theory, dynamic assessment (DA) merges instruction and assessment. This study attempted to compare the effects of interactionist versus interventionist DA on the writing fluency and complexity of adult versus young IELTS candidates in an international language school in Tehran with the age range of 15-48. One hundred and forty students (90 males and 50 females) who had enrolled in the IELTS preparation course in the spring of 2021 participated in this study. The study participants were divided into four groups namely, young interactionist, young interventionist, adult interactionist, and adult interventionist. The participants in all groups were homogenized based on the result of their performance in a standard version of Preliminary English Test (PET). During the eight-week treatment period, the interactionist groups were given writing tests followed by the instructor's feedback and guidance, while the interventionist groups received instructions and were given writing test samples without qualitative feedback. The pre-test and post-test comparisons among the four groups by Two Way ANCOVA showed that both young and adult individuals in the interactionist groups had a significant improvement in their writing performance compared to those in the interventionist group. In addition, the study revealed the significant impact of interactionist DA vs. interventionist DA on both young and adult participants' scores in both writing fluency and complexity post-test. Likewise, the results showed no statistically significant interaction between the type of assessment and the candidates' age. The study presents pedagogical implications for teachers, students, and IELTS preparation program designers.

Keywords: Interactionist Dynamic Assessment, Interventionist Dynamic Assessment, IELTS Candidates, Writing Fluency, Writing Complexity

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1. Introduction

Dynamic assessment (DA) has emerged as a valuable tool for addressing challenges encountered by foreign or second language (L2) learners. It seamlessly blends instruction and assessment, reflecting the intertwined nature of teaching, learning, and evaluation (Lantolf & Thorne, 2006; Leung, 2007; Poehner & Infante, 2015; Poehner & Lantolf, 2005; Shrestha & Coffin, 2012). Different models of DA have accelerated the simultaneous teaching and assessment of various language skills, such as reading comprehension, writing, speaking, and listening (Malmir, 2020). Rooted in Vygotsky's sociocultural approach to education, DA holds promise in uncovering and addressing learners' needs (Leung, 2007; Poehner & Lantolf, 2005).

Among the models of DA, two have gained prominence in the literature: the 'interventionist' and 'interactionist' approaches. These models offer distinct perspectives on mediation and assessment. The 'interventionist' model, influenced by Vygotsky's early work in intelligence testing, employs standardized mediation for all learners (Lantolf & Poehner, 2004; Fulcher, 2010). In contrast, the 'interactionist' paradigm is characterized by frequent evaluations of the learner's current level of growth and an emphasis on direct interaction between the assessor or mediator and the learner (Lantolf & Poehner, 2004). Despite criticisms of the 'interactionist' approach, which question its ability to differentiate between learners' comprehension and the assessor's impact, it aligns more closely with Vygotsky's original theories and the concept of the Zone of Proximal Development (ZPD) (Budoff, 1987; Minick, 1987).

The flexibility offered by DA has revolutionized the assessment of individuals' linguistic abilities. Studies have explored DA's application in different language skills and components (Abdolrezapour, 2017; Ableeva, 2010; Ahmadi Safa & Rozati, 2017; Alavi & Taghizadeh, 2014; Aljaafreh & Lantolf, 1994; Anton, 2009; Kozulin & Garb, 2004; Poehner, 2005). However, despite the recognized potential of DA in teaching English skills, its application to writing skills remains relatively unexplored (Ajideh & Nourdad, 2012; Birjandi et al., 2013; Kushki et al., 2022; Pishghadam & Barabadi, 2012; Saeidi & Hosseinpour, 2013).

Writing is particularly challenging for L2 learners due to the complex interaction between the writer and reader, requiring specialized instruction (Irwin & Liu, 2019; Kushki

et al., 2022). Traditional corrective approaches in writing instruction, such as red-pen corrections, have raised concerns among scholars. There is a perception that students may not effectively absorb feedback from teachers, leading to questions about its utility (Guenette, 2007; Valero et al., 2008; Ferris, 2004; Lee, 1997; Truscott, 1996; Zamel, 1985). As a result, there is a need for more effective feedback techniques in writing instruction.

Another factor which has been considered effective in benefiting from dynamic assessment in EFL classrooms is age (Lidz, 1987; Malmeier & Zoghi, 2014; Poehner & Wang, 2021; Zohoor et al., 2021). In his research on the cognitive development of children, Vygotsky (1998) discovered that with assistance, a two-year-old child can exhibit the same level of ability as a seven-year-old child. He asserted that current evaluation models would resemble a hollow medical diagnosis, where a doctor's role is just to restate the patient's recognized problem using scientific terminology. DA, an acronym coined by Luria in 1961, aims to accomplish this goal, as proposed by Vygotsky. The term DA, which originated from the study of young children, is still uncertain in its ability to impact both young and adult learners to the same degree (Azizi & Namaziandost, 2023; Poehner & Wang, 2021). Recognizing this issue can illuminate the field of language pedagogy and open up new possibilities for future research. Therefore, this study aimed to bridge this gap by investigating the efficiency of interventionist and interactionist DA models in enhancing writing skills for IELTS candidates.

Lev Vygotsky's sociocultural theory (SCT), sometimes called the theory of mind, provided the theoretical underpinning for the current DA investigation (Poehner & Wang, 2021). Cognitive and higher-level mental function development is the foundation of SCT. The foundation of dynamic evaluation may be found in Vygotsky's works on the zone of proximal development (ZPD), which have been extensively studied in the fields of education and psychology. DA stands out from other assessment methods because it emphasizes the importance of guiding questions, hints, and prompts to the examinee's performance throughout the assessment process. This helps to understand his or her abilities and encourages development while the assessment is being conducted (Lantolf & Poehner, 2014). In addition, as Lantolf and Poehner (2004) contend, DA takes into consideration the quantity and type of examiner investment and places an emphasis on

the learning process. Additionally, DA holds that cognitive capacities may be shaped and that there exists a zone of proximal development that separates latent capacity from actually acquired ability (Daneshfar & Moharami, 2018).

Despite the widespread acknowledgment of DA's potential, research on its effectiveness, particularly in high-stakes tests like IELTS, remains limited. IELTS candidates are expected to gain mastery over different language skills and get ready for the test in a relatively short time. They have already got familiar with the English language, but their mastery over language skills requires their efficient learning and L2 development, which in turn bound to their ability to make use of dynamic assessment to recognize their weaknesses and enhance their strengths. Furthermore, there is a paucity of studies examining the interactionist and interventionist DA models' efficacy in enhancing writing skills for IELTS candidates. Accordingly, the present study focused on two types of DA, namely interventionist and interactionist, to estimate their comparative effects on the EFL learners' writing complexity and fluency across young and adult learners.

2. Review of the Related Literature

Social interaction is fundamental to the development of cognition and human intelligence and has its origins in one's social and cultural milieu (Vygotsky, 1978). In his sociocultural theory, Vygotsky argues that for individuals' mental framework to grow, there are two levels at which their cultural development in social interactions can be observed: first, between the person and other people (inter-psychological) and second, within the individuals themselves (intra-psychological). Vygotsky argues that this is also the case for concept development, logical memory, and voluntary attention. All higher functions begin as actual connections between people (p. 57). Another aspect of Vygotsky's theory, Zone of Proximal Development (ZPD), is the idea that there is a limited area where cognitive growth may take place. This "zone" refers to the area of study where the student has shown cognitive competence but where further progress need guidance and collaboration from peers (Briner, 1999). The learner can be given "scaffolding" by a teacher or more competent peer to help them build sophisticated abilities or a growing understanding of different knowledge domains. Dynamic assessment (DA), as one of the offshoots of the scaffolding perspective, has proved effective in foreign language

classroom (Abdolrezapour & Ghanbari, 2021).

Sternberg and Grigorenko (2002) assert that there are three main methodological distinctions between DA and non-DA approaches to evaluation. One is that DA projects step towards the future by attempting to identify and develop emergent abilities, whereas non-DA concentrates on past, matured abilities. The role of the examiner is the subject of the second distinction. While non-DA requires examiners to play a neutral role and not interfere with the testing environment, DA is defined by the examiner's intervention and integration of teaching into the assessment process. The last characteristic that sets DA apart from non-DA is the provision of qualitative feedback during the examination. Any assessment format may be dynamic so long as mediation is included in the assessment procedure (Lantolf & Thorne, 2006).

Lantolf and Poehner (2004) introduced interventionist and interactionist approaches of DA and argued that the methods of providing mediation are where the approaches diverge. The interactionist model entirely combines evaluation and instruction so that neither one can exist without the other (Poehner, 2008). He further argued that this paradigm differed from previous instructional methods in prioritizing teaching students how to acquire new information. It aimed to increase the learners' capacity for learning critical skills and identifying effective problem-solving techniques. Lantolf and Poehner (2008) also asserted that interactionist DA follows Vygotsky's predilection for cooperative dialoging in which assistance emerged from the interaction between the mediator and the learner. Hence, interactionist DA is especially attuned to the learner's zone of proximal development (ZPD). Vygotsky (1978) defined ZPD as the gap between an individual's actual level of development as measured by their ability to solve problems on their own and their potential level of development as measured by their ability to work together with more advanced peers to solve problems. His hypothesis stated that while a learner is in their ZPD, they are able to absorb information more. Moreover, working inside the learner's ZPD allows us to examine both the brain functions that have already been completely formed as well as those that are still in the process of development.

According to Poehner (2008), the interventionist model differs from the interactionist model in that mediation proceeds from the most implicit to the most explicit options and concludes with an accurate response. The tests in this model are conducted using a

generally uniform procedure. If the student is unable to complete the assignment satisfactorily, so the teacher gives him or her the necessary prompts. Moreover, as Poehner presents, interventionist assessment focuses on a scripted and quantitative evaluation method, such as psychometric testing, while interactionist assessment relies on an interactive and qualitative approach to assessment.

One distinctive feature of interventionist DA is the use of standard operating procedures (SOPs) and other types of support to provide quantifiable outcomes that may be highlighted for group comparisons on other scales and for prediction of future test scores (Poehner, 2008). In this model's typical test-teach-retest architecture, the student's ZPD is quantitatively determined as the variations in their performances and test results before and after the teachers' involvement. As Guenette (2007) argued, evaluation incorporates measurable preprogrammed help and focuses on quantitative psychometric measurement in the interventionist paradigm. Standardized treatments are a great way to assist advance the assessment process' predictive validity. Such interventions are created to examine an individual or group's ability to utilize planned guidance, feedback, and support.

Research on the impact of DA and its varieties on the proficiency of EFL students in various L2 domains is extensive. However, the studies conducted on the application of DA in writing assessment seem to be scarce. For instance, Miao and Mian's (2013) study in the Chinese EFL context aimed to find the likely impact of DA on EFL learners' writing complexity, accuracy, and fluency (CAF) along with local and global coherence. Their study showed that the learners exposed to DA could outperform the others in the writing post-test regarding both sentence and discourse level scores.

In addition, in an effort to better understand how learners responded to DA interventions and how they wrote in Web 2.0 contexts, Zafarani and Maftoon (2018) examined participants' works before and after online and in-person collaborative mediation to evaluate their effects on second language authors. The learners' pre- and post-tests' total information, syntax and vocabulary difficulty, and text volume were examined. Blogging as a Web 2.0 mediation tool improved the participants' writing performance the most. Asynchronous collaborative computer-mediated group showed substantial gains in paragraph length, lexical complexity, and syntactic complexity

compared to face-to-face mediated group. They concluded that DA methods using Web 2.0 technology enhanced L2 learners' writing, thus language practitioners and instructors should consider using it in L2 writing courses. In the same vein, when it came to the grammatical correctness of the narrative writing produced by EFL learners, Tabatabaee et al. (2018) contrasted the results of interventionist DA, cumulative Group-DA, and static assessments. The researchers found that when it came to boosting the accuracy of the EFL students' narrative paragraph writing, cumulative Group-DA was the most effective approach.

Further, Khorami Fard and Derakhshi (2019) did a study using the Vygotskian SCT of mind and the concept of DA. They divided the participants into two groups: DA and non-DA. According to their errors, the DA group underwent intervention/mediation (interventionist DA) over five sessions, while the non-DA group received no mediation or feedback. They employed the sandwich model of dynamic assessment. In contrast to the control group, the experimental group participants who got mediation comprehensively resolved their writing issues in a more acceptable way. In other words, using DA as an alternate testing method had a positive impact on test results as well as writing fluency of the participants.

Likewise, Sardarianpour and Kolahi (2021) attempted to compare the impact of dynamic and negotiated evaluation on EFL learners' writing complexity and fluency. Their study participants were divided and placed into three groups: negotiated assessment, traditional instruction, and DA. They found out that while DA was considerably effective in enhancing writing complexity, negotiated assessment greatly outperformed both control and dynamic assessment groups in terms of increasing writing fluency. However, DA did not significantly outperform negotiated assessment in terms of increasing writing complexity.

With respect to age, as a decisive factor for learners, to get along with dynamic assessment, the assumption is that young and young adults are more vulnerable to dynamicity (Lidz, 1987; Poehner & Wang, 2021). However, some other studies have found that adults can apt themselves with dynamic assessment more than young EFL learners (Malmeer & Zoghi, 2014; Zohoor et al., 2021). Furthermore, Larsen and Nippold (2007) found that young learners are more in need of scaffolding than adults. In their

study, a positive correlation between the children's literacy levels and their performance on the DA task was observed, revealing a wide variety of ability levels in the young learners. Using morphological analysis to explain new words' meanings came easily to some young learners, but others needed more adult scaffolding. Vygotsky (1998) found that young learners' performance with the help of adults can equal that of young adults. However, the extent to which the term DA can influence learners of all ages remains debatable (Azizi & Namaziandost, 2023; Poehner & Wang, 2021).

Although the review of the related literature shows a substantial amount of research conducted to investigate the role of DA and its types on various language skills and sub-skills in various contexts, L2 writing quality features such as fluency and complexity, are almost missing. Due to the significance of complexity, accuracy, and fluency (CAF) in writing quality assessment considering the age of the learners, the urge of focusing on the impact of DA types on the development of such writing features is more felt. Therefore, there seems to be a genuine need to bridge the gap and add to the existing knowledge regarding the practicality and usefulness of carrying out DA procedures to help IELTS test takers' writing performance. Consequently, the present study intended to examine the effect of implementing interactionist and interventionist DA procedures on Iranian IELTS learners' writing skill in terms of complexity and fluency. In pursuit of this goal, the following research questions were addressed in this study:

1. Is there any significant difference between the effects of interactionist vs interventionist assessment types on young and adult Iranian IELTS candidates' writing fluency?
2. Is there any significant difference between the effects of interactionist vs interventionist assessment types on young and adult Iranian IELTS candidates' writing complexity?

3. Methodology

3.1. Design

The present study employed a quasi-experimental pretest-posttest design. In this section, detailed information about the participants, instruments used to collect and analyze the

data, and the procedure of the study will be presented.

3.2. Participants

The study adopted a non-random convenience sampling to select participants from the available groups. Accordingly, 140 candidates out of an initial group of 168 individuals who had enrolled in a language Institute to get prepared for the IELTS exam in the spring of 2021 agreed to participate in the study. The participants, both male (n=90) and female (n=50) and at the age range of 15 to 48, were divided into four groups namely, young interactionists (32), young interventionists (32), adult interactionists (38), and adult interventionists (38). Following Bermejo Boixareu's (2023) classification of learners into age groups, the age of 19 was considered as the cut-off age to divide the sample into two groups of adults (above 19) and young (up to 19) participants. The number of participants in the adult and young groups was 76 and 64, respectively. Each group was subsequently divided into two equal groups who were randomly assigned into two types of treatment, namely, interactionist and interventionist DA.

3.3. Instrumentation

The instruments used in the present study included a standard test of English language proficiency known as the Preliminary English Test (PET) and two writing tests, the pretest and the post-test. The instruments are explained in detail below:

Preliminary English Test (PET)

The researchers utilized the PET to assess the participants' general English proficiency, as its format aligns with that of the IELTS test, albeit with a lower difficulty level. The PET comprised reading, writing, listening, and speaking sections, with a maximum score of 100. Orozco and Shin (2019) examined the PET's inter-rater reliability, reporting reliability estimates for each section and confirming the test's construct validity through confirmatory factor analysis. In the current study, the PET demonstrated a KR-21 reliability index of .82, which is considered appropriate for assessing English proficiency. Fulcher and Davidson (2007) suggest that tests with reliability estimates below 0.7 are unreliable, while high-stakes tests typically aim for estimates exceeding 0.8 or 0.9.

Writing Pre- and Post-tests

Two IELTS writing tasks were administered as pre and post-tests in the study. Task 1

involved writing a short informal or semi-formal letter (150 words) in response to a situation, while Task 2 required composing an essay (250 words) addressing a point of view or problem. The pretest aimed to assess participants' writing ability and specific features such as syntactic complexity and fluency. Participants received a topic, and their writing was evaluated based on a rubric covering these components. After the treatment, participants completed a post-test writing task, which was analyzed for complexity and fluency. Inter-rater reliability was established for both tests, and the average ratings were used in the analysis. Fluency was assessed by the average number of words per T-unit (W/T), while complexity was measured using the average number of clauses per T-unit (C/T) suggested by Larsen-Freeman (2006). Overall writing performance was evaluated using the IELTS writing scale, with scores converted to the Test of Written English (TWE) scoring guide for ease of calculation.

