# Interdisciplinary Studies in English Language Teaching

## ISELT

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Department of English Language & Literature
Faculty of Persian Literature & Foreign Languages
University of Mazandaran
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# English Language Teacher Self-Assessment: Voices from Iran

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**Abstract**
Despite the significance of teacher self-assessment in general teacher education, this line of inquiry has not received the due attention it deserves in TESOL teacher education. The present mixed methods study aimed to fill part of the gap by reporting on Iranian English language teachers' self-assessments. Data were collected from 14 teachers through questionnaires, semi-structured interviews, reflective journals, and stimulated recall interviews. Descriptive and thematic data analyses indicated that while the teachers assessed themselves as less competent in knowing the subject matter, they specifically attempted to promote perceptions of diversity among the students and develop students who can become socio-culturally critical individuals. The findings also showed that despite the alleged perceptions about the traditional educational system of Iran, our focal EFL teachers are changing the landscape of language teaching/learning by stepping toward developing 21st-century skills in the students to reshape their literacy skills. We close the paper by providing implications regarding using teacher self-assessment as a novel professional development tool in teacher education courses to enhance teachers' awareness of their strengths and weaknesses.

## 1. INTRODUCTION

Over the past decades, various professional development tools have been introduced to contribute positively to teachers' professional growth. Among such tools, teacher self-assessment (TSA) has been argued to provide teachers and teacher educators with useful insights into developing enhanced reflectivity and facilitating teachers' development (e.g., Akram & Zepeda, 2015; Benson, 2011; Buenaño-Fernandez et al., 2020). The major argument undergirding TSA is that self-assessment enables teachers to develop criticality toward their own professional practices (Borg & Edmett, 2019; Towndrow & Tan, 2009), become reflective practitioners vis-à-vis educational performance (Borgmeier et al., 2016; Ross & Bruce, 2007), and come to novel understandings in how to positively contribute to students' learning and institutional accountability (Curtis & Cheng, 2001; Dayal & Alpana, 2020).

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Despite the significance of TSA in teacher development and its prevalent representation in general teacher education, this line of inquiry has received little attention in TESOL teacher education, especially through mixed methods approaches. Borg and Edmett (2019) particularly call for further research in this area in (second) language teacher education. In response to this call, we report on Iranian English language teachers' self-assessments in this study. As we show later, by using multiple data sources, this examination can provide useful insights into understanding how particularities of English language teaching in Iran shape the teachers' self-assessments and their divergent perceptions. The study is significant as it examines an underexplored area of research in TESOL teacher education and provides implications for policymakers and teacher educators to turn their conscious attention to using self-assessment as a professional development tool. Thus, this study aims to examine Iranian English language teachers' self-assessments by drawing on the inventory Borg and Edmett (2019) developed.

## Literature review

### *Teacher self-assessment*

Self-assessment is a comprehensive concept in education that is considered both as a key practice to develop self-awareness about the educational process (Benson, 2011) and as an efficient way to promote autonomous teachers (Wallace & Bau, 1991). TSA is related to teachers' judgment about their efficiency and adequacy of knowledge and performance (Akram & Zepeda, 2015). TSA is also a formal and systematic process that enables teacher performance evaluation (Buenaño-Fernandez et al., 2020). Within this perspective, TSA requires teachers to look at their practice from a number of angles and assess the surroundings to develop strategies appropriate for enhancing their practice (Dayal & Alpana, 2020).

Self-assessment offers multiple benefits to teachers and their professional growth. One such benefit is that TSA provides a fuller picture of teacher competence as compared to classroom observations conducted by external assessors. In fact, TSA engages teachers more directly in self-evaluation and professional development, giving them a higher sense of ownership in the assessment process and in further decisions about the areas in need of progress (Borg & Edmett, 2019). Moreover, it is essential for teachers to self-assess and select the most suitable style(s) for classroom teaching efficiency, to enhance the teaching-learning process, and to guarantee educational accountability, which helps them enhance their professional performances (Curtis & Cheng, 2001).

Self-assessment can also help teachers become aware of their strengths and weaknesses, consequently helping them improve their efficiency (Montgomery & Baker, 2007). In fact, assessing teachers in terms of identifying their strengths or weaknesses is an important process in that effective teachers are expected to demonstrate high levels of teaching skills in order to meet the required standards of responsibility and accountability and to care deeply about students and their success (Buenaño-Fernandez et al., 2020). As TSA contributes to teachers' professional practice by gathering new meanings of different situations (Dayal & Alpana, 2020), it compels teachers to assess what they do regularly and to strive to improve their practice (Dayal & Alpana, 2020). Moreover, by self-assessment, teachers can enhance not only their teaching practices but also improve learning outcomes (Rispoli et al., 2017). Since the way teachers plan, accomplish, and assess their lessons indicates their knowledge, abilities, and learning outcomes, self-assessment also provides a door into teachers' pedagogical content knowledge (Al Darwish, 2021).

Moreover, self-assessment contributes to teacher self-efficacy, as teachers who believe that they are successful in self-evaluation are more likely to become successful and effective professionals (Ross & Bruce, 2007). Additionally, TSA can enhance teachers' sense of authority and contribute to their professional development (Borg & Edmett, 2019). In a related study, Ross and Bruce

(2007) defined a theory of teacher change that linked TSA to professional growth. They conducted an explanatory case study in which the use of self-assessment, alongside other tools, contributed to change and growth in the instructional practices of a mathematics teacher. The authors asserted that self-assessment could be used as a constructive strategy for improving the effectiveness of in-service teacher education if combined with other professional development strategies such as peer coaching and observation.

Furthermore, Borgmeier et al. (2016) employed TSA to examine evidence-based classroom practices for effective classroom management and instructional practices. They studied 612 general education teachers in primary, intermediate, and secondary schools in which they completed an online self-assessment questionnaire using evidence-based classroom practices. Statistical analyses showed significant differences in teachers' self-reported use of evidence-based classroom practices across different school levels. Additionally, there were variations across teachers at the levels of elementary, middle, and high school, both on total aggregated scores and all 25 individual items. The self-assessed use of evidence-based classroom practices was rated highest among elementary teachers, with a consistent decrease for middle- and high-school levels.

Drawing on change as a driving force in language teaching, Curtis and Cheng (2001) asked 35 proficient secondary school English teachers in Hong Kong to assess their own change-related knowledge, skills, and personality characteristics. The study aimed to figure out the teachers' ability to assess themselves in diverse areas and to consider whether such information could be beneficial in identifying change-related support needs. The results revealed that the teachers self-assessed some of their change-related knowledge, skills, and personality characteristics as more developed and some as less developed compared to others. Furthermore, it was concluded that besides asking the teachers to think about their experiences of change after the event, it would be better first to ask them to assess change-related knowledge, skills, and personality characteristics based on their aggregated experiences of change.

Despite the wide range of benefits offered by TSA to developing teachers' professional skills, TESOL teachers' perceptions of self-assessment have remained underexplored, which is addressed in the present study. This line of argumentation rises to increased prominence when TSA increasingly gains attention in academic discussions, professional development initiatives, and international courses offered to teachers (e.g., Johnson & Golombek, 2020; Korthagen, 2017).

### *Representation of TSA in international documents*

TSA has also been widely discussed in various international documents. For example, Mirici and Hergüner (2015) put forth some practical suggestions on the functions and effectiveness of EPOSTL in English Language Teaching and German Language Teaching departments in a state university in Turkey. EPOSTL stands for the "European Portfolio for Student Teachers of Languages", which is a digital self-assessment tool for students in foreign language teacher training programs across Europe. It was developed for use in pre-service contexts and consisted of a self-assessment section that contains 193 competence descriptors related to language teaching (Borg & Edmett, 2019). The descriptors were considered as a set of essential competencies that language teachers should endeavor to achieve. It also helped student teachers of foreign languages to reflect purposefully on their teaching experiences, efficiency, and development in the course of teacher education. EPOSTL was considered as helpful in developing student teachers' metacognitive strategies as autonomous teachers.

Moreover, the "British Association of Lecturers in English for Academic Purposes" (BALEAP) is another case of self-assessment tool that contains a Competency Framework for Teachers of English for Academic Purposes. The framework involves several goals, one of which is self-assessment of professional development (Mateva et al., 2011). Moreover, Akram and Zepeda (2015) accomplished an exploratory study to develop a "Self-assessment Instrument for Teacher

Evaluation" SITE-II, based on five National Professional Standards for Teachers developed by the Ministry of Education, Pakistan. SITE-II is a valid and reliable (α=.94) scale that provides initial data-based proof of the usefulness of the National Professional Standards in Pakistan.

The European Framework for the "Digital Competence of Educators" DigCompEdu, released in 2017, specifies the digital competencies particular to the teaching profession (Redecker, 2017) and is a self-assessment tool for assessing teachers' digital competence. Additionally, in Moore (2020) tried to validate the "Assessment of Teachers' Pedagogical Content Knowledge" ATPCK, a self-assessment tool. Construct validity and reliability of the ATPCK were measured through confirmatory factor analyses of TSA scores at various grade levels. ATPCK, as a valid and reliable TSA tool, could be utilized to enhance professional development practices and teachers' professional growth.

Furthermore, Westling Allodi et al. (2015) conducted a pilot study of the TSA tool of "Goals, Attitudes and Values in School" (GAVIS) in educational contexts to assess its validity. In fact, GAVIS can be used to get a visual account of the learning context of a classroom, which is valuable for the self-assessment of teacher performance. The GAVIS is aimed to be used by the teachers only as an internal self-assessment tool for development, not as an assessment in external evaluations, nor for school accommodations or liability purposes. Additionally, Borg and Edmett (2019) developed a self-assessment tool (SAT) for English language teachers and analyzed responses from 1,716 teachers worldwide. The study focused on designing the SAT and how teachers responded to it. The purpose of the SAT was to conceptualize a measure of teacher competence that could be used by ELT practitioners around the world and which could inform further decisions about teacher professional development. 86% of the teachers agreed on the relevance of the SAT, and only 3% of the respondents felt that the SAT was not relevant to their context, while over 93% agreed that the SAT provides the main knowledge and skills of teachers. This scale was also used in the present study because it focally addresses English language teachers, which is the focus of this study.

As the review of the above inventories shows, TSA is considered a central component of teacher professionalism. It can help teachers hone their professional skills, gain further awareness of their professional practice, and reflect on their teaching. Thus, it merits further empirical attention, especially in TESOL, a field in which TSA has received inadequate empirical attention.

## Purpose of the study

The above body of theoretical and empirical knowledge shows that TSA is turning into an active agenda in educational milieus as it helps teachers develop their competencies and reflectively contribute to educational accountability. Moreover, given that (second language) teacher education is now argued to act more responsively and to account for individual sense-making (Freeman, 2020; Johnson & Golombek, 2020), it is significant to explore how English language teachers view self-assessment. This line of inquiry is of particular importance in language education as despite the fact that reflectivity has been a vibrant line of research in TESOL, and reflectivity is at the heart of self-assessment, little research has examined TESOL teachers' self-assessment beliefs, a point also emphasized by Borg and Edmett (2019). Against this background, in this study, we examine Iranian English language teachers' self-assessment by addressing the following questions that were informed by the TSA questionnaire:

1. How do Iranian English language teachers assess their professional abilities based on the self-assessment tool?

2. What does the teachers' reasoning involve for assessing their competence?

3. What impacts does teacher self-assessment have on the teachers in light of their strengths and weaknesses?

4. What suggestions do the teachers provide for improving the Self-Assessment Tool?

## 2. METHODOLOGY

### Context and participants

This study was conducted in Iran. The study setting was a private language school, which followed its exclusive policy and planning in relation to curriculum, syllabus, materials, and teacher recruitment/education. The policy and planning focused on developing students' skills and sub-skills by covering materials published by international publishers. The school recruited teachers from a wide range of candidates who generally had a good command of English. The students could advance to higher levels based on during-class assessments of teachers and final exams that were delivered face-to-face. Based on the second researcher's (who collected the data) experience in working with the school, we realized that the teachers generally had a negative attitude toward their own competence, which provided a suitable opportunity to explore how teachers assess themselves. This contextual motivation guided the study in exploring the teachers' views toward self-assessment.

The participants were 14 teachers whose ages and experience ranged from 20 to 30 and two to six, respectively. We selected teachers from all the proficiency levels of the school to have as many representative participants as possible. The teachers (T1-T14) had an educational profile of BA and MA in various disciplines, including English Language Teaching, Translation Studies, English Literature, and Educational Administration. The teachers were selected through convenience sampling as the second author knew them, and after obtaining the approval of teachers and policymakers, the data collection process was initiated.

### Design and data collection

TSA can be accomplished in different ways. According to Borg and Edmett (2019), TSA could be drawn by an external assessment, a course or a situation, a specific condition, and a purposefully administered self-assessment tool. For this study, we collected data from various data collection methods, all organized around the teachers' self-assessment, to gain an in-depth understanding of how Iranian English language teachers view self-assessment. In line with this purpose, data were collected from questionnaires, stimulated recall interviews, written journals, semi-structured interviews, and classroom observations, with the latter functioning as complementary to our understanding of TSA. The data collection tools are explained below in accordance with the research questions presented above. The design of the study was organized around the SAT as designed and proposed by Borg and Edmett (2019).