Raters

The reliability of the writing assessments was ensured through an inter-rater method involving two independent raters. In cases where there was a significant discrepancy between scores (i.e., more than 1), a third rater was consulted. One of the researchers was experienced in IELTS writing task scoring and the other two were university lecturers trained as IELTS mock examiners. They were briefed on the CAF descriptor for evaluating complexity, accuracy, and fluency, while the IELTS rubric was used for overall scoring. Inter-rater reliability was assessed for both pretest and post-test writings. Significant agreement was found between the raters for both the pretest ($r = .863$, $p < .05$) and post-test ($r = .882$, $p < .05$), indicating a large effect size. Similarly, significant agreement was observed for pretest and post-test fluency, complexity, and accuracy, with all correlations representing a large effect size (ranging from .795 to .905, all $p < .05$). However, in the present paper, fluency and complexity were taken into account and accuracy was reported in another article (see Kashef et al., 2024).

3.4. Data Collection Procedure

The data collection procedures in the present study were done in three phases: pretest, intervention, and post-test.

3.4.1. Pretest Phase

The initial number of participants was 168, from whom 140 candidates agreed to

participate in the study. At first, the participants (n=140) were divided into two groups considering their age as young (64) versus adult (76). Then, each young and adult group was randomly split into two equal subgroups, interventionist versus interactionist DA, during their instructional course. Therefore, there were four groups, young interactionists (32), young interventionists (32), adult interactionists (38), and adult interventionists (38). Then, the PET was administered to all groups to check the participants' language proficiency level. The study population was considered as B1; intermediate level based on the Common European Framework of Reference (CEFR) (<https://www.cambridgeenglish.org>). Subsequently, the participants in the four study groups received the pretest of L2 writing, and the collected scripts were scored in terms of writing complexity and fluency.

3.3.2. Intervention Phase

During the intervention phase, both the interventionist and interactionist groups received identical instruction, course materials, and hours of teaching over eight weeks. The only difference laid in the feedback and assessment methods employed. In the interactionist groups, students engaged in dynamic assessment through various activities. They were divided into subgroups for collaboration and assigned writing tasks from the course book. The teacher corrected their writing samples through individual interaction, providing assistance and feedback. Additionally, meta-pragmatic instruction was used, wherein learners and the teacher discussed writing topics together to clarify language usage. Classroom discussions were facilitated, and the teacher continuously provided scaffolding within the learners' ZPD. Hence, in line with Lantolf and Poehner (2010), the intervention followed several steps as follows:

Step 1: The researcher divided students into subgroups of 4-5 learners to encourage cooperation and coordination among them.

Step 2: The researcher instructed the participants to write about the assigned topic, which was selected from the course book, before discussing and sharing their understanding in their respective subgroups.

Step 3: In the third step, the teacher asked the students to specify what they exactly wanted to say, talked about their blueprint, and presented what they had in mind in case they had already read about the topic. Then, she provided them with some guidelines in

writing, such as brainstorming, categorizing the information, and developing a blueprint prior to starting writing.

In addition, the students were asked to search the internet, find a text about the topic in their sub-groups, read the text, and discuss their understanding with their team members. The teacher provided guidelines for reading, taking notes, and discussing the content with their peers. While the students were reading the text and taking notes, the teacher supervised them and provided them with guidelines concerning how to look at the meaning of new idiomatic expressions in their dictionaries, learn from the sentences written in the text, and use them in their own writing. While the students were discussing the content of the text to be written, the teacher made notes of the major problems, especially with regard to the use of structures and dictions. She intervened in some cases to help resolve problems by providing clues and asking relevant questions, leading them to the accurate procedures to take. In general, the teacher monitored the discussions among the learners in each group and provided them with corrective feedback when needed. This way, learners' L2 writing ability was constantly assessed by the teacher, who spent some time with each group, taking part in their discussions and writing performance.

Step 4: The learners of this experimental group were then instructed to complete the corresponding writing tasks in the book independently. For example, the writing section focused on some idioms about food and favorite cuisines. The learners were supposed to read the dialogue and write about it in their own words. They were to use idioms such as "I've cut back," "it is not my cup of tea," and "time and again," as addressed in the text.

Step 5: The researcher then took part in each subgroup for a predetermined amount of time. The teacher used the cumulative interactionist DA method, which relied on cooperation among learners when they built their ideas to expand their assigned writing based on the previous views given by their classmates or helped each other to build the proper piece of writing for the given topic. The interactionist DA model has the instructor working with students one-on-one through a sequence of DA exchanges until the class has mastered the material (Poehner, 2009). To put it more simply, in accordance with Poehner (2009) and Miri et al. (2017), students took turns playing the role of the teacher's main conversationalist, with the idea that the next one-on-one sessions would be more

fruitful if they built upon previous ones that the class had observed. Accordingly, the teacher called on a student to respond to the opening query, i.e., *presenting healthy food features* while making sure that the other students were paying attention. If the learner's response written in the form of a paragraph was accurate, the teacher provided her with encouraging feedback, and if it was not effective, she would ask the other group members to help her correct her writing. All the students in a group took part in the activity. The teacher played a monitoring role and mediated when needed, providing the learners with corrective feedback.

Step 6: The researcher provided the learners with techniques consistent with interactionist approaches to DA, such as *hints, leading questions, explicit feedback, and recommendations* (Lantolf & Poehner, 2014). The teacher and students were in constant communication until the students could arrive at an orderly piece of writing about the given topic.

Step 7: Assessment: in the interactionist group DA, through collaboration between the student and the assessor, the participants were evaluated and provided with the necessary support. The improvement in this approach was greatly sensitive to the developed group's ZPD of the learners. In the interactionist group, the continual interaction among the students and the teacher could provide a teaching atmosphere in which a group's ZPD is potentially created, which can result in a more profound and conceptually based understanding of the given activities in the L2 classroom (Miri et al., 2017). Hence, the learners were asked to develop their final draft of writing for the assigned topic, review it in their group, receive the consent of all the group members, and then submit it to the teacher.

In line with Lantolf and Poehner (2013), the DA techniques were used to treat the interventional DA groups. The instructor provided calculated interventions and direct teaching to assess and foster learners' performances for the pragmatic tasks.

Accordingly, learners in the second experimental group underwent the following steps.

Step 1: The researcher divided the learners into small subgroups.

Step 2: The interventionist group participants were given writing instructions and received some sample model writings from previous high scorers of IELTS writing to use as an acceptable model to compare with their own writing.

Step 3: The learners were also given test samples from standard writing tests, and the teacher scored their writing samples. The results were quantitatively reported back to the participants. The teachers' qualitative feedback to individual learners was missing in the interventionist condition.

In order to help learners enhance their writing abilities and complete the given assignment, the researcher relied on the provision of support and mediation. If students were successful with target activities, the instructor created more difficult work, such as asking them to discuss and then write about an incident that happened to a classmate. This way, she avoided using mediatory intervention.

Step 4: These intermediary interventions were provided by the teacher in accordance with the claims and principles of DA. They helped the students improve their second language knowledge, particularly their writing skills and knowledge within their ZPD, and they worked together with More Knowledgeable Other (MKO). In order to get the student to reevaluate her/his writing, one tactic is *to pause*, which is entirely non-verbal and tacit.

Step 5: The teacher resorted to direct, clear explanation as a final resort after attempting various types of mediation that were unsuccessful. The mediator/researcher in this group provided the same hints for all learners and gave feedback directly and explicitly based on the needs of the learners in the group.

Step 6: Assessment: the impact of interventionist DA was examined. To help learners get aware of their approach, the researcher also evaluated their IELTS writing CAF through writing exams that were given after every other session. In their writing assignments, the students received instructor interventions, just like the other DA group, to evaluate and enhance their use of appropriate structures and styles. The learners received DA-based intervention following the Lantolf and Poehner (2014) scale. If the student's response was accurate, mediation wouldn't be necessary. However, if the student's writing was disorganized, the instructor would choose one of the 8 forms provided by the aforementioned Lantolf and Poehner (2014) scale.

In the interactionist dynamic assessment classroom, the teacher and student engaged in a more collaborative and interactive discussion. The teacher provided feedback on the student's essay, identified areas for improvement, and guided the student in brainstorming ideas and developing their arguments. The focus was on the student's

active participation, and the teacher's role was to facilitate learning and growth.

In the interventionist dynamic assessment classroom, the teacher took a more directive approach. The teacher pointed out specific issues in the student's essay and provided direct instruction on how to address them. The focus was on the teacher's intervention and guidance, with the intention of correcting errors and improving the student's performance. The student's role was more passive, as they followed the teacher's instructions and made the necessary changes based on the teacher's feedback.

3.4.3 Post-test Phase

All four groups of students took the IELTS writing post-test when the 8-week (16-session) intervention ended. Learners' performances were evaluated in terms of fluency and complexity. A consistency coefficient of .88 was obtained by the Pearson Correlation statistics, which determined the inter-rater reliability of the scores. To further ensure intra-rater consistency, the researcher double-checked and scored a few written samples; the resulting coefficient was as high as .89.

4. Results

Each participant took the PET. The normality of the scores' distributions, as a prerequisite to running parametric tests of inferential statistics, was checked and confirmed by running One Sample Kolmogrov-Smirnov (KS) test ($p > .05$). The descriptive statistics for the PET results are presented in Table 1.

Table 1

Descriptive Statistics: PET Scores Obtained from Four Groups

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	32	67.09	7.050	1.246	64.55	69.64	50	78
2	32	70.19	5.772	1.020	68.11	72.27	58	80
3	38	68.89	6.657	1.080	66.71	71.08	51	80
4	38	70.47	6.745	1.094	68.26	72.69	55	81
Total	140	69.21	6.644	.561	68.10	70.32	50	81

As seen in Table 1, the mean scores observed in the four groups were very similar. However, the parametric test of One-way ANOVA was run to examine the significance of

the probable differences among the groups. Table 2 shows the results of the analysis for PET scores of participants in four groups.

Table 2

Results of One-Way ANOVA by Groups' PET Scores

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	238.346	3	79.449	1.832	.144
Within Groups	5896.646	136	43.358		
Total	6134.993	139			

As seen in Table 2, the p-value observed in the ANOVA test was .144 and above the alpha level of significance ($p > .05$), so the equality of the means hypothesis was not statistically rejected. This means that the differences among the means observed in the four groups were not statistically significant. The four groups were almost equal in terms of general English proficiency.

Research Question One

The study intended to find if there was any significant difference between the effects of interactionist vs interventionist assessment types on young and adult Iranian IELTS candidates' writing fluency (WF). Table 3 shows the descriptive statistics for young and adult interactionist and interventionist groups on posttest of WF after controlling for the effect of pretest. Both young interactionist ($M = .935$, $SE = .047$) and interventionist ($M = .874$, $SE = .038$) groups had higher means than that the adult interactionist ($M = .916$, $SE = .039$) and interventionist ($M = .856$, $SE = .053$) groups on the posttest of WF after controlling for the effect of pretest.

Table 3

Descriptive Statistics; Post-test Scores of WF by Groups by Age with Pretest

Age	Group	Mean	SE	95 % Confidence Intervals	
				Lower Bound	Upper Bound
Young	Interactionist	.9359	.04717	.531	1.262
	Interventionist	.8744	.03852	.471	1.369
	Total	.9052	.05279	.522	1.401
Adult	Interactionist	.9168	.03987	.697	1.309
	Interventionist	.8561	.05340	.632	1.338
	Total	.8864	.05592	.624	1.221
Total	Interactionist	.9256	.04409	.721	1.291
	Interventionist	.8644	.04775	.639	1.303
	Total	.8950	.05512	.649	1.237

a. Covariates appearing in the model are evaluated at the following values: VAR00001 = 1.21.

Table 4 shows the main results of Two-Way ANCOVA. The results indicated that age did not have any significant effect on the performance of the EFL learners on WF ($F(1, 135) = 1.96, p > .05, \text{partial eta squared} = .011$); however, type of treatment (interactionist vs. interventionist) had a significant effect on WF ($F(1, 135) = 104.37, p > .05, \text{partial eta squared} = .437$). The results also indicated that there was not any significant interaction between age and type of treatment ($F(1, 135) = .084, p > .05, \text{partial eta squared} = .001$).

Table 4

Tests of Between-Subjects Effects; WF Scores at the Post-test with pretest

Dependent Variable: Post-WF						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pre-WF	.109	1	.109	86.975	.000	.390
Age	.002	1	.002	1.960	.164	.011
Group	.131	1	.131	104.377	.000	.435
Age * Group	.000	1	.000	.084	.772	.001
Error	.170	135	.001			
Total	112.566	140				

a. R Squared = .521 (Adjusted R Squared = .507)

Research Question Two

The second research question was an attempt to check if there was any significant difference between the effects of interactionist vs interventionist assessment types on young and adult Iranian IELTS candidates' writing complexity. Table 5 shows the descriptive statistics for young and adult interactionist and interventionist groups on posttest of WC after controlling for the effect of pretest. The results indicated that both young ($M = 1.84, SE = .387$) and adult ($M = 1.84, SE = .393$) interactionist groups had higher means than the young ($M = 1.52, SE = .216$) and adult ($M = 1.53, SE = .271$) interventionist groups in the posttest of WC.

Table 5

Descriptive Statistics; Post-test Scores of WC by Groups by Age with Pretest

Age	Group	Mean	SE	95 % Confidence Intervals	
				Lower Bound	Upper Bound
Young	Interactionist	1.8434	.38781	.932	2.286
	Interventionist	1.5247	.21671	.884	1.965
	Total	1.6841	.35059	.797	2.164
Adult	Interactionist	1.8463	.39312	.824	2.354
	Interventionist	1.5316	.27133	.791	2.564
	Total	1.6889	.37102	1.044	2.721
Total	Interactionist	1.8450	.38787	1.11	2.436
	Interventionist	1.5284	.24614	.923	2.198
	Total	1.6867	.36054	.818	2.323

a. Covariates appearing in the model are evaluated at the following values: VAR00001 = 1.28.

Table 6 shows the main results of Two-Way ANCOVA. The results indicated that age did not have any significant effect on the performance of the EFL learners on WC ($F(1, 135) = 3.186, p > .05, \text{partial eta squared} = .009$); however, type of treatment (interactionist vs. interventionist) had a significant effect on WC ($F(1, 135) = 46.155, p > .05, \text{partial eta squared} = .120$). The results also indicated that there was not any significant interaction between age and type of treatment ($F(1, 135) = .001, p > .05, \text{partial eta squared} = .002$).

Table 6

Tests of Between Subjects Effects; WC Scores at the Post-test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pre-WC	3.598	1	3.598	44.317	.000	.116
Age	.259	1	.259	3.186	.077	.009
Group	3.748	1	3.748	46.155	.000	.120
Age* Group	.081	1	.081	.001	.987	.002
Error	10.962	135	.081			
Total	416.369	140				

5. Discussion and Conclusion

The results of the study indicated that the type of assessment (interactionist versus interventionist) had a statistically significant effect on IELTS candidates' writing fluency (WF) and writing complexity (WC). Specifically, the interactionist group had higher mean scores in both WF and WC compared to the interventionist group. Age did not have a statistically significant effect on either WF or WC. Additionally, there was no significant interaction between age and assessment type in developing writing fluency or complexity.

Overall, the findings suggest that the type of assessment used can have a significant impact on English language proficiency outcomes for IELTS candidates.

Learners' chances to communicate with instructors and peers may explain why interactionist DA was so successful in improving the participants' writing performance. Experts in both DA and sociocultural theory agree that student-teacher contact is the cornerstone of DA (e.g., Kozulin & Grab, 2002; Poehner, 2008; Poehner & Lantolf, 2013). The students benefitted from the teacher's methodical mediation and assistance, which led to gradual improvements in their writing. The students' writing CAF improved after receiving an interactionist evaluation in the interactionist treatment condition, even though the class size was too big (over 30 students) and the class time was too short to provide lengthy mediation to all of the learners.

These findings supported Aljaafreh and Lantolf's (1994) study, examining the connection between DA and L2 writing. They found how corrective DA feedback and the developing negotiation process between the teacher and students lead to L2 development. During the tutorials, the participants engaged in a DA conversation with a teacher who offered "graduated, contingent, and dialogic" corrective feedback (p. 468) to assist students in editing their writing. The conclusion was that effective error correction requires mediation from other people who dialogically co-construct a ZPD where feedback as regulation becomes relevant and can be appropriated by the learners. Moreover, the present study findings highlight the findings reported by some other studies such as Aljaafreh and Lantolf (1994), Birjandi et al. (2013), and Poehner and Lantolf (2005).

Besides, the interactionist DA aids the educator in identifying student writing issues and improving the quality of feedback given to students. Consistent with previous research in China. The current study employed interactionist DA to examine global and local coherence, correctness, fluency, and complexity (Miao & Mian, 2013). In addition to showing that the experimental group outperformed the control group, their results also showed that learners in the mediation groups were able to avoid relying on chance when making self-corrections, which led to even greater improvements than in the courses that had previously been taught in a more conventional manner. Similarly, Shi et al. (2019), Negretti and Mezek (2019), and other authors have recognized the importance of dialogic

collaboration in fostering students' writing abilities. The results of Shi et al.'s (2019) study offered strong evidence in favor of a dialogic approach in encouraging students' argumentative writing, particularly for academically underachieving students. Negretti and Mezek (2019) also showed that interaction with supervisors enhanced the development of writing regulation. Through analysis of the authors' interviews and essays, they demonstrated that "social interaction is vital in supporting students' management of writing, effectively leading to a sense of individual development and transformation" (p. 28).