### Questionnaire

The first stage of data collection involved questionnaire administration. The questionnaire adopted from Borg and Edmett (2019) has 48 items and nine components: (1) Planning lessons and courses, (2) managing the lesson, (3) understanding learners, (4) knowing the subject, (5) managing resources, (6) assessing learning, (7) integrating information and communications technology, (8) using inclusive practices, and (9) promoting 21st-century skills. The questionnaire items (Likert-type) ranged from 1 to 4: 1. I'm not quite sure how to do this. 2. I can do this, but not very effectively. 3. I can do this quite well. 4. I can do this very well. This questionnaire was specifically designed to assess English language teachers' professional abilities and competence, which, as mentioned earlier, was the main reason for using it in the present study. Moreover, according to Borg and Edmett (2019), the questionnaire covers most of the areas that have already been significant in the literature on general teacher education and thus is comprehensive enough to be used as the research instrument. The reliability of the questionnaire has also been checked by Borg and Edmett (2019), yet due to our concerns with descriptive analyses of the questionnaire, we did not run reliability indices.

### Stimulated recall interviews

After collecting the questionnaire data, we asked the teachers to participate in stimulated recall interviews in which they could reason about their selected items. As awareness about professional practice has been argued to lie at the heart of TSA (See Borg & Edmett, 2019; Dayal & Alpana, 2020), we collected data from recall interviews (in Persian, L1) to examine the reasons behind the teachers' selected items. These interviews (involving adapted questions based on the questionnaire) enabled us to triangulate the data from the other sources regarding how the teachers view their competence and professional skills in light of the questionnaire responses. The interview procedure involved asking the teachers to explain why they selected the items in each of the questionnaire components. We also observed one session of each teacher's classroom instruction (overall 14 sessions), yet due to space limitations, the data from this research method has been excluded from this paper. However, the observations helped us become more familiar with the teachers' self-assessments by tracking their dispositions during classroom instruction.

### Reflective journals and semi-structured interviews

We then asked the teachers to write short reflective journals in response to questions concerning their own strengths and weaknesses as teachers. Reflective journals could facilitate capturing how teachers perceive professional events and how they make sense of those events based on contextual particularities. In this sense, the teachers could write about their strengths and weaknesses as another tool that could complement our understanding of their self-assessment. The journals helped us gain further understanding of the teachers' awareness of self-assessment as the teachers' responses could complement the data from the recall interviews and facilitate interpreting the questionnaire responses. We used reflective journals so the teachers could think more deeply about their strengths and weaknesses and feel at ease when responding. After the teachers' journals were obtained, we conducted semi-structured interviews with them to enhance our understanding of TSA. The interviews (developed based on the journals and the questionnaire) tapped into two aspects: (1) the impacts of teachers' self-assessment on their cognitions (which functioned as a sequel to the reflective journals) and (2) the positive and negative dimensions of the questionnaire. We intentionally conducted the interviews as the final stage of data collection to be able to have the teachers' complete responses to the first question. The second question arose from Borg and Edmett (2019) suggestion that future research should examine the positive and negative points of the questionnaire to reach a more complete understanding of the effectiveness of the questionnaire.

## 3. DATA ANALYSIS

Once the data were collected, we analyzed them based on quantitative and qualitative methods. The data from the questionnaires were analyzed by examining the most frequently selected option across the questionnaire components mentioned above, as presented below. For example, in the component "planning lessons and courses", question 26 was marked by nine teachers. Then, the sum of the teachers' responses was divided by the items of the components so that the average of the scores could be obtained. This way of analyzing the data helped us gain a deep understanding of the overarching picture that the teachers followed in their responses, both across the components and the whole questionnaire. The data from stimulated recall interviews, journals, and semi-structured interviews were analyzed via thematic analysis. In this regard, we first engaged in iterative reading of the data to develop the initial codes (Braun & Clarke, 2006).

As to the recall interviews, two main categories were then developed for each of the nine components, as presented below. For example, when the teachers referred to the importance of planning the lessons carefully for instructional purposes, this was labeled as "to keep track of classroom instruction". This coding process was also applied to the journals and interviews in developing the codes and categories. By further refining the codes in a constant-comparison

manner, we developed the categories that characterized each dataset. Across this process, the researchers engaged in joint discussions and negotiations to enhance the credibility of the interpretations.

## 4. FINDINGS

This study explored how Iranian English language teachers view their competence and professional abilities based on the SAT. To this end, we collected data from several data collection methods, the results of which are presented below.

### Teachers' self-assessment

The first research question examined the way teachers assess their own competence. Table 1 shows the teachers' responses.

**Table 1: The Teachers' Questionnaire Responses**

| Component | Item | Option | Number of teachers | Mean |
|---|---|---|---|---|
| Planning lessons and courses | 1. I can select activities which help meet the aims of the lesson.<br>2. I can write lesson aims which describe the intended learning outcomes for a class.<br>3. I can anticipate problems that may arise during the lessons and decide how to respond.<br>4. I can describe how learner understanding will be assessed.<br>5. I can describe how feedback on learner performance will be     provided. | 4<br>3<br><br>3<br><br>4<br>4 | 1<br>2<br><br>8<br><br>2<br>1 | 9.2 |
| Managing the lesson | 6. I can create a positive learning environment.<br>7. I can give explanations that the learners are able to understand.<br>8. I can give instructions effectively.<br>9. I can check learners' understanding during the lesson.<br>10. I can monitor learner engagement. | 4<br>2<br>2<br>2<br>3 | 8<br>2<br>1<br>2<br>1 | 9 |
| Understanding learners | 11. I understand my learners' level of English.<br>12. I understand my learners' motivation to learn English.<br>13. I understand my learners' interests.<br>14. I understand my learners' preferred ways of learning.<br>15. I understand my learners' special educational needs. | 2<br>4<br>3<br>2<br>2 | 1<br>8<br>1<br>2<br>2 | 9 |
| Knowing the subject | 16. I can use a range of engaging techniques to teach vocabulary to my learners.<br>17. I can use a range of engaging techniques to teach reading     skills.<br>18. I can use a range of engaging techniques to introduce new grammar to my learners.<br>19. I can use a range of engaging techniques to teach my learners to speak English.<br>20. I can use a range of engaging techniques to | 3<br><br>3<br><br>4<br><br>4<br><br>3<br><br>3 | 2<br><br>1<br><br>6<br><br>1<br><br>1<br><br>1 | 6.1 |

| Component | Item | Option | Number of teachers | Mean |
|---|---|---|---|---|
| | teach listening    skills. | 3 | 1 | |
| | 21. I can use a range of engaging techniques to teach writing skills. | 3 | 1 | |
| | 22. I can use a range of engaging techniques to teach pronunciation to my learners. | | | |
| Managing resources | 23. I can select materials from a range of different sources. | | | |
| | 24. I can select materials and resources based on learner needs. | 2 | 2 | |
| | 25. I can develop materials to supplement the course book I use. | 4 | 8 | 9 |
| | 26. I can evaluate the effectiveness of the materials and resources I use during lessons. | 2 | 2 | |
| | | 2 | 1 | |
| | 27. I can work with colleagues to design materials collaboratively. | 3 | 1 | |
| Assessing learning | 28. I can give learners feedback on errors that helps them improve. | | | |
| | 29. I can measure learners' progress effectively. | 3 | 1 | |
| | 30. I can assess learners in a range of ways. | 3 | 1 | |
| | 31. I can reflect on the effectiveness of the assessment I use. | 4 | 10 | 10.6 |
| | | 3 | 1 | |
| | 32. I can use assessment results to inform subsequent teaching. | 4 | 1 | |
| Integrating information and communications technology (ICT) | 33. I can use technology confidently for the purposes of teaching | | | |
| | 34. I can locate appropriate digital content effectively. | 4 | 6 | |
| | English. | 2 | 2 | |
| | 35. I can use digital tools effectively to help my students learn   English. | 2 | 2 | 7.4 |
| | 36. I can evaluate the quality of digital content. | 1 | 3 | |
| | 37. I can use technology to design and create teaching and learning    materials. | 2 | 1 | |
| Using inclusive practices | 38. I treat all my learners equally and with respect. | | | |
| | 39. I develop positive attitudes towards diversity in my classroom. | 3 | 2 | |
| | 40. I can reflect on my own bias/beliefs and the impact this might    have in the classroom. | 3 | 2 | |
| | 41. I help my learners identify individual learning goals. | 4 | 1 | 8.6 |
| | | 3 | 2 | |
| | 42. I involve parents, learners and any other relevant persons in an    inclusive learning environment. | 3 | 7 | |
| Promoting 21st-century skills | 43. I promote collaboration and communication. | | | |
| | 44. I promote creativity and imagination. | 4 | 9 | |
| | 45. I promote critical thinking and problem solving. | 4 | 1 | |
| | 46. I promote student leadership and personal development. | 4 | 1 | 9.3 |
| | | 4 | 1 | |
| | 47. I promote digital literacy | 4 | 1 | |
| | 48. I promote citizenship. | 4 | 1 | |

Regarding "planning lessons and courses" (M = 9.2), question 3 was answered by eight teachers who selected option three the most. Among the questions of "managing the lesson" (M = 9), question 6 received the highest frequency, and eight teachers selected option 4. Question 12 was marked by eight teachers who chose option 4 in the component "understanding learners" (M = 9). Similarly, six teachers chose option 4 in response to question 18 regarding the "knowing the subject" component (M = 6.1). As to "managing resources" (M = 9), question 24 was marked the highest by eight teachers who chose option 4. Moreover, 10 teachers chose option 4 in response to question 30 regarding the "assessing learning" component (M = 10.6). "Integrating information and communications technology (ICT)" (M = 7.4) was marked by six teachers as to option 4 in response to question 33. In regard to "using inclusive practices" (M = 8.6), seven teachers marked option 3 in response to question 42. Finally, nine teachers chose option 4 in response to question 43, which was related to the "promoting 21st-century skills" component (M = 9.3).

An overall examination of the questionnaire responses reveals that while the teachers assessed themselves as least competent in knowing the subject matter, the components of "assessing learning" and "promoting 21st-century skills" were the most frequently-selected components because their means were 10.6 and 9.3, respectively, more than the other components. This was followed by the components of "planning lessons and courses", "managing lessons", "understanding learners", "managing resources", "using inclusive practices", "Integrating information and communications technology (ICT)", and finally "knowing the subject".

## Teachers' reasoning

To tap into the details of the teachers' responses and their self-assessment cognitions (research question 2), we also sought their reasoning for the selected items. Table 2 shows the teachers' thematized reasoning across the nine components of the SAT. This table indicates that across the nine components of the SAT, the teachers sought various reasons for selecting the items relative to the nature of the component and questions. In coding the data for this question, as explained in the data analysis section in adopting thematic analysis, we had in mind the SAT components and sought the teachers' reasoning as connected to the content of each component. For example, regarding the "managing resources" component, the teachers' reasoning chiefly revolved around how to gear instruction to learners' needs and render teaching as a responsive undertaking. This procedure of data coding was followed for all the components and the associated data.

### Table 2: The Teachers' Reasoning for the Selected items

| Component | Reasoning |
| --- | --- |
| Planning lessons and courses | To keep track of classroom instruction<br>To provide appropriate feedback to students |
| Managing the lesson | To make the content learnable<br>To relieve the students psychologically |
| Understanding learners | To tailor the instruction to student level<br>To establish better rapport |
| Knowing the subject | To approximate teaching to students' level<br>To differentiate the instruction |
| Managing resources | To enact responsive education<br>To account for students' ongoing needs |
| Assessing learning | To avoid students' errors/mistakes<br>To diagnose instructional flaws |
| Integrating information and communications technology (ICT) | To make instruction multimodal<br>To engage the students despite little usage |

| Using inclusive practices | To create a culture of diversity |
| | To develop socially desirable individuals |
| Promoting 21st-century skills | To develop students' literacy across various areas |
| | To prepare students ready for life challenges |

### Effects of SAT

The third research question examined the effects of completing the SAT on the teachers' cognitions. To this aim, the teachers were first asked to detail their strengths and weaknesses. Table 3 shows the findings regarding this aspect as emerging from the data related to reflective journals. In this regard, we inductively sought the strengths and weaknesses per teacher response and gradually turned them into major categories. These categories were then refined to reach super-ordinates. We coded the data both separately (per teacher) and integratively (constant comparison) so that a clear set of categories could be obtained.

**Table 3: The Teachers' Stated Strengths and Weaknesses**

| | |
| --- | --- |
| **Weaknesses** | Lack of competency in using appropriate assessment techniques, using technology, and teaching speaking effectively<br>Problems in classroom management<br>Excessive leniency and strictness<br>Problems in scaffolding the students and motivating them<br>Personality problems such as bias toward students and lack of personal planning |
| **Strengths** | Establishing effective rapport with students<br>Having a good command of English skills<br>Being punctual, good-tempered, and meticulous<br>Having effective lesson planning skills<br>Employing supplementary materials effectively |

Moreover, the teachers were later asked about the effects of completing the SAT on them. The teachers argued that they have been sensitized to improving parts of their professional careers, especially in personal, pedagogical, and professional aspects. For example, regarding the personal aspects, T8 referred to the contributions of the questionnaire to her knowledge base of teaching: *"The questionnaire has deepened my knowledge of English language"* (T8). T1 mentioned a similar point regarding her ability to pay more attention to subsequent issues in the class: *"I think that I can now pay more attention to how I should manage the lesson more effectively"*. T2 linked this issue to his greater awareness of classroom interaction with the students: "I have become more sensitive to my connection with students and what I say in the class." Furthermore, T3 mentioned the effects of the questionnaire on her own personal standards of conduct and planning: *"It sensitized me to improve my work as a teacher and revise my current classroom policies"*. Here, T3 explains how she has been sensitized to improving her work and reconsidering parts of her instruction.