The findings of the present study are also in line with other similar studies in the Iranian EFL context, such as Nasiri and Khorshidi (2015), Heidari (2019), and Afshari et al. (2020), among others who all found that interactionist DA had a noticeable impact on the learners' writing abilities. Kheradmand Saadi and Razmjoo (2017) also found greater beneficial effects for interactionist DA on illuminating the academic writing of two English language and literature students. The implementation of various types of mediation was shown to be effective in encouraging students' writing in their qualitative study, which examined the interactions between the teacher (mediator) and students in the written tasks. Rahimi et al. (2015) provided more evidence that an interactionist DA aided the development of three advanced EFL students' conceptual L2 writing abilities in a qualitative case study. Analysis of the DA tutorial sessions' interactions led them to the conclusion that interactionist DA may provide significant diagnostic and developmental benefits in the field of writing.

The findings of the present study concerning IELTS candidates were also very similar to the findings of a study in Iran conducted by Daneshvar et al. (2021), who used a mixed-methods approach to study the likely impact of the two mentioned DA on IELTS candidates' performance in academic writing task 2. According to the quantitative findings, the interventionist group performed much better in writing than the static group. Nevertheless, there was no statistically significant difference in the writing proficiencies across the DA groups. The quantitative results show that the DA model outperformed the SA model in developing IELTS writing task 2 abilities, which were supported by the qualitative findings.

On the other hand, some earlier research findings were refuted by the varied effects

of interactionist and interventionist assessment forms reported in the current study. For instance, Rahmani et al. (2021) showed no significant differences between the two modalities of DA but observed substantial changes in the writing CAF between the DA and non-DA groups. The academic writing task 2 performance of IELTS candidates in a mixed-methods study was studied by Daneshvar et al. (2021) and revealed that the writing performance of the interventionist group was much better than that of the interactionist group. The study examined the potential impact of interactionist and interventionist DA models on IELTS candidates' performance. In terms of writing ability, however, neither the interactionist nor the interventionist DA groups differed much. The findings of Malmir's (2020) study also contradicted the findings of the present study. Malmir (2020) examined the impact of interactionist and interventionist DA models on the fluency and speed of pragmatic listening comprehension in the Iranian EFL setting. He observed that the DA groups did much better than the control group. In addition, the interventionist DA group outperformed the interactionist DA group significantly in terms of pragmatic correctness but not pragmatic understanding speed.

The results of the current investigation allow us to infer that receiving writing tasks related to group dynamic assessment, whether interactionist or interventionist, significantly affects EFL learners' writing complexity and fluency, but the power of interactionist DA is more than the interventionist one in this respect. This is in line with Lantolf and Poehner's (2023) presentation of sociocultural theory in the L2 classroom in the East Asian context, where both interaction-based and intervention-based instructional tasks proved effective. Moreover, literature review on second language writing instruction related to CAF (Afshari et al., 2020; Alavi & Taghizadeh, 2014; Barkaoui, 2007; Bulté & Housen, 2014; Etemadi & Abbasian, 2023; Kang & Lee, 2019; Rashidi & Bahadori Nejad, 2018), indicates that using DA strategies might enhance L2 development and, more specifically, the writing abilities of L2 learners.

The present study's findings have several implications for improving our understanding of how to teach and learn. The findings may help train EFL educators on DA, a method that combines classroom teaching with formative evaluation. What this means is that teachers are able to help their pupils while also evaluating them. By seeing how students react to the mediation, instructors may get a better picture of their students'

potential success in the language. In fact, educators gradually discover how DA boosts EFL students' proficiency. They are able to better assist language learners in reaching their full potential with the use of this sort of evaluation, which focuses their attention on the students' potential. Similarly, students gain insight into their own growth potential and are able to enhance their language abilities. In addition, Minakova's (2019) research found that when instructors use mediation during evaluation, they are able to discover students' hidden talents rather than only recording their present performance. Put simply, DA investigates the extent to which performance may be altered and the kind of intervention that is required to foster growth within the zone of proximal development (ZPD) of the learners.

The results of the study regarding the positive effects of interaction and DA on IELTS writing instruction raise some practical implications for IELTS stakeholders, mainly instructors, and IELTS candidates as EFL learners and even materials developers, and can help them achieve their goals more efficiently. The current research findings offer insight into the effectiveness of the incorporation of interactionist DA as a model in the preparatory courses of the IELTS general writing task. IELTS teachers should exploit the principles of the interactionist DA in writing preparatory courses of the IELTS to identify students' writing problems and remove them via dynamic face-to-face communication, especially based on the interactionist model, with IELTS candidates, which could play a constructive role in the betterment of their performance in writing. In simpler terms, this study puts forward some implicit pedagogical suggestions for IELTS instructors to explore novel ways of teaching IELTS writing and refine their current writing instruction procedures. This could be accomplished by assigning dynamic-based tasks to IELTS candidates and offering mediational guides and feedback based on the interactionist DA model in the IELTS preparatory writing courses. Further, the findings of this study may encourage and propel IELTS trainers to utilize DA forms, i.e., the interventionist and interactionist models, in their teaching process of IELTS writing to foster prospective IELTS candidates' writing proficiency and expedite their developmental process.

In contrast to a study by Malmeer and Zoghi (2014) that focused on the effects of DA of grammar on different age groups and found that adult EFL learners benefited more from the DA than teenage learners, the current study found no main effects for the

learners' age (young versus adult) and an interaction between age and the type of DA on the learners' writing CAF. The question of how ageing affects SLA has long sparked heated debate. Although many research findings do not support the existence of a critical period for L2 learning, many scholars support the effect of age on SLA (Sang, 2017). Based on some evidence, it may be assumed that older students are superior to younger students, while younger learners usually perform better than older learners after years of L2 learning. Because the impact of age on SLA in EFL and ESL settings may be different, it is important to pay more attention to contextual elements while studying EFL. Generally speaking, whether or not there is a critical period and a specific age period for achieving L2 is still debatable. With regard to the effect of age, the present study findings were somewhat similar to the findings of a research study done by Torras and Celaya (2001), who could not find significant differences between young and adult learners' development of English writing skills.

Despite the benefits and drawbacks of DA, teaching both instructors and students in the theoretical and practical parts of DA can transform the educational experience into one that is stress-free, welcoming, and joyful. As a result, students can gain insight from one another and contribute their own expertise. For this reason, plans are in the works to equip educational institutions with relevant knowledge and resources so that dynamic assessment can be used in tandem with, but not in place of, non-dynamic assessment in an effort to improve teaching and testing. There is no doubt that DA will eventually find its way into classrooms.

Teachers of second languages may use both interactionist and interventionist DA to increase their students' awareness of the issues they face. The DA-oriented language classroom assumes that DA assignments can facilitate learning (Shafipoor & Latif, 2020), and students enjoy a cooperative mode and pay attention to their peers' growth. Competition will be reduced while collaboration and cooperation are encouraged. By integrating classroom conversations, students can achieve a passable level of writing in a second language (Ramazanpour et al., 2016).

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The comparative effect of direct corrective feedback and recast in a critical thinking setting on EFL learners' reading comprehension**Article info****Article Type:**

Original Research

Authors:Mehrdad Rezaee¹⁰Maryam Baghi¹¹Elaheh Faramarzi¹²**Abstract**

The aim of present study was to explore the comparative effect of direct corrective feedback and recast on EFL learners' reading comprehension in a critical thinking (CT) context. Sixty female EFL learners were selected from a larger group of 85 learners through convenience sampling and were given a Preliminary English Test (PET) to assess their proficiency levels. As the next step, the participants formed two random experimental groups. The reading comprehension abilities of both groups were measured before and after the treatment through administration of reading section of two separate versions of PET. Both groups received 12 sessions of the treatment. Two paired samples t-tests were utilized, both of which proved significant improvement for both groups from pretest to posttest. Then, the posttest scores of the two groups using an independent samples t-test were compared. Based on the results, the difference between the two groups turned out to be significant indicating superiority of the effect of the recast. This study can have important implications for the stakeholders in foreign language (FL) education.

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1. Introduction

The reading competence is part of the educational quality and routes of connection in the interpersonal structure of reading practices and knowledge with the written discourse in the situational framework, which is founded on the thinking and fictional demonstration of the text and is offered through the mutual analogy given by the interactive content between text and the reader (Javed et al., 2016). The beginning stage of secondary education's goal is identified with the stronghold of obtaining exhaustive reading abilities (Betancur and Flórez, 2016). Suk (2016) elaborates on reading ability as an essential (L2) skill in educational domain, where "L2 learners need to read so that that can learn and complete related tasks" (p. 79). The comprehension of reading is not just the process of deciphering signs or taking word for word for the comprehension of notions; rather, it infers the reader's strategic thinking to grasp the composed content and to gain from it. This is where CT comes into play.

CT is considered to be significant in promoting language abilities, especially reading and writing (Elder and Paul, 2004). CT is a central condition for effective academic achievement. According to Giancarlo and Facione (2001), people with a high level of critical thinking should use their receptive skills to develop their CT abilities (Elder and Paul, 2004). Individuals can utilize CT abilities to comprehend, decipher, and examine what they hear or read to come up with fitting responses or reactions. These abilities permit individuals to put together the data that they hear and read, comprehend its specific situation or pertinence, perceive implicit presumptions, make coherent associations between thoughts, distinguish the truth values, and make inferences (Silagi et al., 2011). In contrast, taking part in engaged, powerful listening and reading likewise permits individuals to gather data in a way that best advances CT, and so, effective correspondence.

Additionally, research provides a convincing clue that an appropriate feedback is the most influential element affecting student accomplishment and it is a dynamic necessity in what students wish to accomplish (Hattie and Timperley, 2007). The knowledge inside the feedback may mirror the precision of a reaction to an issue or task and may moreover manage specific mistakes and misinterpretations (Cheng, et al., 2005). As far as the higher education is concerned, many studies have been conducted

on feedback and its contribution to student learning. Feedback is a crucial element of actual teaching and learning at an advanced level (Ackerman and Gross, 2010). Accordingly, the present study aimed at testing the comparative effect of two kinds of CF, recast and directive feedback in the critical setting to EFL learners may be of benefit to teachers in developing their learners' reading comprehension and it may assist educators to accomplish a better perception of teaching reading skill. It may also provide a hint for indicating the suitable approach of the teaching of reading as well as the more appropriate methods of providing the learners with feedback. Furthermore, the results of the study will have contributions for the teacher trainers and syllabus designers to help teachers develop their consciousness concerning directive feedback and recast in teacher education programs and in the materials designed for the students respectively.

Undoubtedly, the ability to comprehend text, i.e., reading comprehension can be deemed as a basic learning expertise for learners, since as pointed out by Wong and Butler (2013) it is the cycle of separating and developing meaning through cooperation and inclusion in composed language. Alfallaj (2017) describes comprehension as the pith of reading as it represents the cycle that upholds effective extraction of meaning from a written section. Current literacy norms necessitate that the learners' self-adjust, self-oversee and self-screen to come to be strategic readers who can choose data from the content, foster normal and integrate important reflection on the content during reading. In this case, as asserted by Alfallaj (2017), the EFL learners are needed to be given a broad scope of reading and writing exercises that incorporate compelling reading comprehension methods.

The act of successful reading comprehension methods is fundamental for upgrading the degree of comprehension among learners and in this way, language teachers are needed to execute sufficient reading methods to enhance comprehension and improve basic thinking in comprehending complex writings. Reading comprehension includes complex factors; basically, involving the factors, such as psychological, linguistic, and socio-cultural ones, because of which the advancement of a viable reading method is hard for L2 teachers (Alenizi, 2019).

Johnston and Kirby (2006) characterized reading comprehension as a kind of complex mental process that requires extracting meaning from the text and it aimed to

help reader to understand the given text. He proves that the reading comprehension consist of two persons, the reader and the author, so the procedure of comprehending includes reading the text, then decoding the writer`s words, using the background knowledge in order to understanding the writer`s message. So, when learners are reading a text, they want to get the main meaning.

According to Alfassi (2004), to improve the skill of reading in L2 classes, learners should “comprehend the sense of text, critically assess the meaning, think of the content, and relate the newly gained information adaptably” (p. 89). Moreover, there is a connection between reading as a significant mastered expertise and CT as a procedure to control and oversee it. Critical thinking is regarded an important skill that has been the focus of numerous research studies (Al-Kindi and AL-Mekhlafi, 2017; Florea and Hurjui, 2016; Saleh, 2019). Also, it is significant since it is one of the necessary abilities to be learned and established by learners to develop their reading abilities (Petrucco and Ferranti, 2017). What is being asserted is that readers do not have to acknowledge the words on the page as given; however, a scope of interpretations is valid. They ought to have the option to combine groundbreaking thoughts with their background information, distinguish the connections between various snippets of data or express their concord or dissent about the writer’s viewpoint.

To achieve these goals, students need to utilize explicit procedures (Shokrpour, et al., 2013). As stated by Basri, et al (2019), readers can utilize CT abilities to comprehend, decipher, and examine what they hear or read to define proper responses or reactions. When it comes to education, it has essentially been perceived that educators are teaching learners what to think as opposed to how to think adequately about the topics. This strategy greatly impedes the learners’ thinking regarding what they learn.

On the other hand, in second language research (SLA) domain, some types of research are attaching primary importance to corrective feedback that is a significant piece of L2 instruction on the grounds that learners can realize how far they have advanced and how they are getting along through the educator’s input (Gholizade, 2013). The term CF has as of late been a critical piece of foreign language instruction. Indeed, it is utilized to give data on the accuracy of student's expressions and give them the right type of their incorrect production (Hashemifardnia, et al., 2019). Grami (2005) describes

feedback as “any processes employed to notify a student of the correctness or incorrectness of an instructional response” (p. 141).

According to Bitchener, et al. (2005), direct or explicit feedback could be characterized as the arrangement of the right language structure or construction approximate to the linguistic mistake. Such a kind of feedback entails the teacher's ability to distinguish the kind of mistake, explains the thoughts, crosses out the unessential words, embeds the important expressions, and gives the right structures. In categorizations of CF, recast is usually considered as implicit type that provides input (i.e., the target form). Recasts concurrently give target-like information and verifiably reduce negative feedback, which might mean negative proof if the student's understanding and deductions are right. In Ferris (2006)'s view, direct feedback is a system of giving criticism to learners to assist them with amending their mistakes by giving the right linguistic form or linguistic construction of the target language. By giving the right reaction or the probable reaction above or near the linguistic or grammatical mistake it is normally given by educators, after seeing a grammatical error (Bitchener and Knoch, 2008; Ferris, 2006).

Without a doubt, a fundamental achievement in these days and age is the capacity to read at least one language. Concerning second language students, solid reading abilities can aid the advancement of other language abilities (Anderson, 2003). In Iran, students participate in reading through regular reading exercises (e.g., solving cloze test, multiple-choice statements, and providing synonyms and antonyms for the exercise's new vocabulary. Also, educators have a penchant for getting immediate criticism from students' reading comprehension capacity. It appears to be that educators do not challenge the prevailing four abilities view or a coordinated methodology in teaching students reading abilities. Subsequently, members do not offer their viewpoint about the texts and are hesitant to examine the texts' hidden significance (Alizamani, et al., 2013).

As asserted by Hoeh (2015), if learners are not capable of effectively comprehend they will be kept from learning and this will adversely affect various parts of their lives later on. Reading challenges negatively affect various aspects of learners, including their educational advancement, confidence, viewpoints of reading, inspiration to read, decisions related to job, and assumption for reading achievement in the future (Sloat, et

al., 2007; Woolley, 2011).

The prominence of CF in SLA theory has dedicated a cumulative amount of research in scrutinizing the association between feedback and L2 learning and they reported positive proofs for its usability and efficacy (e.g., Banaruee and Askari, 2016; Long, et al., 1998; Oliver, 2000; Ruegg, 2018). In addition, review of the literature suggests that CF is more advantageous but, together with research on the CF approaches of teachers, there are very few research inquires examining the efficiency of diverse types of feedback strategies. In addition, the review of related literature indicates that no study has examined the comparative effect of direct CF and recasts in a CT setting on EFL learners' reading comprehension. Given the objective of this study, the following research questions were formulated:

1. Does direct corrective feedback have a significant effect in a critical thinking setting on EFL learners' reading comprehension?
2. Does recast have a significant effect in a critical thinking setting on EFL learners' reading comprehension?
3. Is there any significant difference between the effect of direct corrective feedback and recasts in a critical thinking setting on EFL learners' reading comprehension?

2. Methodology

2.1. Design

This study used a quasi-experimental design and the participants were selected using a convenient non-random method. They were randomly divided into two experimental groups with two types of treatments. In the present study, direct CF and recast were independent variables and reading was regarded as a dependent variable. The gender and proficiency of the learners were deemed as control variables of the study.

2.2. Participants

EFL learners enrolled in an English Language Institute in Tehran, the capital of Iran constituted the sample of this investigation. A total of sixty intermediate female learners took part in this study, with their ages ranging from 18 to 28. It should be noted the initial sample was made up of 85 students who had been selected based on their PET scores.

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More specifically, the learners whose scores ranged from one SD below and above the mean were considered as qualified participants of this study. This was followed by randomly dividing them into two 30-member experimental groups. The directive corrective feedback was given as a treatment in the first experimental group while the participants in the second experimental group were provided with recast as a treatment.

Moreover, 25-member group whose characteristics were the same as those of the learners in the main study participated in the pilot study. Besides, a rater with a master's degree in TEFL with more than five years of teaching experience helped the researchers in rating the writing sections of the proficiency test.

2.3. Instruments and Materials

This study employed of the following instruments:

Preliminary English Test (PET)

In order to assess the subjects' L2 proficiency, a sample PET was administrated. PET is composed of 4 language skills, namely, speaking, writing, listening, and reading, and it constitutes the second level of Cambridge ESOL exam. PET is recognized by many institutes and organizations as a certificate that confirms the applicant's qualification for working or studying abroad or furthering a career in international business.