As to pedagogical effects, the teachers referred to multiple instructional dimensions including the use of technology and more effective teaching and testing skills. For example, T11 referred to testing skills and that the questionnaire has influenced her tendency to hone her pedagogical skills: *"I have been sensitized to pursue testing skills and improve my testing proficiency"*. A similar observation was made by T9, who emphasized the effect of the questionnaire on him to incorporate technology more in his instruction: *"It sensitized me to revise my methodology and incorporate*

*technology in my teaching methodology*." T3 mentioned an extended point regarding the integration of technology and testing: *"The questionnaire and my reflections on it have prompted me to pay more attention to how technology and testing could be mixed. I know that many problems could occur, and we are partly doing it right now, but a deeper mixture is in my mind"*. These statements generally highlight that the teachers have been able to pay more attention to the role of questionnaire contents in their classes.

Finally, regarding professional aspects, the teachers noted points in relation to disciplinary specificities and the general landscape of their professional career as teachers. For example, T5 stated: *"By asking new questions that I haven't thought about yet, the questionnaire sensitized me to new dimensions of TEFL, so that I could improve my teaching proficiency"*. Here, T5 views the questionnaire content as bringing her novel insights with regard to TEFL-related issues, which can help her develop her knowledge base. Moreover, T10 referred to the interpersonal effects of the questionnaire on his ability to develop more effective relationships with the students and parents as factors undergirding professional work: *"It made me revise and establish a better relationship with my students and their parents and at the same time maintain my policy"*. Another point was mentioned by T14 regarding how the SAT components have made him think more deeply about the macrostructural issues undergirding professional practice: *"When I saw the planning component, it prompted me how the bigger picture is important. Actually, everything starts from there and influences our work. I am thinking about this and similar issues more these days"*. Here, T14 shares how he has become more cognizant of the role of policy and planning in institutional work and that this issue has occupied his mind in the then-current period.

## Teachers' suggestions

The last research question examined the teachers' suggestions for improving the SAT. The teachers highlighted four areas that need consideration. The first area pertained to disambiguating vague items. For example, T11 stated that: *"The questionnaire comprised some ambiguous and double-barreled statements, making answering them cumbersome"*. The second area was related to repetitious items. For example, T13 argued that *"the questionnaire posed one single issue in the form of several statements and this would lead to repetitive responses on my part as a teacher"*. The third area involved shortening the questionnaire so that respondent boredom is taken into account. For instance, T7 held that: *"The questionnaire was long and consisted of multiple questions so that this would make answering it a boring task"*. The last area was related to the importance of embedding items that tap into teachers' physical and psychological states. For example, T9 stated: *"It should take into account issues like psychological and physical states of the teachers"*.

## 5. DISCUSSION

This study examined Iranian English language teachers' self-assessments, the reasoning behind their self-assessments, the impacts the TSA had on them, and their suggestions to improve the SAT.

The first research question examined the way teachers assessed their own competence based on the SAT. Data analyses showed that among the nine components of the SAT, although there were several components whose mean equaled nine, "assessing learning" and "promoting 21st-century skills" were selected as the most frequent components of the SAT. Considering assessment, it seems that the teachers are over-reliant on assessing the learners so that it makes them confident of the amount of knowledge gained by the learners. Another reason might be that the desired results of the learners' assessment represent good performance on the part of the teachers in such a way that assessing learners acts as a means to measure the teachers' own professional performance. This finding aligns with Akram and Zepeda (2015) who argue that teachers view learners'

performance as a reflection of their own competence. Thus, in the case of our teachers, it appears that the teachers assessed their own competence and professional skills in light of students' assessment performance, which highlights both the nature of the teachers' assessment-induced work and their personal standards of professionalism.

Moreover, that the teachers assessed their competence quite well in promoting students' 21st-century skills shows that they view learner literacy as beyond traditional perspectives of competence. While this finding is relatively surprising, considering the configurations of language instruction in the Iranian context are possibly still lagging behind state-of-the-art macro-structural and infrastructural developments, it also indicates that Iranian teachers are moving toward changing the landscape of language learning by developing skills and competencies in the learners that respond to the needs of the current society. This finding parallels the emphasis Borg and Edmett (2019), Buenaño-Fernandez et al. (2020), and Dayal and Alpana (2020) put on the changing nature of teacher self-assessment toward embracing competencies that align with the requirements of life in the 21st century. In this regard, our teachers considered themselves as competent in developing such perspectives in the learners, which shows that the teachers are constantly honing their skills to become more adaptable to the nature of current learners.

The second research question examined the reasoning teachers sought for assessing their competence. Data analysis showed that the teachers primarily attempted to positively contribute to the learners' social and cultural development. Particularly, developing learners' social skills and promoting a culture of diversity were prominently emphasized by the teachers. This finding is novel in that it situates teachers' professional performance within a pedagogical level that could effectively help learners become socially desirable individuals. Embracing such competencies is considered as quintessential to professional performance in current societies and particularly in educational settings (e.g., Benson, 2011; Borgmeier et al., 2016; Ross & Bruce, 2007). Thus, the teachers seem to have both personally envisaged and interpersonally constructed teaching as a social practice that should account for learners' sociocultural skills. This finding also parallels the set of competencies that are promoted in international teacher self-assessment documents, especially BALEAP, which emphasizes teachers' ability to contribute to students' social skills in addition to didactic purposes.

Additionally, the teachers' reasoning to psychologically relieve the students shows that they attempt to gear instruction to the students' needs to act responsively and make the students mentally ready for the lesson content. In this regard, Curtis and Cheng (2001) also argue that students' role features as one of the most important elements in teachers' self-assessment, which is because teachers strive for a pedagogy that roots in learner satisfaction first and ultimately leads to teachers' own satisfaction. An immediately relevant point concerns the teachers' pedagogical reasons for their selected items. A number of reasons, including differentiating the instruction, rendering the instruction responsive, reducing the gap between teaching and students' level, and diagnosing instructional shortcomings were among the teachers' responses, which parallels the scholarship on the significance of such issues in effective lesson delivery (see Freeman, 2020; Johnson & Golombek, 2020). For our teachers, however, this meant that they were aware of the significance of such issues and perceived their own competence in light of the importance of the issues. These findings show firstly that the teachers attempt to adopt a caring pedagogy in relation to the students, and second, through such a pedagogy, they form schemes of interpretation regarding their own professional practice.