Writing Rating Scale of PET

This study used a rating scale to rate the participants' writing performance on PET. This scale developed by Cambridge has come to be named General Mark Schemes for Writing. The rubrics associated with the rating scale determines the rating, which ranges from 0-5.

Reading Pretest

After homogenizing the participants based on their scores on the PET, the researchers used a reading section of a PET, as the reading pretest. The reading pretest was aimed at determining if the learners were homogeneous in terms of their reading competence.

Reading Posttest

Following the instructional period, the researchers used the reading part of another version of PET as the reading. The posttest was aimed at comparing the two experimental groups in terms of their post-treatment performance.

Textbooks

In the current study, both groups were taught using “American English File Book 2” authored by Latham-Koenig, et al. (2008). This source is appropriate for intermediate learners and is composed of nine units dealing with all four skills. In this study, four units were covered during the treatment.

2.4. Procedure

In this study, the researchers followed some steps. Initially, the piloted PET test was administered to 85 students in order to homogenize the participants according to their language proficiency. After administration of the PET, those students who obtained scores that fall in the range spanning a SD below and above the mean were selected for this study. Then, these 60 students were divided into two experimental groups. The researchers considered the reading section of a PET, as their reading pretest. It is worth mentioning that these treatments were performed in a CT setting. Since CT setting refers to a situation in which students are involved in solving a challenging issue, after reading a text, the students were put in a situation that they needed to respond to the questions presented by the teacher/the third researcher to analysis, interpret, inference, explain about the topic. In this way, the teacher encouraged learners in the process of treatment by requesting them to reflect on the text. Then the learners had a chance to read the passage by forming groups and selecting a title for it. After reading the titles each, they were provided with five minutes to reflect on all the titles presented. Finally, the participants compared the titles and selected the best one. This was followed by the unscrambling the paragraphs and then making a summary of the text.

Recast group

For the first experimental group, the students received recast as their treatment. The participants were asked to write a summary of the text they had read. After receiving the summaries, the teacher/ third researcher highlighted words, sentences, or any interpretation of the text that were not correct. Then, the drafts were returned to the students and they were asked to make the required corrections to their mistakes. They were also asked to revise the drafts for the following session. The next session, the teacher received the papers and the writings were graded for the second time, and

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provided recasts to the mistakes by writing the correct ones while keeping the original meaning. The writings were rated for the second time, with the learners receiving higher scores compared to their previous writings.

Direct corrective feedback group

Another group received direct CF as their intervention. After receiving the summary, the teacher provided explicit corrections. This was followed by marking the mechanical errors using red ink, with the notes written in the margins about the philosophy and clarity of the essay. All the mistakes and errors were corrected on the papers, scored them, and returned in the following session.

Every session, the participants had 20 minutes to talk about the reading text in the class based on the provided questions in line with CT setting. Before starting reading, they had to use related strategy which they had learned in their reading process. Then they had to develop their ideas about the topic. At the end of the instruction, both groups took the reading posttest to see any possible enchantment in their reading ability. It is worth noting that the instructional intervention consisted of 12 sessions of 90 minutes each but just 40 minutes on a treatment.

2.5. Data Analysis

This study used several statistical analyses to address the research questions. After collecting the data, two types of procedures, namely, descriptive and inferential were carried out to analyze the descriptive statistics of the main participants' performance on the general proficiency test to make sample of the participants homogenized. Finally, to test the first two research questions, two sets of paired samples t-test were performed while for the third hypothesis, the researchers used an independent samples t-test.

3. Results

The following section presents the data and reports related to the analyses.

Administration of the PET

As the first step, PET was administered to 85 participants. The descriptive statistics and histogram of this administration are presented below in Table 1. As is shown in Table 1, the mean of the scores for the initial group was 48.47 while the standard deviation of the

scores stood at 9.7. The reach a homogenous sample, those whose scores fell within the range of mean ± 1 standard deviation (38.77 to 58.17) were selected. The descriptive statistics of the selected participants are also presented in Table 1, below.

Table 1

Descriptive Statistics of the Initial and Selected Participants' Scores in PET Administration

	N	Minimum	Maximum	Mean	Std. Deviation
Initial	85	25.50	69.50	48.4706	9.69700
Selected	60	39.00	58.00	48.6000	5.52253
Valid N (listwise)	60				

Based on the above results reported above, out of initial 85 learners, 60 were selected as homogenous ones to participate in the main study. To provide a better picture of the initial and selected participants' PET scores, Figure 1 was created.

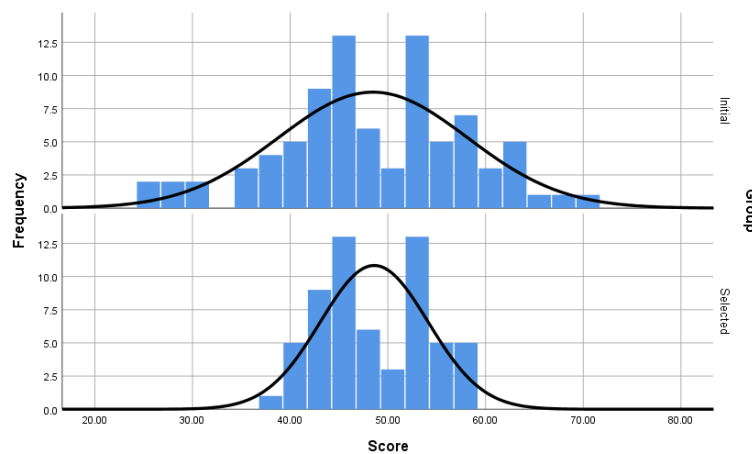


Figure 1

Histogram of Initial and Selected Participants' PET Scores

Dividing the Participants into Two Groups

As mentioned in Chapter three, the selected 60 participants were randomly assigned into two groups, i.e., CF (N = 30) and recast (N = 30). Before stepping forwards to run the treatments, a comparison was made between the scores of the two groups in PET to ensure that the assignment did not affect the groups' homogeneity.

Table 2 presents the distribution of PET scores among the two groups. As it is evident from the Table, the two groups had close mean and standard deviation values. The skewness ratios also indicated normality distributions for each group of scores, as

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they fell within the legitimate range of ± 1.96 .

Table 2

Descriptive Statistics of PET Scores by Two Groups

	N	Mean	Std. Deviation	Skewness		
				Statistic	Std. Error	Ratio
Corrective	30	49.0167	5.52187	-.007	.427	-0.0164
Recast	30	48.1833	5.58552	.302	.427	0.7073
Total	60	48.6000	5.52253	.142	.309	0.4596

In order to make sure of initial homogeneity in terms of language proficiency, an independent samples t-test was performed (Table 3). Given the normal distribution of the data, running this parametric test was legitimized.

As it is evident from Table 3, the variances were not significantly different across the groups as the Sig. value for Levene's test was over the cut-point of .05 (Levene's $F = 0.02$, $p = .89 > .05$). Therefore, the assumption was met. Having met the required assumptions (equality of variances), the results of t-test was followed with assumption in place (first row in the Table).

Table 3

Independent Samples T-Test on PET Scores of Two Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PET	Equal variances assumed	.020	.888	.581	58	.563	.83333	1.43398	-2.03709	3.70376
	Equal variances not assumed			.581	57.992	.563	.83333	1.43398	-2.03710	3.70377

The result ($t_{(58)} = .581$, $p = .563 > .05$) indicated that the two groups were not significantly different. Therefore, the two groups were homogenous regarding their L2

proficiency at the outset.

The Main Study

After dividing the participants into two groups, their reading comprehension skills was captured from the reading section of the proficiency test they had taken. Then each group went through the specified treatment. At the end of the treatment, the reading section of another PET was administered to both groups as the posttest. The description of the data obtained from these two administrations as well as the estimated reliability indices are presented in the following subsections.

Pre-Treatment Test

As mentioned above, the questionnaire of autonomy was applied to the three groups twice, prior to and following the treatment. Table 4 presents the descriptive statistics of the scores of the two groups at the pre-treatment stage.

Table 4

Descriptive Statistics of the Reading Scores at the Pre-Treatment Stage

	N	Minimum	Maximum	Mean	SD	Skewness		
						Std. Error	Ratio	
Corrective	30	18.00	29.00	22.7000	2.86657	.182	.427	0.4262
Recast	30	18.00	30.00	22.8333	3.25982	.537	.427	1.2576
Total	60	18.00	30.00	22.7667	3.04412	.394	.309	1.2751
Valid N (listwise)	60							

As illustrated in Table 4, the mean of the three groups were close at the beginning. Moreover, the skewness ratios of both sets of scores fell within the range of ± 1.96 ; thus, the distribution of all sets of data were considered normal. An independent samples t-test was performed to make sure that the difference is not significant, (Table 5). Given the normal distribution of the data, running this parametric test was legitimized.

As it is evident from Table 5, the variances were not significantly different across the groups as the Sig. value for Levene's test was over the cut-point of .05 (Levene's $F = 0.501$, $p = .48 > .05$). Therefore, the assumption was met. Having met the required assumptions (equality of variances), the results of t-test was followed with assumption in place (first row in the Table).

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Table 5

Independent Samples T-Test on Reading Pretest Scores of Two Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pretest	Equal variances assumed	.501	.482	-.168	58	.867	-.13333	.79254	-1.71978	1.45311
	Equal variances not assumed			-.168	57.067	.867	-.13333	.79254	-1.72033	1.45366

The result ($t_{(58)} = .168$, $p = .867 > .05$) indicated no significant difference between the two groups. Therefore, it was concluded that the two groups were homogenous in terms of reading comprehension at the outset.

Posttest

After the treatment was over, the reading section of another version of PET was administered to the participants of the two groups as a posttest. Table 6 presents the descriptive statistics of the results.

Table 6

Descriptive Statistics of the Reading Scores at the Post-Treatment Stage

	N	Minimum	Maximum	Mean	SD	Skewness		
						Statistic	Std. Error	Ratio
Corrective	30	19.00	33.00	24.8333	3.37418	.356	.427	0.8337
Recast	30	21.00	33.00	26.5667	2.76285	.381	.427	0.8922
Total	60	19.00	33.00	25.7000	3.17992	.166	.309	0.5372
Valid N (listwise)	60							

Comparing the results presented in Table 6 with the results in Table 4 shows that the mean scores has changed from pre-treatment to post-treatment. The skewness ratios for all sets of data, again, fell within the legitimate range of ± 1.96 , indicating normality of

all distributions. Figure 2 displays the above descriptive statistics for a clearer visual understanding.

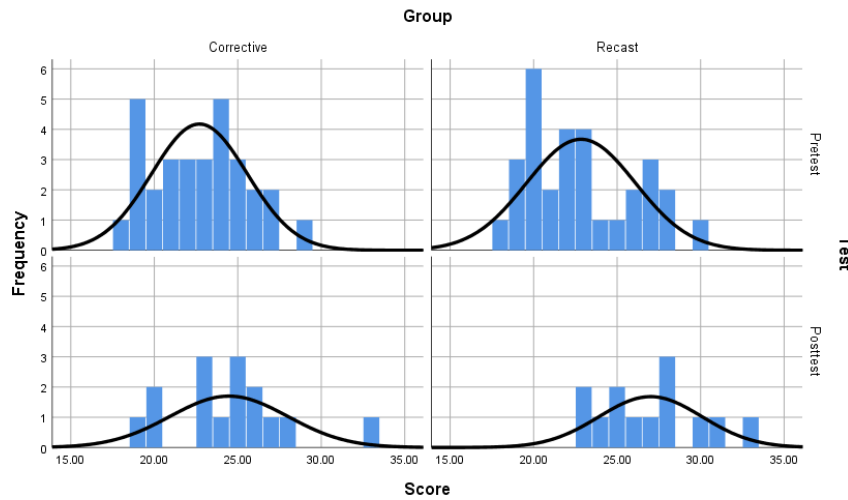


Figure 2
Histogram of the pretest and posttest scores across two groups

Response to the Research Questions

The study aimed to answer three research questions. Answering the first two research questions required running two paired samples t-tests. Running paired samples t-tests required an assumption of normality of residuals (Posttest – Pretest) to be met. Table 7 present the descriptive statistics for residuals.

Table 7

Descriptive Statistics of the Residual Scores for Reading Pretest and Posttest

	N	Minimum	Maximum	Mean	SD	Skewness		
						Statistic	Ratio	
								Std. Error
Corrective	30	.00	5.00	2.1333	1.83328	.329	.427	0.7705
Recast	30	.00	8.00	3.7333	2.30342	-.031	.427	-0.0726
Total	60	.00	8.00	2.9333	2.21602	.290	.309	0.9385
Valid N (listwise)	60							

As reported in Table 7, the CF treatment caused a change from 0 to 5 (M = 2.13) points in the students reading scores while the recast caused 0 to 8 (M = 3.73). The inspection of skewness ratios showed that both residual distributions were normal

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(skewness ratios falling within the range of ± 1.96). Therefore, the assumption was met and running parametric paired samples t-tests was legitimized.

For the third research question, however, running an independent samples t-test on the posttest scores was required. As it was already shown (see Pre-Treatment Test), the participants were homogenous in terms of reading comprehension at the outset of the study, a possible significant difference in their reading posttest scores can be attributed to the effect of the treatment. The assumption of normality of distributions for this test was met (see Table 6); thus, running parametric independent samples t-test was also legitimized. In what follows, the results obtained in analyzing data pertinent to each research question are presented.

The First Research Question

The first research question inquired if direct corrective feedback has a significant effect in a critical thinking setting on EFL learners' reading comprehension. To answer this question, a paired samples t-test on the pretest and posttest scores of the CF group was run (Table 8).

Table 8

Paired Samples T-Test on Reading Pretest and Posttest Scores of the Corrective Feedback Group

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference				
								Lower	Upper
Pair 1	Posttest – Pretest	2.13333	1.83328	.33471	1.44877	2.81789	6.374	29	.000

Correlation: 0.84

As reported in Table 8, the difference (MD = 2.13, SE = .34) between the posttest and pretest scores of the participants in the CF group was significant ($t_{(29)} = 6.37$, $p = .000$, Cohen's $d = 1.316$, representing a large effect size). Therefore, the first null hypothesis, which stated "*direct corrective feedback does have a significant effect in a critical thinking setting on EFL learners' reading comprehension*", was **rejected**.

The Second Research Question

The second question inquired whether recast have a significant effect in a critical thinking setting on EFL learners' reading comprehension. To answer this question, another paired samples t-test on the pretest and posttest scores of the recast group was run (Table 9).

Table 9

Paired Samples T-Test on Reading Pretest and Posttest Scores of the Recast Group

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Posttest – Pretest	3.73333	2.30342	.42055	2.87322	4.59344	8.877	29	.000

Correlation: 0.72

As reported in Table 9, the difference (MD = 3.73, SE = .42) between the posttest and pretest scores of the participants in the recast group was significant ($t_{(29)} = 8.88$, $p = .000$, Cohen's $d = 1.528$, representing a large effect size). Therefore, the second null hypothesis, which stated "*recast does have a significant effect in a critical thinking setting on EFL learners' reading comprehension*", was also **rejected**.

The Third Research Question

The third research question explored if there is a significant difference between the effect of direct corrective feedback and recasts in a critical thinking setting on EFL learners' reading comprehension. Finally, in order to answer the last research question, an independent samples t-test was run on the posttest scores of the participants (Table 10).

As it is evident from Table 10, the variances were not significantly different across the groups as the Sig. value for Levene's test was over the cut-point of .05 (Levene's $F = 0.988$, $p = .32 > .05$). Therefore, the assumption was met. Having met the required assumptions (equality of variances), the results of t-test was followed with assumption in place (first row in the Table).

Table 10

Independent Samples T-Test on Reading Posttest Scores of Two Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest	Equal variances assumed	.988	.324	-2.177	58	.034	-1.73333	.79621	-3.32712	-.13955
	Equal variances not assumed			-2.177	55.827	.034	-1.73333	.79621	-3.32844	-.13823

The result ($t_{(58)} = 2.177$, $p = .034 > .05$, Cohen's $d = .562$) indicated a significant difference between the two groups' posttest scores, recast group outperforming the CF group. As a result, the third null hypothesis, namely, "*there is no significant difference between the effect of direct corrective feedback and recasts in a critical thinking setting on EFL learners' reading comprehension*", was also **rejected**.

4. Discussion

The present study aimed to investigate the comparative effect of CF and recast in a CT setting on EFL learners' reading comprehension. The results showed that while both methods worked significantly positive in improving learners' achievement, recast had significantly higher impact.

The obtained results were in line with previous works which showed efficacy of various feedback in improving learners' language proficiency. Examples of such studies are Ayoun (2001); Bitchener and Knoch (2010), and Daneshvar and Rahimi (2014) on writing; Gholizade (2013); Nassaji (2009) on grammar learning; Nejati and Molaee (2015) on reading; Rassaei and Moinzadeh (2011) on speaking; and Suarman (2013).

With regards to the higher efficacy of recast, the result was also in line with the previous studies. recast was proved to be a better method of CF in improving speaking

(Gholizade, 2013), grammatical features (Daneshvar and Rahimi, 2014; Nassaji, 2017).

This study was conducted in a special context, i.e., CT setting. The results, thus, should be looked at from this point of view. As suggested in the literature (e.g., Kamali and Fahim, 2012), CT ability is significantly correlated with reading comprehension of the learners. Therefore, the setting, per se, could be an effective variable in enhancing the learners' reading.

The obtained results could also be affected by learners' point of view about the different types of feedback and their compatibility in improving their errors. Such variant points of view are observable in the study of Li (2020). However, such mediating variables were not in the scope of this research. Therefore, researchers are recommended to conduct studies to reach a more comprehensive results with this regard.

5. Conclusion

The findings of this study generally emphasize on the importance of incorporating recast and CF in the process of reading comprehension instruction which lead students to greater learning opportunities. The results revealed that recast was more effective method of boosting reading comprehension in a CT setting. Therefore, the practitioners may use the obtained results in their practices.

It is worth to mention that the present study faced some limitations. The most important limitation lies in the fact that the present study was conducted on employing a small number of students. Therefore, the researchers could not generalize the research findings. Another limitation of the study is that it does not specifically consider the two variables of gender or age of the participants. The third limitation of this study is that the domain of the study is limited to the effect of the corrective feedback on reading comprehension skill as a whole and not its subscales such as overt cognitive reading strategies.

Based on the research findings, this study suggests some implications to EFL learners, teachers, and material developers that are hoped to be found helpful. An EFL teacher is advised to incorporate reading comprehension practice along with the appropriate types of feedback as a source of helpful device for the development of learners. The results imply that recast paves the way for the improvement of EFL writing. As a result, it recommends that classroom L2 writing instructors need to provide the

students with recast. It is also advised that teachers discuss with students which linguistic errors should be focused on and provide them with adequate CF and help them take a CT approach in facing the errors.

Based on the results of this study, direct CF contributes to increasing intermediate EFL learners' attention on their errors, which can help them to enhance their understanding of the nature of their errors; this is mirrored by Ferris and Roberts (2001) who insisted on the effectiveness of low or intermediate learners. The results can be helpful for EFL learners to enhance their reading skill by receiving the teacher's CF or recast. Also, in English classes, learners could be challenged to think critically about the feedbacks they received. This can enhance their learning. Syllabus designers and materials developers may wish to enhance the quality of the materials with appropriate tasks that familiarize learners with types of feedback, especially the ones used in this study. Perhaps, incorporating materials that requires CT of the learners can further help boosting the learning of the participants.

The followings are some suggestions for the further studies:

1. The participants of the study were intermediate language learners; future studies could be done on participants with other levels of language proficiency.
2. This study has been carried out in a language institute; further studies could be conducted in different educational settings, such as schools or universities.
3. Due to manageability reasons and focus of the study, the study was done only during 12 sessions and its influence was examined in a short term. More studies might be conducted for a longer term.
4. In the present study, the researcher did not consider other factors such as personality factors as well as learning styles. Researchers are encouraged to consider these factors in the studies in the future.

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The role of text type on the use of metacognitive reading strategies: Iranian EFL learners' perceptions in focus

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Abstract

The current study used a qualitative methodology to examine how Iranian EFL learners practically applied Metacognitive Reading Strategies (MRs) when reading narrative and expository English texts. The study also investigated the participants' perceptions of the impact of text type on using MRs while reading narrative and expository English passages. The researchers selected 40 intermediate EFL learners studying TEFL at Islamic Azad University and Farhangyan University using purposive sampling as focused participants. The instruments employed included the Oxford Placement Test, semi-structured interviews, and think-aloud protocols. The data analysis involved theme-based analysis. The think-aloud protocol analysis indicated that participants employed multiple strategies when engaging with the expository text compared to the narrative text. The finding suggested that text types affected readers' overall performance. The semi-structured interviews revealed that learner's perceptions of text type played a vital role in reading different text types. The practical implications of the study were also discussed.

Keywords: Expository text, Metacognitive Reading Strategy (MRs), Narrative text, Perception of text type, Reading strategies (Rs)

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1. Introduction

Reading is a fundamental issue in L2 education. Acquiring reading skills in a second language is a priority for millions of learners worldwide. Most EFL learners have practical requirements for language use in their day-to-day activities. However, access to knowledge and sources of information need competence in reading (Kung, 2019). EFL/ESL learners must foster their reading ability to become academically efficacious, which requires learners to possess a repertoire of Metacognitive Reading Strategies (MRs) to facilitate their understanding of a passage. Reading Strategies (Rs) can foster learners' comprehension when encountering problems decoding a text (Feller et al., 2020).

L2 learners might lack adequate MRs to handle their reading effectively; they might be unsure about them and how they should be employed. Poor readers do not know how to process academic texts or how to promote the skill. Noticeably, learners who neglect such strategies in comprehending academic materials are bewildered by using appropriate MRs (Yoshikawa & Leung, 2020) to monitor, regulate, and evaluate their reading correctly, necessitating employing MRs in L2 reading.

Within the field of L2 reading research, numerous researchers have asserted that text type is a variable that requires investigation. Several scholars have focused on examining the impact of text type on reading comprehension (Behzadi, 2013; Saadatnia et al., 2017; Zhou & Siriyothin, 2011). Empirical studies in L1 and L2 reading have shown how readers' knowledge of the structure and tone of texts are decisive in guiding them to recognize, arrange, extract, and ultimately remember details in the text. Narrative and expository writings have primarily attracted the attention of researchers interested in studying how text structures might affect readers' comprehension. Comprehension of texts depends on the level of readers' awareness of the structure of texts (Nilforoushan et al., 2023). Besides, raising readers' attention to the structural characteristics facilitates their comprehension. However, no study has investigated the impact of different types of text on the use of MRs and compared their actual usage in narrative and expository texts. Furthermore, how EFL students perceive and respond to various types of texts can significantly impact the interaction between the reader and the author, thus influencing their reading strategies. Therefore, it was valuable to examine how EFL learners'

perceptions of text types influence their choices in metacognitive reading strategies.

2. Review of the Related Literature

Reading Strategies

Reading comprehension strategies are purposeful arrangements that readers use to help themselves comprehend a text. They are adaptable and can be adjusted to fulfill the needs of reading tasks (Booth & Swartz, 2004). The use of such strategies reflects reading performance. Successful readers are considered good strategy users because they can use appropriate strategies while involved in reading comprehension (Pei, 2014).

MRs are thoughts through which readers associate with composed materials from multiple points of view and provide the reason for the reading, choose what to read before reading, check comprehension during reading, and assess the understanding experience (Meniado, 2016). Proficient readers who know about the various abilities included in MRs are often ready to control their reading, select appropriate strategies, and determine when to use specific strategies while reading (Lee et al., 2022). Elleman et al. (2019) argued that proficient readers are well aware that reading tasks have an undeniable role in comprehension. They additionally realized how to anticipate the content of the reading and how to summarize the knowledge they had gained. Thus, MRs foster self-management while reading a passage. However, instructors should pay attention to the fact that reading and using strategies is a cyclical activity, and proficient readers can use them unconsciously, intelligently, and regularly (Thiede et al., 2003). Understanding MRs and using them successfully lets readers increase their comprehension. Control over such strategies enables them to perform an extraordinary perception arrangement when reading a text (Karbalaeei, 2010).

The capability to apply suitable MRs is synonymous with success in reading comprehension because such strategies permit ESL/EFL learners to improve their positions in the future as they pursue their studies (Singhal, 2001). More precisely, employing such strategies gives them a better chance to connect with composed materials effectively and achieve the ultimate reading goals. In line with Grabe and Stroller (2002), the current study researchers believe that MRs are significant in investigating reading since they uncover information about the mental processes involved

in decoding a text. However, it is worth noticing that readers are the unique agents in selecting the most appropriate strategies considering their particular needs, which will be accomplished when engaged in the skill (Oxford, 2017).

On the other hand, Sheorey and Mokhtari (2001) introduced metacognitive, cognitive, and supportive strategies. MRs are part of the global reading strategies, while cognitive reading strategies are equivalent to problem-solving strategies. Each category was defined as follows:

1. Global Reading Strategies (GLOBs), typically employed during the pre-reading phase, refer to learners' intentional and meticulous strategies. Examples are establishing a specific objective, overviewing the content's structure and length, and using typographical elements, tables, and figures.

2. Problem-Solving Reading Strategies (PROBs) are methods and techniques learners employ when interpreting texts. They may include reading at a slower pace and engaging in the process of inferring the meaning of unfamiliar or ambiguous language.

3. Support Reading Strategies (SUPs) are indispensable aids designed to facilitate readers' comprehension of different texts, such as note-taking and highlighting information.

Sheorey and Mokhtari (2001) developed the Survey of Reading Strategies Questionnaire (SORS) to explain how often students used different Rs. Following Sheorey and Mokhtari (2001), the present study used the same category to investigate the real MRs used by participants in narrative and expository texts.

Metacognitive Reading Strategies

Sun and Zhang (2022) stated that MRs are organized, deliberate, goal-driven, and forward-looking mental processes that help readers improve their cognitive tasks. By employing metacognition, a learner engages in the process of planning and initiating a task, subsequently monitoring, controlling, responding, and reflecting on their progress (Rashtchi & Khani, 2010). To Meniado (2016), MRs are practices that make learners conscious of their thoughts as they do the reading tasks.

A direct and positive correlation exists between acquiring and applying MRs and reading comprehension achievement; therefore, understanding them is essential for developing reading comprehension skills and facilitating the educational process (Nash-

Ditzel, 2010; Mytkowicz et al., 2014). Research findings show that students who employ such strategies demonstrate enhanced performance in reading proficiency assessments (Ahmadi et al., 2013; Al-Sobhani, 2013; Hong-Nam & Page, 2014; Kummin & Rahman, 2010; Zhang & Seepho, 2013), indicating the necessity of their acquisition as a potential remedy for inadequate reading comprehension. Thus, boosting and prioritizing MRs in the instruction and acquisition of EFL is imperative. Through rehearsing and applying MRs, English learners can become more competent readers. For instance, the metacognitive tool may help them find ways to use specific strategies to understand reading contexts better. Equally, learners should use MRs to acquire information, track the use of these strategies during reading, and then analyze effective strategies to correct the problem (Teng & Zhang, 2016).

Text type

A text type is a form of communication designed to achieve specific rhetorical and communicative purposes. No matter the genre, text type identifies texts based on linguistic form and pattern similarities. Therefore, "text type" is "sometimes used interchangeably with discourse structure, discourse pattern, text structure, rhetorical organization, and top-level structure" (Jiang & Grabe, 2007, p.38). According to Tsiplakou and Floros (2013), text types are classified into genres based on their structural, functional, and conventional characteristics. They argued that higher classes are "text categories, text prototypes, deep structure genres, and text types" (p.125). The necessity for a superior category beyond genre derives from the notion that several genres may possess common language and structural characteristics and practical attributes in corpus studies, ESP, and other educational viewpoints.

Despite several studies examining the influence of text structure on reading comprehension and retention (e.g., Chu et al., 2002; Koda, 2005), there is a lack of research examining reading strategies employed in different types of texts. In this regard, two issues are worthy of attention. One is that text complexity affects strategy use and that various types of texts present varying difficulty levels (Ellis, 2009). Furthermore, as Duke and Pearson (2008) postulate, using MRs while reading depends on the text type, a theory few studies offer empirical evidence to support (Barrot, 2016). Recognition of different rhetorical text type patterns may contribute to effective reading. For example,

Chu et al. (2002) investigated Chinese EFL students' understanding of Chinese and English rhetorical patterns when reading different types of texts. They found that differing rhetorical conventions were decisive factors in Chinese students' reading comprehension. They also found that L2 readers remembered the rhetorical patterns from the text using their first language.

Many other studies on text types have concentrated on variations between expository and narrative texts. Expository texts use different organizational patterns such as compare and contrast and description to pass on details. Narrative texts, however, use the organizational pattern of sequence (Alderson, 2000; Shin, 2002). Therefore, as opposed to narrative text, L2 readers have more significant difficulties reading expository texts. Zhou and Siriyothin (2011) reported that when reading narrative texts, readers employed visualizing strategies. Most readers continue to create a mental representation of what they are reading.

Moreover, the visualizing strategy makes readers remember narrative texts more quickly and accurately than expository texts. The narrative text can be well understood because it has a hierarchical structure that can ease the comprehension and recall of the readers. Feng and Mokhtari (2008), in their study regarding Rs and text types, found that text type is an indicator of the type of Rs readers use. Thus, different text types need different Rs. Barrot (2016) investigated the relationship between the use of Rs by ESL learners and the type of texts they read. A group of twenty-one ESL learners were presented with twenty distinct types of texts prior to completing the Metacognitive Awareness of Reading Strategies Inventory (Mokhtari & Sheorey, 2002). The findings revealed that the participants employed varied Rs based on the type of text.

The related studies (Abdualameer, 2016; Barrot, 2016; Schmitz & Dannecker, 2023) showed that text type impacts reading comprehension and strategy use to some extent. Specifically, readers could understand the narrative text better than the expository text, which is attributable to narrative rhetorical patterns. However, such findings could not be applied to all L2 reading research because different variables, such as participants' proficiency, could change the outcomes. The researchers of the present qualitative study assumed that studying the strategies used by Iranian EFL students when reading different text types would add new insights into aspects that are absent in the literature. Hence, to

serve the purpose of the study, the following research questions were proposed:

1. What metacognitive reading strategies do Iranian EFL learners practically use while reading English narrative and expository texts?
2. How do Iranian EFL learners perceive the impact of text type on their metacognitive reading strategies use when reading narrative and expository English passages?

3. Methodology

3.1. Participants

Forty Intermediate Iranian EFL learners enrolled in Bachelor's TEFL programs participated in the study. They were students of Islamic Azad and Farhangyan Universities who had taken Reading I, Reading II, or Reading III courses, typically offered during their first, second, or third semester of academic program. They participated in weekly reading classes lasting four hours per session during the semester. The researchers' objective was to choose a cohort of students with an intermediate English competency level. Oxford Placement Test was administered to 400 students to achieve the purpose. Test-takers who scored between 120 and 149 on the Oxford Placement Test were assessed to possess an intermediate level of English proficiency. Hence, the target participants were employed based on the purposive sampling method.

3.2. Instruments

Oxford Placement Test (OPT)

The OPT was used to select participants with an intermediate English language ability during the first selection process. As a standard test, OPT is used for placement in language-related research on a global scale due to its cost-effectiveness and simplicity of administration. The OPT used in this study was Allen's (2004) version with two main sections (Grammar and Listening), each comprising 100 items. The two sections of the test examine test takers' reading, listening, vocabulary size, and grammar, producing a total score of 200. OPTs have been standardized via several major international language examinations and are frequently used for education and assessment. Following OPT's range score, students whose scores fell within 120-149 were selected as intermediate level (Allen, 2004).

Semi-structured Interviews

The researchers employed semi-structured interviews to delve into participants' perspectives on the role of text types in their choice of MRS use. The interview questions were open-ended to obtain detailed information. The learners were asked about each text type's characteristics, their attitudes to different text types, and their experience dealing with text types. Interviews were vital because they allowed the researchers to get at the participants' narratives regarding the strategies they used. The instrument was validated by examining four key concepts: credibility, transferability, dependability, and confirmability. To ensure credibility, the researchers spent enough time with the participants to establish trust and rapport and gain an authentic picture of their past experiences in reading activities.

Furthermore, the researchers asked two proficient evaluators to verify the data and interpretations. Member checks were also conducted by asking the participants to verify the data and their interpretations. To guarantee transferability, the researchers used purposive sampling. Such a sampling method enabled the researchers to determine the participants' characteristics, which could result in gathering a wide range of information and add to the robustness of the study. Two language experts also scrutinized the transcribed content to warrant reliability, verifying the discovered themes and descriptors. Finally, the researchers used a reflective notebook during the research process to ensure confirmability. The journal was used to record daily notes and document relevant and useful introspections for the study.

Think-aloud Protocol

The think-aloud approach, often known as a "verbal report," involves participants expressing their thoughts and activities. This method is widely used in several fields to study individuals' cognitive processes (Block, 1986). The participants engaged in the think-aloud procedure simultaneously while reading the English texts. The think-aloud protocols investigated how students used strategies while engaging in the act of reading. The think-aloud protocol procedure was piloted with five students who shared qualities comparable to the participants. The purpose was to identify and overcome practical challenges in implementing the think-aloud protocol. Subsequent interviews were undertaken to gather additional information from each participant regarding their think-

aloud processes. The participants conveyed their opinions regarding the passages, including their assessment of their level of complexity and the reasons behind their ease or difficulty. The optimal duration for the think-aloud procedure was determined to be fifteen seconds. An issue to consider regarding think-aloud as a data-gathering instrument is the validity and accuracy of the data. One problem is participants' forgetting, which questions the validity of think-aloud. Delayed think-alouds are prone to forgetting, which endangers the recalled memory via deviation from the original text (Gass & Mackey, 2000). Therefore, Polio et al. (2006) insisted that time-lapse threatens the accuracy of think-aloud. Therefore, the think-alouds were conducted at a short interval from the original event.

English Texts Used for the Think-aloud Protocol

Two expository and narrative English text types were selected for the intermediate level of English proficiency. The reading passages were taken from the Mosaic I (Wegmann & Knezevic, 2001) Reading Textbook. They were selected because they were suitable for intermediate language skill levels. The book covers captivating subjects and has been specifically tailored for RS. The topic of the expository text was "Hybrid Cars," while the narrative fiction was titled "Name of the Story" by William Somerset Maugham (1995), a very skilled writer of short stories. The English expository text had a length of 950 words, and the narrative text had a length of 1050 words. The Flesch-Kincaid readability scales, found at <http://www.readabilityformulas.com/>, were used to determine the text readability index. The narrative text's readability score was 70.4, while the expository text's readability was 80. The readability scores indicated that the texts were appropriate for individuals with an intermediate English language proficiency level.