The third research question aimed to examine the effects of completing the TSA on the teachers. The most important point in relation to this question was that it *sensitized* the teachers to pay more conscious attention to the dimensions of their professional practice. We must stress that we have intentionally used the term "sensitized" as claiming for empirical effect demands employing more

rigorous data collection tools and longitudinal examination of levels of the effect. This is an issue that merits further attention from future researchers. Nonetheless, the questionnaire sensitized our teachers to personal, pedagogical, and professional dimensions of their career, showing that the teachers have paid focal attention to these dimensions as sources that can influence their professionalism, though it might be fleeting or the influence might be insignificant. What matters here is that such small degrees of exposure (i.e., completing the questionnaire) can trigger initiatives in teachers' professional practice that could be effectively employed by institutional policymakers and teacher educators to positively contribute to teachers' development. This is one of the fundamental issues Johnson and Golombek (2020) argued for in discussing a pedagogy of influence that creates significant links between teacher practice and student learning.

The last research question sought the teachers' recommendations for improving the SAT questionnaire, following Borg and Edmett (2019) call for such an undertaking. Besides the need for disambiguating the items, shortening the questionnaire, and removing repetitious items, an interesting argument by our teachers was that teachers' psychological and physical states be embedded in the questionnaire. We consider this argument as helpful as current scholarship on teacher professionalism (e.g., Borg & Edmett, 2019; Freeman, 2020; Korthagen, 2017) supports accounting for teachers' psycho-physiological states and well-being as essential factors that undergird teachers' professional practice. This suggestion could also be considered by future researchers in developing inventories that account for teachers' self-assessment of their psycho-physiological states and well-being. Traces of such issues have been embedded in previous self-assessment inventories (e.g., Akram & Zepeda, 2015; Mirici & Hergüner, 2015; Redecker, 2017; Westling Allodi et al., 2015), yet this issue merits concerted efforts for developing a devoted inventory.

## 6. CONCLUSIONS

In response to the lack and significance of research on English language teachers' self-assessments, this study examined how Iranian teachers assessed their own competence. We took several steps further and examined the teachers' reasoning for their self-assessment as well as the impact completing the questionnaire had on them. Collectively, our findings showed that while the teachers did not assess themselves as highly competent in knowing the subject, they most prominently considered themselves as competent in assessing the learners and promoting their 21st-century skills. This finding was corroborated by the teachers' reasoning for developing students who can act socially desirable, pedagogically effective, and personally accountable. Moreover, the teachers were sensitized to attending more focally to aspects of their professional career by completing the questionnaire and referring to several factors to be embedded in the questionnaire. These findings add to the thin body of knowledge on English language teachers' self-assessment by bringing to the fore the ideas of teachers who are now looking at language teaching and learning with more awareness, as we argued above.

The study findings provide implications for teacher educators to employ the rigor of TSA as a professional development tool in educating teachers who build on their own appraisal of their professional practice. Reflective practice is currently considered as one of the most effective alternatives in teacher education courses (see Johnson & Golombek, 2020). Effective reflective practice happens when teachers engage in basing their learning on experiential learning from their own professional practice (Freeman, 2020; Korthagen, 2017). TSA could be one such reflective-practice agenda as it stems from the teachers' own self-appraisal and serves as a basis for professional growth. This potential of TSA could be employed by teacher educators to run professional development courses that account for the range of issues involved in teachers' practice. This way, teacher educators can build on the teachers' own appraisal and then contribute

to their development through peer mentoring, reflective groups, lesson studies, observation, and other professional activities.

This study had limitations that provide a suitable basis for further research. First, we collected data from 14 teachers, and apparently, a greater number of teachers could better show how English teachers view self-assessment. However, this was primarily due to the qualitative nature and weighting of the study. Second, although we used classroom observations to support our understanding of the teachers' self-assessment, we did not report the congruity/incongruity in the teachers' questionnaire responses and the extent to which the teachers reflect such perspectives in their classes, which could be addressed by future researchers. Third, regarding the impacts of the questionnaire on the teachers, there is a need to examine such an effect over time to see whether the effects are fleeting or enduring. Acknowledging these limitations, we hope that future researchers could address such limitations and we also hope that teacher educators open more room for utilizing self-assessment as a professional tool in helping the teachers grow.

## Conflicts of Interest

The authors declare that they have no conflict of interest.
The study did not receive any funds from any sectors.

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# The Effect of Watching Sustainability-Focused Animations on English Language Learners' Critical Thinking and Reading Comprehension

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**Abstract**

Promoting environmental awareness and harmony with nature can boost students' empathy and prepare them for a globalized world. Highlighting sustainability in English language classrooms aids in developing students' environmental ethics and sense of personal responsibility. Accordingly, the focus of the present quantitative study was to examine the impact of watching sustainability-focused animations on the reading comprehension and critical thinking of English language learners. The program was implemented in an English language classroom at a private school situated in Kerman City, Iran, with the participants consisting of 30 students (15 students in the control and 15 students in the experimental group) who were 12 years old. Quantitative data were collected and presented using pre- and post-reading tests to track the potential changes in students' reading comprehension. Naeini's (2005) Critical Thinking Questionnaire was used to examine participants' critical thinking at the beginning and end of the project. Post-reading tests showed that the experimental group outperformed the control group participants. Additionally, it was reported that sustainability-focused animations increased learners' critical thinking. Briefly, incorporating environmental components into the educational process directed towards sustainable development enriches the critical thinking skills of students and facilitates the acquisition of language, as there exists an interconnected relationship between thinking, language, and our surrounding environment.

## 1. INTRODUCTION

Given the increasing global concern for sustainability, the integration of education for sustainability (EfS) into English language programs at schools and universities has become necessary. This approach considers not only the long-term effects of students' actions but also their immediate contributions (Zwickle & Jones, 2018). English language classrooms in Iran can offer more than just language practice; they can also serve as a valuable platform for addressing sustainability issues due to the importance of the English language in the country (Riazi, 2005).