3.3. Procedure

Forty students with intermediate reading ability (based on the results of OPT) were randomly selected as the focused participants. The demographic information of the participants is depicted in Table 1.

Table 1. *Focused Group Participants' Demographic Information*

Learner	Gender	Age	Reading Level	Years of Studying English
1	Female	35	High	3
2	Male	40	High	2.5
3	Female	25	High	3
4	Female	22	High	2
5	Female	21	High	3
6	Female	45	High	3.5
7	Female	24	High	2
8	Male	26	High	2
9	Male	33	High	1.5
10	Female	35	High	2.5
11	Female	30	High	2
12	Female	40	High	2.5
13	Female	31	High	2
14	Male	40	High	2.5
15	Female	36	High	2
16	Female	18	High	2
17	Female	19	High	2
18	Female	20	High	1.5
19	Female	20	High	2
20	Female	19	High	2
21	Female	23	Low	1.5
22	Female	19	Low	1.5
23	Male	18	Low	1
24	Male	20	Low	2
25	Female	32	Low	2
26	Female	23	Low	1.5
27	Male	28	Low	2
28	Female	19	Low	1
29	Female	18	Low	1
30	Female	21	Low	1.5
31	Male	30	Low	2
32	Male	25	Low	2.5
33	Female	30	Low	1
34	Female	19	Low	1.5
35	Male	18	Low	1
36	Female	22	Low	2
37	Female	21	Low	2.5
38	Female	23	Low	1.5
39	Female	20	Low	1
40	Female	19	Low	1

Before collecting data, the researchers obtained the participants' informed consent to protect their rights (Cohen et al., 2007). One of the researchers explained the study's purpose to the students and provided them with relevant information to encourage them to participate. Also, to compensate for the time they allocated for this study, five free teaching MRs sessions were held for these participants at the end of the study. They

were also reminded that they were free to quit the study at any stage during the study.

The required data were collected in three sessions: semi-structured interviews were performed in one session, and think-aloud protocols were conducted in two sessions. The procedure for each session is explained below.

The participants attended the semi-structured interviews in the first session. The researchers explicitly informed each participant that the interviews did not impact their final results. They also informed them that there were no right or wrong answers and that their responses would not impact their academic standing. The interviews were performed individually, predominantly in English; however, the interviewer or interviewees sometimes switched to Persian for accuracy or clarity. The interview time was different for each respondent. The objective was to comprehend the readers' perceptions of different text types thoroughly.

During the second and third sessions, think-alouds were employed to ascertain the participants' MRs while reading expository and narrative texts. During the think-aloud procedure, the researchers inquired about the student's thought process if a student halted for over 15 seconds (as confirmed by the piloting process to be a suitable timeframe). Students were given sufficient time to read and comprehend a significant portion of content and comprehend it without allocating excessive time that would divert their attention from their current thoughts. Data were recorded by audio recorder throughout the think-aloud procedure. The gathered qualitative data were transcribed, analyzed, and coded to answer research questions.

4. Results

The first research question investigated Iranian EFL learners' practical use of MRs when reading English narrative and expository texts. The results indicated that learners employed more MRs when reading expository texts than narrative texts. This finding suggests that the type of text impacted readers' MRs use. The findings also revealed that learners employed identical GLOB and PROB strategies to comprehend both types of texts; however, the use of SUP varied. The most commonly employed SUPs in expository writing were paraphrasing, highlighting the facts, and vocalizing the text. Simultaneously, the act of posing inquiries was the most commonly employed SUP in narrative literature.

The second research question investigated Iranian EFL learners' perceptions regarding the role of text type on the choice of MRs when reading narrative and expository English texts. Of 40 focused participants, 39 believed that expository texts were more complicated, and only one expressed that narrative texts were more complex. Fifteen participants stated that expository texts were more difficult because they needed background knowledge. One of the participants pointed out that "*Expository text is more difficult for me because I don't have enough knowledge about many topics that I read.*" Nine participants believed expository texts were more difficult because they had complicated and specialized words. One participant argued, "*In my view, expository texts are much more difficult because they have many words in specific fields that I don't know their meaning.*" Six participants stated that expository texts were more difficult because they needed a high concentration. One participant mentioned that "*expository texts are challenging because I have to concentrate on the text, which is really demanding.*" Five participants referred to the scientific nature of expository texts as the reason for the difficulty. One participant maintained, "*Expository texts are scientific, so they are difficult.*" Three other participants argued that the structure of the expository texts was intricate and needed analysis. One of them argued that "*Expository texts are more difficult. They take a long time to analyze the sentences.*" Another participant also believed that expository texts have information contrasting with previous mental schemes, stating, "*When I read expository texts, they contradict my previous knowledge, and I don't like this issue.*" Only one participant believed that narrative texts were more complex and referred to the colloquial language of the narrative text as the reason for the difficulty of these types of texts: "*To me, narrative text is more difficult because its language is informal, while we mostly work on formal language at university.*"

It was also interesting that all learners believed narrative texts were more interesting. The most to least reasons for their choice were as follows:

- a. We engage with narrative text (15 participants)
- b. We obtain more information about social and cultural issues (10 participants)
- c. We experience another life (9 participants)
- d. It takes us into imagination words (6 participants).

An example of one of the participants' views: "*When I read narrative texts, I can't notice*

how time passes because it really gets my attention." Other ideas included: *"I really like reading narrative texts because they open a new world for me and provide me with a lot of new information about different cultures and societies."* Or, *"To me, narrative text is more interesting because whenever I read this type of text, I feel I live in another world."*

In addition, out of 40 participants, 25 believed that background knowledge played an essential role in comprehending expository texts. A participant noted, *"Without any background knowledge, I can't understand an expository text, but I can get the gist of the topic in narrative text."* However, ten participants believed background knowledge was more critical in narrative texts. It was, for instance, expressed that *"If I don't have any background knowledge, I can't understand the author's purpose."* On the other hand, Five participants believed that background knowledge was equally crucial for both types of texts. For example, a participant stated: *"I believe that background knowledge plays an important role in both types of texts. Without background knowledge, I can't understand the narrative or expository text."*

All participants believed that textual clues were more critical for expository texts. Some participants' opinions were, *"When I read expository texts, I usually use textual clues to connect the sentences and understand the text."* The participants also highlighted the strategies of summarizing, visualizing, and finding the story's primary purpose as helpful strategies for approaching narrative texts. One participant explained, *"First, I try to read the text and enjoy it by visualizing it, and then I try to find the author's purpose for writing such text."*

Further, a few learners referred to paraphrasing strategies, connecting the text to their previous knowledge, and asking themselves questions about the text as practical strategies for expository texts. Sample attitudes included: *"In approaching expository text, after reading each paragraph, I reword it. I think this is the best way to understand this type of text."* Or, *"When I see a topic of expository text, I try to ask myself some questions about that, and then I find the answers in the text. This strategy is effective for me."*

Finally, some interviewees stressed the role of previewing for reading any text type. Few referred to critical reading for expository texts. Generally, they argued that expository texts took more time to read since they needed more attention. They also believed that the speed of reading expository texts could increase with more practice.

Considering the participants' responses, the researchers concluded that readers' perceptions were essential in applying MRs in reading texts. For instance, as the interviewees' responses indicated, they used more strategies for expository texts. Thus, as they noted, expository texts required more strategies since they were more difficult to perceive. As the results indicate, individuals' perceptions played a vital role in reading different text types. Therefore, English instructors should pay close attention to learners' perceptions of text types. They should work on MRs and learners' perceptions of text types.

5. Discussion

The current research investigated the actual use of MRS by Iranian EFL learners at the intermediate level of English proficiency when they read in English across different text types. The study also explored how learners' perceptions of text type affected their choice of MRS. The think-aloud protocol analysis indicated that learners employed more techniques when engaging with the expository than narrative texts. This discovery corroborates and expands upon the findings of Cakir (2008) and Lei (2009), who similarly observed a higher frequency of strategy use in expository texts. Besides, the findings align with the results of Shokouhi and Jamali (2013), who found that the type of text influenced readers' chosen strategies. They observed that students used MRs more frequently when reading expository texts than narrative texts. However, in a study by Sun et al. (2024), the participants used more strategies for making questions in narrative texts.

As mentioned previously, the type of text is one of the critical elements determining reading comprehension. Interestingly, most students reported that expository writings were more challenging to comprehend. This finding was consistent with the results of Soy et al. (2023), in which the learners reported the difficulty of grammar and vocabulary in expository texts. One factor is most likely to be different genres of texts. Various types of texts have rhetorical and organizational characteristics. Besides, their choice of language differs, distinguishing them from others. As Kroll (1990) pointed out, difficulties in understanding expository texts emerge from the readers' failure to make sense of particular language aspects. According to Sáenz and Fuchs (2002), text structure, conceptual density and familiarity, vocabulary knowledge, and prior knowledge are

among the variables that make expository writing more difficult for readers.

On the other hand, the text type that stood out as the students' preferred text type was narrative text. This result is comparable with a study by Panico and Healey (2009), which found that narrative texts had a more positive influence on story comprehension and listener recall than expository texts. It is reasonable to propose that students prefer to work with what might be called light and tangible text types rather than demanding and intangible ones. They generally prefer and enjoy learning texts that are factual, entertaining, and inspirational more than demanding texts that require a capacity for analytical and critical thinking. This conclusion is not new or surprising because many students generally are not enthusiastic about in-depth reading engagement, which requires a heavy workload and intellectual commitment. However, as stated by Shin (2012), tertiary learners need to engage in various activities that require skills to communicate effectively, locate and use relevant information, and analyze, evaluate, and report critically. In this regard, responses in the present study highlight the need to consider how students' preferences can be reconciled with the expectations of the tertiary language curriculum.

6. Conclusion

The present research examined intermediate EFL learners' actual use of MRs when while reading English across different text types in the Iranian context. It also explored how learners' perceptions of text type affected their choice of MRs. The results led the researchers to draw some conclusions.

First, language learners' knowledge of appropriate MRs can facilitate successful reading. Adjusting reading approaches according to text types is especially beneficial for improving L2 reading comprehension abilities (Dong & Ni, 2024). Besides, MRs enable language learners to plan, organize, and assess their learning process. Therefore, instruction can help language learners learn and use MRs effectively. One crucial point is that employing MRs can cause more fruitful learning experiences for language learners and help them become successful readers. The second conclusion is that teachers should encourage EFL learners to use MRs during reading activities. Instructors should draw learners' attention to the conscious use of such strategies. Instructors can

encourage extensive reading and practice the strategies they have learned to become proficient readers. Finally, as the findings indicated, the expository texts posed more significant challenges for learners than narrative texts; therefore, they should receive more attention and practice than narrative texts. Since background knowledge plays a crucial role in understanding expository texts, reading such texts, even in Persian, can be influential in comprehending English expository texts.

Considering the findings of this study, it may be worthwhile to provide more focus on text type distinctions in EFL reading classes. Students should be given adequate opportunity to engage with various texts to gain sufficient experience. Explicit instruction can be an excellent method for making students aware of the generic distinctions between different types of texts, boosting their reading and promoting comprehension. While the generalizability of this study's findings to EFL students in different contexts may be limited, they provide valuable insights into how text types can impact EFL reading comprehension in the Iranian setting. This study is expected to encourage additional investigation into the connections between the interconnected variables in English as a Foreign Language (EFL) reading.

The findings of the current study are limited to qualitative data. Quantitative data could surely add to the depth of the study. Besides, this study did not consider students' interests in selecting the content of the texts, nor did it consider learners' personality characteristics. Other researchers can focus on encouraging learners to study different topics, even in L1, to gain more insights into the issue in various fields. Another paramount consideration is the language teaching domain. Studies on the degree of teachability and learnability of MRs can also interest future research. The ways teachers should teach MRs and the processes learners should go through to learn such strategies could also be the subject of further studies.

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The comparative role of paper-based and computer-delivered IELTS in the cognitive and meta-cognitive strategies use of Iranian IELTS candidates in the academic module reading

Article info**Article Type:**

Original Research

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Khodadust¹⁸**Abstract**

The present study examined the comparability of Paper-Based (PB) and Computer-Delivered (CD) IELTS in the academic module reading section, focusing on Iranian IELTS candidates' cognitive and metacognitive strategies. The study intended to determine if the delivery mode had any impact on the use of these strategies. To this aim, 200 upper-intermediate learners were randomly selected and divided into two groups to participate in the study under the two aforementioned test conditions. They completed a test-taking strategy survey under both test conditions. Moreover, five participants from each test condition group took part in think-aloud protocols. The quantitative data were analyzed by means of Independent-sample t-test and Multivariate Analysis of Variance (MANOVA) to test the research hypotheses. Content analysis of the think-aloud protocols was also conducted to identify the strategies employed by the IELTS candidates in both PB and CD formats. The results revealed that the PB group had a significantly higher mean than the CD group on the cognitive and metacognitive processes used in academic IELTS. However, the think-aloud protocols indicated that, in many cases, these differences were minimal, with cognitive and metacognitive processes being similarly employed across both formats. Moreover, significant differences were observed between the PB and CD groups in their reading test-taking strategies. The implications of these findings for test preparation and design are discussed.

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1. Introduction

Nowadays, advances in Information and Communication Technology (ICT) have provided educational settings with a new paradigm for knowledge delivery in adult education. Online learning and testing supported by e-learning tools have also gained attention and are placed within this paradigm (Larsson et al., 2019). According to Brown et al. (2012), E-learning is a broad term encompassing a wide range of applications and procedures that all depend on computer technology to facilitate learning.

As ICT has become significant in different aspects of education, technology-oriented assessment is attracting a lot of educationists, covering a wide range of contexts from primary schools to higher education levels (Newman et al., 2010). Similarly, many English as Foreign Language (EFL) centers worldwide have turned to virtual teaching, learning, and testing processes (Lan, 2020). Hence, virtual teaching/learning models relying on different computer-based (CB) educational platforms such as Learning Management Systems (LMSs), Google Meet, Zoom Meetings, Skype, and Sky Room have been introduced to the language teaching centers (Hidayati et al., 2021). With the advent of the COVID-19 pandemic, almost all educational and language teaching centers have paid special attention to computer-based educational models (Maican & Cocoradă, 2021).

In the same vein, testing organizations worldwide have employed computers in the testing and assessment domains; more specifically, computers are used in different areas to assess L2 achievement through Computer Adaptive Test (CAT) methods. Hence, testing centers have enhanced their activities in terms of assessing L2 learners' language proficiency, testing language skills, and assessing language components. For instance, the International English Language Testing System (IELTS), which was mainly a paper-based test, is presently administered in two new modes of test delivery named *IELTS indicator* and *Computer-Delivered (CD) IELTS*, both of which require the test takers to sit for the test in front of their computers (Chan et al., 2018).

The effect of the computer-based delivery mode of high-stakes tests on the candidates' performance and their scores have been reported by some scholars (e.g., Chan et al., 2018; Rokhaniyah & Putra, 2021). Weir et al. (2007) investigated differences between the CD and PB testing of IELTS writing. Similarly, Chan et al. (2018) found that

academic writing assessed through the computer-based method was more attractive to learners, especially those more interested in technology. Furthermore, Rokhaniyah and Putra (2021) reported that a well-designed web-based online IELTS academic reading exam can also improve the reading scores of the candidates. With respect to the significance of the delivery mode and its effect on the learners' performance in the test, the present study investigated the comparability of a paper-based (PB) and Computer-Delivered (CD) IELTS as two delivery modes in the academic module reading. Hence, the comparative role of paper-based and computer-delivered IELTS in the cognitive and meta-cognitive strategies use of Iranian IELTS candidates in the academic module reading were taken into account in the present study.

2. Review of the Related Literature

Second language reading ability is one source of gaining information and knowledge and as some studies argue, good comprehension of the second language texts can contribute to more effective language learning (e.g., Cho & Rhodes, 2010; Conrad & Donaldson, 2012; Rosenshine, 2017; Zhang et al., 2020). This is because the learner will be exposed to more inputs by reading and comprehending the texts in the second language (Khansir & Gholami Dashti, 2014). Moreover, mastering L2 reading comprehension skills can play a significant role in EFL learners' enjoyment, studying at university, and keeping oneself updated through reading the daily press and news (Samiei & Ebadi, 2021). In this regard, the mastery of reading skill in the EFL context is considered *apriori* (Poushaneh & Berenj Foroush Azar, 2020; Tobia & Bonifacci, 2020). Likewise, as Brevik (2019) argues, both explicit reading strategy teaching and the everyday application of methods by students will aid in developing students' reading comprehension. So, in many academic contexts teaching reading comprehension strategies along with reading test-taking strategies are included in the curriculum as a significant part of second language instruction (Magnusson et al., 2019; Richards, 2008). That is why a significant section of all the high-stakes tests and academic entrance exams worldwide is devoted to assessing reading (Du & Ma, 2021; Grabe & Jiang, 2013; Hopfenbeck, 2017; Huddleston & Rockwell, 2015; Lim, 2020).

Reading is an active and productive activity in which the reader questions the text

and immediately applies a variety of accessible information (previous knowledge and contextual signals) to create its meaning (Jung, 2017; Lin et al., 2019). Researchers may learn a lot about how people think about what they are reading by studying the tactics readers use (Gopal & Singh, 2020). As a result, reading methods also include the attentive procedures readers use to enhance their understanding of a particular reading content (Birch, 2002). Reading strategies have been shown to be important for improving reading abilities in previous studies on L1 and L2 readers of various competency levels across multiple learning situations (Amiri & Maftoon, 2010; Lee, 2015; Mokhtari et al., 2008).