Regardless of their location, whether inside the classroom or outside of it, students are responsible for making decisions regarding sustainability (Edwards, 2012). The aim of Education for Sustainability (EfS) is to involve a larger number of individuals in the decision-making process,

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with the goal of increasing environmental awareness and enabling active participation in the supervision and management of the environment. Therefore, a comprehensive approach to sustainability education necessitates broadening the definition of sustainability, addressing economic and environmental challenges, and progressing towards practical solutions (Veiga Ávila et al., 2018). EfS endeavors to promote knowledge, skills, understanding, values, and actions by advocating for financial and environmental sustainability, environmental preservation, and social equity. It fosters innovative thinking and cultivates creative abilities by integrating and interconnecting social, economic, and ecological development (Talan & Tyagi, 2020).

Moreover, to adequately prepare students for personal and social success, education should prioritize holistic growth encompassing non-academic and personal development in addition to academic progress (Oliveri & Markle, 2017). Furthermore, substantial changes occur over the course of a student's educational journey. Education is widely recognized as a potent tool for fostering intellectual and personal advancement, equipping students—particularly young individuals—to confront and surmount challenges both presently and in the future. Concurrently, notable progress has been made in the realm of second/foreign language education (Chen & Kent, 2020). The World Health Organization (WHO) defines life skills as the competencies that empower individuals to effectively tackle life's challenges and dilemmas, rendering them more adaptable, responsible, and efficient in managing their thoughts, emotions, and actions across diverse contexts and circumstances (WHO, 1997). Consequently, WHO (1997) has outlined ten essential life skills, with critical thinking (CT) being among the most coveted and challenging to cultivate.

The development of critical thinking skills through education enables individuals to analyze and address issues effectively, as well as make well-informed decisions. At times, societal challenges such as crime, poverty, and pollution arise due to decisions made by government and business entities without the application of critical thinking, supported by thorough research and careful implementation. To resolve these problems, it is essential to possess adequate and relevant knowledge, maintain an open mindset, and possess the ability to think critically. By employing critical thinking, decisions can be directed toward positive actions that enhance the overall quality of life for all individuals (Minott et al., 2019). Ruggiero (2012) asserts that critical thinking emphasizes the examination of problems, their resolution, and the process of decision-making.

Various theorists have different interpretations of critical thinking; however, they all agree that it is a cognitive process aimed at making decisions (Bailin et al., 1999). In the realm of education, critical thinking is crucial when discussing sustainability, as education is considered the most potent tool for development (Sunday, 2012, p. 1) and decision-making. Development is also viewed as a key factor in promoting behavioral change, which in turn impacts critical thinking for sustainability, especially in addressing social issues and advancing progress. In the educational sector, learners who acquire critical thinking skills are empowered to learn how to think rather than what to think (Thomas, 2010). This form of critical thinking can be utilized as a tool to equip all learners with the necessary skills to tackle problems and make decisions regarding current sustainability issues or potential future challenges (Rieckmann, 2010).

A common problem is how the environment and sustainable development are depicted in many educational programs worldwide, including Iran. Teachers and students are not required to think about how their actions could impact ecosystems, human well-being, or the sustainability of the environment. There is not much effort to connect environmental sustainability with student welfare. Less emphasis is placed on the development of practical skills for practicing sustainability, and the majority of what is taught in these educational settings is theoretical. Therefore, it is crucial to concentrate on sustainable methods of teaching. In Iran, there is a tiny body of research on EfS, much of which concentrates on theoretical issues (Ahmadi et al., 2021;

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Bahaee et al., 2014; Bazm, 2021; Torkzadeh et al., 2022). The responsibility of addressing the multifaceted requirements of Iranian society in the realm of sustainability education prominently rests upon educational institutions, particularly schools, which serve as the key operational agents within the broader educational framework. Accordingly, two following research questions are proposed to investigate the effects of sustainability education on English language learning:

1. Is watching sustainability-focused animations significantly effective in enhancing English language learners' reading comprehension?

2. Is watching sustainability-focused animations significantly effective in empowering English language learners with critical thinking?

## Theoretical Framework of the Study

The study utilizes transformative learning theory (Mezirow, 1991, 1996) as its theoretical framework. This perspective on education emphasizes the transformation of the student, in contrast to the notion that education solely revolves around the acquisition and accumulation of knowledge (referred to as the banking model of education by Paulo Freire in 1970). Instead, it directs attention toward the goals and outcomes of education rather than the curriculum itself. Transformative learning, therefore, stems from transformational learning and seeks to elucidate the profound personal impact that teaching has on a student. In contrast to imitation, transformational learning employs the terms "transactional" or "transmissive" learning, which involves exchanging information between the student and the teacher.

Taylor (2008) elucidated that the transformative process is influenced by frames of reference, comprising assumptions and expectations that impact perspectives, thoughts, beliefs, and behaviors. These frames consist of two key dimensions: meaning schemes, which are specific knowledge or beliefs that shape interpretation, and meaning perspectives, which represent the personal paradigm. The theories and assessments derived from these frames guide decision-making. A paradigmatic shift occurs when a frame of reference is revised following reflection. Analyzing problematic frames of reference offers advantages as it enables individuals to alter their schemata and develop emotional readiness for change. TLT plays a crucial role in modifying deeply ingrained frames of reference, ultimately leading to a transformation in perception and the process of creating meaning.

In recent years, a significant amount of research has been conducted on TLT, focusing on various aspects such as community and social transformation, intercultural learning, lifestyle, and career change. Interestingly, sustainability has also been included in this new list despite not being originally incorporated into the subject matter of TLT (Sterling, 2011). Research in the field of EfS in Iran is limited, with a predominant emphasis on theoretical key issues, as demonstrated by Ahmadi et al. (2021), Bahaee et al. (2014), Bazm (2021), and Rafie Moghadam et al. (2022). Scholars, including Ryan and Cotton (2013), have proposed that combining TLT and EfS offers valuable opportunities to address the intricate and uncertain nature of social, economic, and ecological challenges. Given the current context of sustainability-related crises in the 21st century, TLT has emerged as a promising form of education that has the potential to facilitate individual, organizational, and societal transformation on a large scale, thereby contributing to the promotion of a more sustainable world.

## Review of Literature

In 1987, the World Commission on Environment and Development (WCED), which had been set up in 1983, published a report entitled "Our Common Future". The WCED provided a clear definition of sustainable development, which involves meeting present needs while ensuring that future generations can also meet their own needs. This concept was widely accepted globally, especially after its central role in the 1992 United Nations Conference on Environment and

Development (UNCED). As a result of this conference, Agenda 21 was established as a comprehensive global action plan for sustainable development. Serving as a fundamental framework, Agenda 21 guides the implementation of sustainable development policies, initiatives, and programs at both national and local levels. Additionally, the WCED emphasized the importance of a progressive economy and transformation of society.