Second language learners might employ different cognitive and meta-cognitive strategies both in the process of developing L2 reading and in answering reading comprehension tests (Daguay-James & Bulusan, 2020; Elekaei et al., 2020; Ghaith, 2020; Motlagh, 2021). In this respect, Motlagh (2021) reported that advanced learners of English used metacognitive strategies more frequently compared to their high-intermediate counterparts, and Ghaith (2020) gave a positive account of the role of meta-cognitive strategies in the success of EFL learners in the reading tests. Likewise, Singh et al. (2021) explored ESL learners' reading test-taking strategies and found that they used both cognitive and metacognitive strategies in this respect. Zulmaini (2021), who investigated training of test-taking strategies for the reading section of the Test of English as a Foreign Language (TOEFL), acknowledged that in the process of learning, students employ planning, monitoring, socio-affective, and comprehending strategies, while in the exam sessions, they mainly rely on retrieval, test-wise strategies. Some studies have also found that cognitive intrinsic motivation affects EFL learners' reading comprehension test-taking strategies (Cartwright et al., 2020; Delgado & Salmerón, 2021).

Considering the increasing importance of the IELTS exam, especially in developing countries like Iran, being successful in this exam and obtaining the ideal result is of utmost importance. Having passed the general courses in language schools and the IELTS training program, some candidates are unsuccessful in achieving acceptable proficiency levels. There could be some possible reasons like the lack of practice and test-wise, not having a good command of using the strategies, and some other reasons. Nevertheless, the problem could be more noticeable in reading, where IELTS candidates

need to employ special test-taking strategies to answer the complicated items, especially in the academic module. The reading section of IELTS is a challenging task that includes different sub-skills such as speed reading, skimming, scanning, phrase identification, text organization, deciphering meaning, and time management (Rasti, 2009).

On the other hand, the reading abilities that EFL students would need to succeed at foreign postsecondary institutions have received much attention (Ferris & Tagg, 1996). Even though such studies have proven very beneficial to EFL instructors, few have strayed from the norm when it comes to teaching or assessing reading and writing abilities (Baker, 2015; Buslon & Alieto, 2019; Kim & Craig, 2012; Kozulin & Grab, 2002). However, the impact of technology-based teaching or tech-based assessment has gained priority in English Language Teaching (ELT) research. For instance, Farha and Rohani (2019) highlighted that EFL learners in Asian countries, including Iran, have difficulty in the reading section of IELTS, especially in the academic module. Moreover, it has been indicated that concerning the difficulty of the IELTS sections and the time allotted to them, the listening comprehension section has a 70% difficulty, the writing section has a 68% difficulty level, and the reading comprehension section has a 77% difficulty level (Abboud & Hussein, 2011). The difficulty level of the texts in the test might affect learners' performance and final test scores.

Some research results on second-language acquisition point to a favorable correlation between second-language proficiency and learners' adoption of strategies (Moeini, 2020). Hence, the unfamiliarity of test takers with test-taking strategies, which can promote test-takers' scores, in addition to the techniques commonly advised by IELTS cramming course teachers, can be another issue regarding performance in the IELTS exam (Dastpak et al., 2021). Test takers might be cognitively and meta-cognitively involved in the test process and, accordingly, select specific strategies to answer questions, especially in the reading section of academic IELTS, which tests candidates' knowledge with respect to argumentative, analytical, and recreational tasks (Rezaei et al., 2016) which, in turn, require high mental engagement and rely on cognitive and meta-cognitive processes and strategies (Kalyuga & Singh, 2016; Rokhanyah & Putra, 2021; Sheorey & Mokhtari, 2001). Hence, with respect to the delivery mode of the test, test-takers might employ specific cognitive or metacognitive strategies to solve their problems

of answering the reading section of academic IELTS.

The present study aimed to compare the role of paper-based and computer-delivered IELTS in academic module reading, specifically focusing on the mental processes test takers may experience. Prior studies have investigated the general disparities in performance between paper-based and computer-delivered tests (Du & Ma, 2021). However, there is a significant lack of knowledge regarding the influence of these distinct delivery modes on the cognitive and meta-cognitive strategies employed by test takers, specifically among Iranian IELTS candidates. The significance of this disparity lies in the fact that cognitive and meta-cognitive methods play a major role in enhancing reading comprehension and overall performance in tests.

The rationale for conducting this study arises from the growing prevalence of computer-delivered testing and the necessity to understand its consequences for the cognitive processes and strategies of test takers. Considering the significant importance of the IELTS exam, understanding how various formats can influence the behavior of test-takers can provide valuable information to educators, test developers, and policymakers, enabling them to enhance test design and preparation methods.

The findings of the current study have the potential to reveal distinct cognitive and meta-cognitive processes used by individuals taking tests in various formats. This can lead to a more profound understanding of the underlying mechanisms that impact test taking conducts of the test takers. This understanding can enhance the fairness of testing processes and facilitate the creation of focused tactics to assist learners in achieving their best performance, irrespective of the test type. Accordingly, the current study aimed to find the cognitive and meta-cognitive processes Iranian IELTS candidates underwent while sitting for the reading test section of IELTS as a high-stake testing method. Additionally, it sought to determine the extent to which paper-based and computer-delivered IELTS affected the selection of test-taking strategies among test takers in academic IELTS reading. In this regard, the present study attempted to find answers to the following questions:

3. To what extent do paper-based and computer-delivered IELTS affect the cognitive and meta-cognitive processes reported by test takers in academic IELTS reading?

4. To what extent do paper-based and computer-delivered IELTS affect the self-report selection of test-taking strategies among test takers in academic IELTS reading?

3. Methodology

3.1. Design

The present study employed a non-experimental survey-based sequential exploratory mixed methods design. Tests and questionnaires were used to collect the quantitative data, and think-aloud protocols were used to provide the researchers with the qualitative data.

3.2. Participants

The study involved 200 Iranian IELTS candidates aged between 18 and 30, selected from an initial pool of 350 candidates. All participants demonstrated upper-intermediate language proficiency, determined through a standardized language proficiency test. Candidates with extreme scores (too high or too low) were excluded to ensure a homogenous proficiency level within the sample. From the eligible candidates, 200 were randomly assigned to one of two groups: 100 participants took the paper-based reading test, while the other 100 took the computer-delivered reading test. This random assignment ensured that both groups were comparable in terms of language proficiency and other relevant characteristics. Each group completed the same reading passages and questions in the test to maintain consistency in the assessment. In the qualitative phase of the study, five randomly selected candidates from each group carried out think-aloud protocols (TAPs) which provided the researchers with insights into the cognitive and meta-cognitive processes the test takers experienced while answering each specific item of the test.

3.3. Instrumentation

Quick Oxford Placement Test (QPT), a standard academic IELTS reading, a survey of test-taking strategies (Bicak, 2013), and think-aloud protocols were used to collect the data. These instruments are described in the following sections.

Quick Oxford Placement Test

The QPT, including 60 multiple-choice questions, was used to verify the individuals'

homogeneity. Based on Cronbach's alpha, the test has a high level of reliability ($\alpha=.91$) (Berthold, 2011, p. 674). Construct validity of the test has also been confirmed (Motallebzadeh & Nematizadeh, 2011; Wistner et al., 2009).

Academic IELTS Reading

An academic reading test with three texts followed by different items was selected from *Cambridge Practice Tests for IELTS: Volume 17* (Cambridge University Press, 2021). The same test was uploaded by the system in the CD format. Both of these tests were the same in content and items and were administered as the Mock test of academic reading. Although the IELTS partners do not provide retired IELTS forms for research reasons, these volumes include content prepared by Cambridge ESOL, the IELTS partner responsible for test development, in accordance with their regular IELTS test production processes. Hence, it accurately represents what you will see in the real thing (Huang, 2013). The test selected included all the ten reading items that usually appear in the academic reading of IELTS.

Test-taking Strategies Survey

The test-taking techniques utilized in this research consisted of 20 questions, which were divided into four subscales: item analysis strategies (7 items), time management strategies (4 items), choice prediction strategies (3 items), and after-test strategies (3 items) (See Appendix A). The subscales had internal consistency coefficients ranging from 0.39 to 0.78, which varied according on the amount of items. Moreover, the "construct validity of this scale has been proved by Exploratory Factor Analysis (EFA)" (Biçak, 2013, p. 279). The study participants were asked to select from Never=1 to Always=5 on the Likert scale. All the study participants in both PB and CD IELTS groups received this questionnaire prior to the reading test.

Think-aloud Protocols (TAPs)

In line with Nielsen and Landauer's (1993) mathematical model of determining the number and type of participants for Think-aloud Protocols (TAPs), five participants were randomly selected from each group (PB and CD IELTS). These participants were first briefed on the think-aloud protocol methodology. The briefing session lasted approximately 30 minutes and included a detailed explanation of the think-aloud process, a demonstration, and a short practice session where participants could familiarize themselves with

verbalizing their thoughts while answering reading test questions.

During the actual test-taking session, participants were monitored by the researchers to ensure they adhered to the think-aloud protocol. This monitoring helped maintain consistency and ensured that participants verbalized their thought processes effectively. The participants were asked to record their voices while answering the reading tests, which provided the researchers with insights into the cognitive and meta-cognitive processes they experienced while answering each specific item. Participation in this phase of the study was voluntary and based on the interviewees' consent. This approach ensured that the collected data accurately reflected the participants' natural test-taking strategies and cognitive processes.

3.4. Procedure

The first phase of this study involved selecting the study participants. Out of the 350 randomly selected IELTS candidates, 200 homogeneous EFL learners were selected based on the results of a standard version of the Quick Placement Test (QPT). The selected participants were randomly assigned to paper-based IELTS (n=100) and computer-delivered IELTS (n=100).

The second phase of the study, the data collection process, spanned three months based on the participation rate of candidates in the mock tests of the institution. During this period, 15 to 20 candidates were tested in each exam session. The procedure involved administering surveys; participants first completed the reading test-taking strategies survey which was administered before the participants took the reading test to ensure that the test itself did not influence their responses. The survey took approximately 20 minutes to complete. After completing the survey, participants took the academic IELTS reading task, presented in their respective delivery modes (paper-based or computer-delivered). The reading test followed the standard IELTS format and lasted 60 minutes.

During the reading test, the selected participants (five from each group) performed think-aloud protocols. Their voices were recorded as they verbalized their thoughts while answering the reading questions. This provided insights into the cognitive and meta-cognitive processes they employed. Throughout the entire procedure, participants' adherence to the protocol was monitored by the researchers to ensure consistency and

reliability in the data collection. Participation in this phase was voluntary and conducted with the interviewees' consent.

3.5. Data Analysis

To analyze the quantitative data, SPSS version 25 was employed, and descriptive statistics was used to analyze the data related to the proficiency test. Multivariate Analysis of Variances (MANOVA) was run to compare the PBI and CDI groups' means on four components of reading test taking strategies. Likewise, content analysis was employed to analyze the qualitative data pertaining to think-aloud protocols and interviews with the test takers. The relationship between participants' reading comprehension and test-taking strategies was examined through correlation coefficients. The construct validity of the test-taking strategies survey was, however, estimated through factor analysis. Likewise, the results of think aloud protocols were analyzed based on content analysis to gain information into the IELTS candidates' strategies in taking the two IELTS formats.

4. Results

Quantitative Data Analysis

Testing normality assumptions revealed that all skewness and kurtosis indices were within the range of ± 2 . Hence, the data were considered normal. Moreover, the KR-21 reliability index for the overall academic reading IELTS was .86, confirming that the test enjoyed an acceptable reliability. The Cronbach's alpha for the sub-sections was .956. The overall reading strategy questionnaire enjoyed a reliability of .925. The reliability indices for its three components were cognitive ($\alpha = .878$), metacognitive ($\alpha = .883$), and social ($\alpha = .742$). The reliability indices for the overall reading test-taking strategy questionnaire were .889. The reliability indices for its components were time management ($\alpha = .781$), item analysis ($\alpha = .741$), distractor selection ($\alpha = .817$), and after-test ($\alpha = .463$).

The first research question was an attempt to examine the extent to which paper-based and CD IELTS affect the cognitive and metacognitive processes reported by test takers in academic IELTS reading. The following directional hypothesis was formulated to answer this question: "Compared to CD IELTS, paper-based IELTS significantly affects the cognitive processes reported by test takers in academic IELTS reading". To test the

hypothesis, an independent-samples t-test was run to compare the PBI and CDI groups' means on cognitive processes. As displayed in Table 1, the PBI groups ($M = 3.75$, $SD = .754$) had a higher mean than the CDI group ($M = 2.71$, $SD = .591$) on cognitive processes.

Table 1

Descriptive Statistics Cognitive Processes by Groups

	Group	N	Mean	Std. Deviation	Std. Error Mean
Cognitive	PBI	100	3.75	.754	.075
	CDI	100	2.71	.591	.059

The results of the independent-samples t-test are shown in Table 2. Prior to examining the findings, it is important to acknowledge that the assumption of homogeneity of variances was not retained in cognitive processes. As displayed in Table 2, the results of Levene's test of homogeneity of variances were significant ($F = 6.10$, $p < .05$). Thus, the two groups did not enjoy homogenous variances in the cognitive processes. That was why the second row of Table 2, i.e., "Equal variances not assumed," was reported.

The results of the independent samples t-test ($t(187.29) = 6.10$, $p < .05$, $r = .407$ representing a moderate effect size; 95 % CI [.856, 1.23]) indicated that the PBI group had a significantly higher mean than the CDI group on the cognitive processes used in academic IELTS reading. Thus, it can be concluded that, compared to computer-delivered IELTS, paper-based IELTS significantly affected the cognitive processes reported by test takers in academic IELTS reading.

Table 2

Independent-Samples t-test Cognitive Processes by Groups

	Levene's Test for Equality of Variances				t-test for Equality of Means				
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	6.108	.014	10.912	198	.000	1.045	.096	.856	1.234
Equal variances not assumed			10.912	187.299	.000	1.045	.096	.856	1.234

In an attempt to find the extent to which paper-based and CD IELTS affected the metacognitive processes reported by test takers in academic IELTS reading, an independent-samples t-test was run to compare the PBI and CDI groups' means on metacognitive processes. Table 3 displays the results of the descriptive statistics for the two groups on metacognitive processes. The results indicated that the PBI groups (M = 3.73, SD = .684) had a higher mean than the CDI group (M = 2.76, SD = .431) on metacognitive processes.

Table 3
Descriptive Statistics Metacognitive Processes by Groups

Group	N	Mean	Std. Deviation	Std. Error Mean
PBI	100	3.73	.684	.068
CDI	100	2.76	.431	.043

As displayed in Table 4, the results of the independent samples t-test ($t(167.02) = 12.01$, $p < .05$, $r = .681$ representing a large effect size; 95 % CI [.812, 1.13]) indicated that the PBI group had a significantly higher mean than the CDI group on the metacognitive processes used in the academic reading IELTS. Thus, it can be claimed that compared to CD IELTS, paper-based IELTS significantly affected the metacognitive processes reported by test takers in academic IELTS reading.

Table 4
Independent-Samples t-test Metacognitive Processes by Groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	9.531	.002	12.013	198	.000	.971	.081	.812	1.131
Equal variances not assumed			12.013	167.025	.000	.971	.081	.812	1.131

The second research question addressed the extent to which paper-based and CD IELTS affected the self-report selection of test-taking strategies among test takers in academic IELTS reading. Multivariate Analysis of Variances (MANOVA) was run to compare the PBI and CDI groups' means on four components of reading test-taking

strategies. Before discussing the results, the assumptions of homogeneity of variances and homogeneity of covariance matrices will be reported. Table 5 shows the results of Levene's tests of homogeneity of variances. The results indicated that the assumption of homogeneity of variances was retained on item analysis ($F(1, 198) = 2.41, p > .05$) and distractor selection ($F(1, 198) = .04, p > .05$); however, it was violated on time management ($F(1, 198) = 21.85, p < .05$), and after test ($F(1, 198) = 4.90, p > .05$). Since the present sample sizes were equal, the violation of this assumption was ignored.

Table 5

Levene's Test of Homogeneity of Variances Reading Test Taking Strategies by Groups

		Levene Statistic	df1	df2	Sig.
Time Management	Based on Mean	29.887	1	198	.000
	Based on Median	21.858	1	198	.000
	Based on the Median and with adjusted df	21.858	1	179.040	.000
	Based on trimmed mean	28.858	1	198	.000
Item Analysis	Based on Mean	5.388	1	198	.021
	Based on Median	2.415	1	198	.122
	Based on the Median and with adjusted df	2.415	1	168.087	.122
	Based on trimmed mean	4.343	1	198	.038
After Test	Based on Mean	5.612	1	198	.019
	Based on Median	4.901	1	198	.028
	Based on the Median and with adjusted df	4.901	1	187.300	.028
	Based on trimmed mean	5.557	1	198	.019
Distraction Selection	Based on Mean	.057	1	198	.812
	Based on Median	.040	1	198	.841
	Based on the Median and with adjusted df	.040	1	191.199	.841
	Based on trimmed mean	.099	1	198	.754

Table 6 shows the results of the Box's test. The results (Box's $M = 135.79, p < .001$) indicated that the assumption of homogeneity of covariance matrices was violated. Since the present sample sizes were equal, the results of the Box's test were ignored.

Table 6

Box's Test Reading Test-Taking Strategies by Groups

Box's M	135.795
F	13.284
df1	10
df2	187429.482
Sig.	.001

Table 7 shows the main results of MANOVA. The results ($F(4, 191) = 56.51, p <$

.05, partial eta squared = .535 representing a large effect size) indicated that there were significant differences between the PBI and CDI groups' means on reading test-taking strategies. Thus, it can be argued that compared to CD IELTS, paper-based IELTS affected the selection of more test-taking strategies among test takers in academic IELTS reading.

Table 7

Multivariate Tests Reading Test Taking Strategies by Groups

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.982	2619.431	4	195	.000	.982
	Wilks' Lambda	.018	2619.431	4	195	.000	.982
	Hotelling's Trace	53.732	2619.431	4	195	.000	.982
	Roy's Largest Root	53.732	2619.431	4	195	.000	.982
Group	Pillai's Trace	.535	56.014	4	195	.000	.535
	Wilks' Lambda	.465	56.014	4	195	.000	.535
	Hotelling's Trace	1.149	56.014	4	195	.000	.535
	Roy's Largest Root	1.149	56.014	4	195	.000	.535

Table 8 shows the descriptive statistics for the two groups on the four components of reading test-taking strategies. Based on these results and the Between-Subjects Effects shown in Table 8, it can be concluded that:

A: The PBI group ($M = 3.36$) significantly outperformed the CDI group ($M = 2.42$) on time management ($F(1, 198) = 99.31, p < .05$, partial eta squared = .334 representing a large effect size).

B: The PBI group ($M = 3.33$) significantly outperformed the CDI group ($M = 2.52$) on item analysis ($F(1, 198) = 120.53, p < .05$, partial eta squared = .378 representing a large effect size).

C: The PBI group ($M = 3.41$) significantly outperformed the CDI group ($M = 2.62$) on after-test ($F(1, 198) = 81.56, p < .05$, partial eta squared = .292 representing a large effect size).

D: The PBI group ($M = 3.50$) significantly outperformed the CDI group ($M = 2.51$) on distraction selection ($F(1, 198) = 119.89, p < .05$, partial eta squared = .377 representing a large effect size).

Table 8

Descriptive Statistics Sub-Section of Academic Reading IELTS by Groups

Dependent Variable	Group	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Time Management	PBI	3.367	.067	3.235	3.500
	CDI	2.423	.067	2.290	2.555
Item Analysis	PBI	3.333	.052	3.230	3.436
	CDI	2.520	.052	2.417	2.623
After Test	PBI	3.410	.061	3.289	3.531
	CDI	2.627	.061	2.506	2.748
Distraction Selection	PBI	3.500	.064	3.375	3.625
	CDI	2.515	.064	2.390	2.640

Qualitative Data Analysis

The *think-aloud protocols (TAPs)*, as qualitative data set, were used to confirm the quantitative findings of the research questions in the present study. Hence, the qualitative data collected through TAPs represented the cognitive and metacognitive processes test takers experienced while answering the test items. Five randomly selected participants taking part in the test from each group (PB and CD IELTS) were briefed in terms of think-aloud protocols, and then they were asked to record their voices while answering reading tests.

To analyze the TAPs, the recorded verbalizations were transcribed verbatim and then coded using a grounded theory approach. The unit of analysis was each distinct thought process or strategy verbalized by the participants. These units were identified and categorized into cognitive and meta-cognitive strategies based on established frameworks (Bicak, 2013; Boo, 1997; Huang, 2013). The coding process involved several steps:

1. Initial Coding: Transcripts were read multiple times, and initial codes were assigned to data segments representing specific cognitive and meta-cognitive processes.
2. Axial Coding: The initial codes were then organized into broader categories to identify patterns and relationships between different strategies used by participants.

3. Selective Coding: Finally, core categories were developed that encapsulated the main cognitive and meta-cognitive strategies employed by the test takers.

The qualitative analysis revealed that paper-based IELTS test takers made more use of cognitive processes than the computer-delivered IELTS test takers. Consistent with the quantitative data analysis, the TAPs indicated that the PBI group reported more tangible cognitive strategies compared to the CDI group. Evidence of think-aloud extracts with respect to the main cognitive and meta-cognitive strategies employed by the test takers are shown in two sub-sections as follows through examples.

A. Cognitive Strategies

1. Using Pneumonic Devices

Pneumonic devices are best shown through developing keywords out of the initial layers of important words in a sentence or text to recall the information conveyed by the message or even the message itself. It is a cognitive strategy identified by Boo (1997) and Huang (2013). Evidence of think-aloud extracts for this strategy are as follows:

"I should focus on creating keywords to remember important information from the text before answering the test items". Or, "I should try to keep in mind the main parts of the text while I am reading the exam texts before answering the test items."

It is worth mentioning that all five participants in the PBI group and just two participants in the CD IELTS group employed this strategy.

2. Using Already Known Concepts

As another cognitive strategy involving the use of memorized information and the ideas gained through known concepts to answer the reading test questions or deciphering the intended meaning of the test (Bicak, 2013), using already known concepts, was among the strategies employed by the test-takers. Evidence of think-aloud extracts for this strategy are as follows:

"When studying for examinations, recalling material by connecting it to what I already know is very helpful". Or, "I should apply what I've memorized to the questions in the test in case the items are about the realities I am aware of". Or, "I do not read the text, as I am familiar with the context. So, I answer the questions based on my own information."

Four participants in the PBI group and three participants in the CDI group utilized this

approach. These findings underscore the differences in cognitive strategies used by participants in different test delivery modes, providing a deeper understanding of the impact of test format on cognitive and meta-cognitive processes.

3. *Time Management Strategies*

Concerning time management strategies, which require cognitive and behavioral processes (Ma et al., 2020; Rapp et al., 2013), the majority of the TPAs of the PBI test-takers showed the time arrangement before starting the test, focusing on the scoring formula to spend time on a specific item, and trying to complete the test fast. Evidence of think-aloud extracts for this strategy are shown in the following examples:

“Before beginning the exam, I need to allocate enough time for each section and question”. Or, “When answering a question, I should not waste my time on difficult items”. Or, “I should complete the test soon.” Or, “I should rely on the scoring formula to save time”.

Three of the students in the PBI group and three CD test taker participants focused on the time management strategies discussed above.

4. *Using Hints in Questions*

In terms of utilizing the hints provided in questions when responding to other questions as a cognitive strategy (Bicak, 2013), four of the PBI test takers used this strategy and hence experiencing this process, while only two of the CDI group referred to it. Evidence of think-aloud extracts for this strategy are shown in the following examples:

“I should use the information given in previous or following questions to answer another question”. Or, “I need to compare the questions addressing one single topic together”. Or, “It is better to utilize all the provided information in different items while responding to a single question related to them.”

5. *Using Keywords*

Focusing on the keywords and phrases to better comprehend the questions while reading, as a cognitive strategy (Wahyono, 2019), was just employed by the PBI test takers. Evidence of think-aloud extracts for this strategy are shown in the following examples:

“I need to look at the keywords in the questions and match them with the keywords I read in the text to understand the items better”. Or, “I should consider the

connections between the keywords mentioned in the stem of the question and their answers”.

6. Distracter Selection

With respect to distracter selection, which as a test-taking strategy requires cognitive processes (Bicak, 2013), the majority of the test takers in PBI (n=4) and CDI (n=4) groups used distracter selection and elimination strategies such as “eliminating options that seem wrong”, “guessing”, “eliminating the option which seem different from the others”, and “frequent refereeing to the text”. Evidence of think-aloud extracts for this strategy are shown in the following examples:

“I always do my best to eliminate the options that seem wrong”. Or, “I should omit the options which use the words “only”, “just”, “not” as I guess they are deliberately formed this way to trap me”. Or, “I can eliminate the option which seems different from the others”. Or, “I had better put aside the options which frequently refer to the text”.

B. Meta-cognitive Strategies

Regarding the meta-cognitive strategies observed during academic IELTS reading, findings from the qualitative analysis of TAPs corroborated the results of the quantitative phase. During the TAPs, participants verbalized their thought processes while tackling the reading test items, providing real-time insights into their meta-cognitive strategies.

1. Skipping Difficult Questions

The analysis of the TAPs revealed that most test takers in both groups (n=4, in each) employed the meta-cognitive strategy of skipping questions they couldn't answer, which was consistent with Wahyono's (2019) planning meta-cognitive strategy development in test-taking. Evidence of think-aloud extracts for this strategy are shown in the following examples:

"Let's eliminate the items for which I am convinced that I do not know the answers." Or, “When a question seems to be too complicated, I should skip it”. Or, “I prefer to skip at least two or three questions which need a lot of care and attention to answer”.

2. Postponing Complicated Items

The analysis of the TAPs revealed that the majority of test takers in both groups (n=4) in

each group) used the meta-cognitive strategy of postponing the questions they were not able to answer immediately which has been categorized as a planning meta-cognitive test-taking strategy (Hemmye, 2004; Motlagh, 2021). Evidence of think-aloud extracts for this strategy are shown in the following examples:

"Let's mark some questions to be answered later." Or, "I do not need to respond to some questions I am not able to answer at the moment for later consideration". Or, "First, I should mark the vague questions and once I finish answering the questions of the text, I get back to the marked items and try to answer them later".

3. Post-test Reflections

Post-test meta-cognitive strategies which fall within the domain of monitoring and behavioral strategies (Ghaith, 2020) were also verbalized in the TAPs of the candidates. The majority of the participants in the PBI group (n=5) and most of the the participants in the CDI group (n=3) used similar post-test reflections, including contemplating their test scores, envisioning their progress toward goals based on the results, and reflecting on challenges encountered during the test. Evidence of think-aloud extracts for this strategy are shown in the following examples:

"Why were some questions so difficult to answer." Or, "I think about my likely test score". Or, "I am happy that the test was finished, as I'm sure I will gain a high score".

4. Uncertainty Management

Four individuals from each group employed similar meta-cognitive strategy of uncertainty management when addressing uncertain questions if time permitted. This aligns with Pintrich's (2002) concept of uncertainty management which is also labeled as a monitoring strategy. Evidence of think-aloud extracts for this strategy are shown in the following examples:

"I have enough time. So, I'll check the answers of some questions I am not certain about, at the end, once more". Or, "I'll review my responses to the questions addressing main idea and title, once more at the end of the test, in case time permits me."

This thorough examination of both real-time think-aloud protocols offers valuable insights into the meta-cognitive strategies employed by test takers during the IELTS

reading test.

5. Discussion

In terms of academic IELTS cognitive processes, the performance of the paper-based (PBI) group surpassed that of the computer-delivered (CDI) group, indicating the impact of the delivery mode on cognitive engagement. However, analysis of think-aloud protocols revealed that both PBI and CDI groups employed similar cognitive strategies, such as creating keywords and utilizing memorized concepts, albeit with varying frequencies which is consistent with the work of some other researchers (Bicak, 2013; Boo, 1997; Huang, 2013). Moreover, like the findings of Ma et al. (2020) and Rapp et al. (2013), while PBI test-takers demonstrated proactive time management strategies, focusing on item scoring formulas, CDI participants tended to review their actions during the test, suggesting nuanced differences in cognitive approach. Both groups exhibited similar distractor selection strategies, indicating a common cognitive process in tackling test items as Bicak (2013) also argued.

Reading comprehension, as an active cognitive process, relies on connecting text with prior knowledge to construct meaning (Cartwright et al., 2020; Wahyono, 2019). The findings indicate that cognitive strategies played a pivotal role in enhancing reading comprehension, aligning with previous studies (Fotovatian & Shokrpour, 2014). Notably, despite variations in delivery mode, both groups employed different cognitive techniques to navigate the reading tasks, corroborating earlier research findings (Elekaei et al., 2020; Ghafournia & Afghari, 2013; Wahyono, 2019).

In addition, with respect to the meta-cognitive processes, both PBI and CDI groups exhibited similar strategies, including post-test reflection and goal envisioning, indicating consistent meta-cognitive engagement regardless of delivery mode. These findings support prior research emphasizing the role of meta-cognitive strategies in enhancing reading comprehension (Baker & Beall, 2014; Boulware-Gooden et al., 2007; Ghaith, 2020; Hemmye, 2004; Motlagh, 2021; Pintrich, 2002).

Despite these similarities, significant differences were observed in reading test-taking tactics between the PBI and CDI groups, including time management, item analysis, and distractor selection. For instance, quantitative data revealed variations in

critical reading test-taking methods across delivery modalities, contrary to existing literature (Assiri, 2011; Chick, 2013; Wu et al., 2017; Zulmaini, 2021). While these differences may not always manifest in test results, they underscore the importance of considering delivery mode in test design to mitigate potential disparities in test-taking strategies and outcomes.

It can be argued that both cognitive and meta-cognitive strategies play crucial roles in academic IELTS reading comprehension, with nuanced differences observed between paper-based and computer-delivered formats. Understanding these differences can inform practitioners to optimize test-takers' performance across delivery modalities.

6. Conclusion

This study examined how test delivery methods affected the cognitive and meta-cognitive strategies involved in answering academic IELTS reading comprehension. The findings revealed that although candidates employed similar reading strategies in both computer-delivered (CD) and paper-based (PB) IELTS formats, the candidates tested through PB format used such strategies more than their counterparts in the CD group. This implies that even though there are similarities in the use of strategies, the way the test is administered may affect the tendency to use certain test-taking strategies. One reason for this could be the familiarity of the Iranian candidates of IELTS with paper and pencil tests and paper-based tests, while they are not well familiar with the CD tests. During their schooling education, Iranian students are tested through essay-type or multiple-choice items printed on papers. Accordingly, they have developed certain strategies apt to the test format they are accustomed to. When a CD test like CD IELTS is given to the candidates, the strategies they have already developed might not be completely useful.

Furthermore, as the study findings revealed, the PBI group significantly outperformed the CDI group on time management, item analysis, after-test, and distraction selection strategies, as cognitive strategies. Due to the likely stress and anxiety digital devices might impose on the test takers, CDI group might have been affected by a lot of stress while answering the reading test. Hence, they might not have managed their time well. Likewise, they might have lost their concentration while analyzing the items and finding their answers. This is consistent with previous research

on the possible disadvantages of digital devices in educational settings (Baron, 2015; Delgado & Salmeron, 2021; Salmeron & Delgado, 2019; Wolf, 2018). Moreover, when participants are pressed for time and they are engaged in tasks on a screen, they might lose their attention and not be able to use proper cognitive strategies such as using the clues in the questions to find the proper answer.

With respect to meta-cognitive strategies, the study findings revealed that compared to the CDI group, PBI group used more cases meta-cognitive strategies, while for other meta-cognitive strategies such as skipping difficult questions, postponing complicated items, and uncertainty management, both groups were similar. It means that test delivery mode might just partially influence the meta-cognitive test taking strategies of the testees. These findings align with prior reported research results conducted by Ackerman and Lauterman (2012), but reject Clinton's (2019) findings which highlighted the significance of considering the design and delivery of tests to promote appropriate meta-cognitive processes while taking tests. In fact, the present study findings showed that test-delivery mode did not leave huge impacts on the selecting meta-cognitive strategies in test taking.

To sum up, the results highlight that test developers and educators should consider how the method of delivery affects cognitive and meta-cognitive processes in academic reading comprehension. Customized interventions targeting the improvement of reading methods can effectively address the possible difficulties related to digital test administration and enhance overall performance on tests.

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Appendix A Reading Test-taking Strategies Survey

Dear Candidate:

The aim of this study is to determine test taking strategies in reading. With this regard, 20 items are provided in this form. After reading each statement, please mark the expression which corresponds to your answer. Please, try to give the most relevant information to let us help you and your friends more in this tiresome process. Thank you in advance for your contributions and wish you luck in your exams.

Student ID Number:

Gender: Female []

Male []

Never=1, Sometimes=2,

Usually=3,

Often=4,

Always=5

No.	Strategies	1	2	3	4	5
1	I arrange the time for each part and each question before I start the test. TM					
2	I change my strategy depending on formula scoring or number-right scoring. TM					
3	I do not spend extra time on a question. TM					
4	I try to answer the questions as quickly as possible. TM					
5	I eliminate the questions whose answers I definitely do not know. IA					
6	I make use of the clues in questions while answering another one. IA					
7	I go over what I have done while answering the questions. IA					
8	I try to use all the information given while answering the questions. IA					
9	I spend time to answer a question and mark it to answer later on. IA					
10	I try to answer the questions which I am not sure of or I did not answer if I have time. IA					
11	I underline the important words and sentences while reading the questions. IA					
12	I firstly eliminate the options which I surely consider false while answering the questions. DS					

Cognitive and meta-cognitive strategies

13	I go back and read the question or paragraph to find the correct answer if necessary. DS					
14	I read all options and choose the best one while answering questions. DS					
15	I eliminate the option which seems different from the others. DS					
16	I pay attention to whether I circled more than 3 same options one after another on the answer sheet or not. DS					
17	I try to find the answer by guessing when I reduce the alternatives into two. DS					
18	I decide if the score I got from the test sufficient for my target. AT					
19	I reward myself if I get a score that fits my target AT					
20	I question the reasons why I couldn't answer some of the questions. AT					

Note: TM: Time management; IA: Item Analysis; AT: After Test; DS: Distracter Selection

1. Time management is both a behavioral and a cognitive skill.
2. Item Analysis is considered a metacognitive skill if it requires planning and mental scripting about items
3. Item Analysis is considered a cognitive skill if it requires thinking, reading, remembering and reasoning
4. Distracter selection is a cognitive skill.
5. After Test strategies are considered as behavioral and metacognitive skills

Bicak, B. (2013). Scale for test preparation and test taking strategies. *Educational Sciences: Theory and Practice*, 13(1), 279-289.