Incorporating economic, environmental, and social considerations into decision-making processes is crucial for achieving sustainable development (Emas, 2015). The concept of sustainable development encompasses a range of ideas, including the concepts of meeting essential needs, recognizing limitations, and ensuring fairness between generations. According to Holden et al. (2017), sustainable development is guided by three ethical imperatives: fulfilling human needs, promoting social justice, and respecting environmental boundaries. Sachs (2015) contends that although the emphasis on intergenerational fairness persists, there has been a shift towards a more comprehensive approach that acknowledges the interconnectedness of economic development, social inclusivity, environmental sustainability, and effective governance. Sachs defines sustainable development as "a blend of socially inclusive and environmentally sustainable economic growth supported by good governance" (Sachs, 2015, p. 3).

Incorporating sustainability into the curriculum can be achieved through two main methods: diffusion and infusion (Michel et al., 2020; Michel & Pizmony-Levy, 2017). The diffusion approach involves the creation of new programs and courses that offer students more opportunities to learn about sustainability challenges, such as biodiversity and natural resources. On the other hand, the infusion method exposes students to specific learning opportunities that are directly related to sustainability. In this particular project, the infusion method was employed to integrate sustainability-related themes into the existing curriculum. This method can connect environmental and sustainability challenges to broader themes, such as English language acquisition, in this study. This approach not only focuses on the environment and sustainability but also links sustainability-related subject matter to the students' coursework, thereby enhancing their knowledge, attitudes, and behaviors toward sustainability and motivating them to become environmentally engaged citizens. According to Ter Horst and Pearce (2010), combining environmental concerns with foreign language education offers significant opportunities for students to improve their language skills, deepen their understanding of environmental themes, and actively participate in a global society.

In the contemporary era, notable advancements have been witnessed in the realm of Education for Sustainable Development (ESD) due to significant progress made in scientific research and impact evaluations. As indicated by UNESCO, Education Sustainability emerges as a potent instrument that enables individuals to alter their perspectives and actions towards fostering a sustainable future, as posited by Marope et al. (2015). The educational domain assumes a pivotal role in societal transformation by influencing perceptions and nurturing crucial skills such as critical thinking, creativity, and decision-making capacities, as highlighted in the study by Latchem (2017). To advance the cause of ESD, various initiatives that prioritize Global Citizenship Education (GCED) have been introduced globally.

Education, as delineated by Parihar (2017), constitutes a multifaceted process designed to facilitate the comprehensive growth and advancement of individuals and society, thereby ensuring the highest levels of contentment and prosperity within the community. It is a widely accepted notion within scholarly discourse that the role of education is paramount in the advancement of sustainable development, given its pivotal role in nurturing the capabilities of individuals to safeguard the well-being of future generations and effectively tackle an array of developmental hurdles, as highlighted by Tilbury (2002). These hurdles encompass a diverse array of domains including but not limited to environmental conservation, public health, and societal progress. The

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attainment of sustainable development is contingent upon the ability of individuals to meet their needs and aspirations in a manner that does not compromise the availability of vital resources for future utilization. Sustainable development aims to harness the collective wisdom, expertise, and value systems of learners at all educational levels to engender a positive transformation in both the natural environment and human society. This necessitates a concerted and deliberate endeavor to bolster and actively contribute to the cause of sustainable development. Reinholz et al. (2019) have highlighted that sustainable change can significantly impact academic and personal perspectives over an extended period. This assertion is supported by other scholars, including Rafiee Rafie Moghadam et al. (2022), Ryan and Cotton (2013), and Sterling (2011).

## 2. METHODOLOGY

### Participants

The study included students who were enrolled in a private primary school situated in Kerman, Iran. Specifically, they were taking English classes during the academic year 2023-2024. The selection criteria required them to be elementary students who could engage in everyday conversations and simply express their opinions on familiar topics. Their primary language was Persian, and they were in the sixth grade at an Iranian primary school. All the participants were female and 12 years old. In both the control and experimental groups, there were a total of 19 students. The initial group included 16 elementary students, and the second group comprised 17 elementary students. To analyze the data, we removed students who were not at the elementary level. Furthermore, any additional students present throughout the study were also excluded from the final data analysis. Consequently, each group had 15 elementary students. It is worth mentioning that their participation in the study was voluntary, ensuring that ethical considerations were met. Additionally, parental consent was obtained for each participant before starting the project. To alleviate any potential anxiety, the participants were given a brief explanation of the study process.

### Instruments

The Oxford Young Learners' Placement test was employed to identify language learners with comparable skills. The Oxford Placement Test for Young Learners consists of two parts - Language Use and Language comprehension. In the Language Use section, students are assessed on their understanding of vocabulary, functions, and grammar through 18 questions. The Comprehension section evaluates students' ability to comprehend details and main ideas through various short and extended listening tasks in 12 questions. The researchers selected elementary students as the participants of this study by utilizing this placement test.

Moreover, to evaluate the levels of critical thinking among the participants at the start and end of the treatment implementation, the researcher employed Honey's (2004) critical thinking questionnaire. This questionnaire, comprising 30 items, was administered to the participants in both the initial and final stages of the study. Naeini (2005) translated the questionnaire into Farsi. The questionnaire's content and construct validity were validated by Honey (2004) and cited in the study conducted by Zare et al. (2021). The questionnaire's reliability was reported to be 0.81. In Iran, Naeini (2005) first employed the questionnaire and reported a Cronbach alpha value of 0.86, indicating high reliability. Additionally, the validity of Honey's questionnaire has been demonstrated in various research studies conducted in Iran, including those by Aghajani and Gholamrezapour (2019), Fakharzadeh and Amini (2021), and Zare et al. (2021). In the present study, the Cronbach alpha value was also calculated, resulting in a value of 0.85, indicating high reliability. However, it is important to note that the researcher, who was also the teacher of the class, was present during the administration of the questionnaire to offer additional explanations

and clarifications, if needed by the students, thereby promoting a more accurate and comprehensive data collection process.

The participants' reading comprehension in this study was assessed by conducting three different reading comprehension tests. These tests included multiple-choice, true/false, and sentence completion questions, which aimed to measure the participants' understanding of the given text. A time limit of twenty minutes was given to the participants to answer the reading questions. In addition, the participants were required to fill in the blanks in sentences based on the provided reading passages as part of the sentence completion task. In the true/false task, the participants were asked to choose the correct statement based on the reading passage, while in the multiple-choice question task, they had to select the correct answer from a set of four options. The tests are designed by Oxford University Press based on the Family and Friends series and are available for teachers' assessment purposes as tests of each unit's progress or the overall achievement of the students' language skills. Based on the readability of the texts employing the Flesch Readability Formula (https://readabilityformulas.com/free-readability-formula-tests.php), the texts were standard for elementary learners. Further, Pearson's correlation coefficient was used to assess the test reliability coefficient value, which was reported as 0.96, which shows that the test was consistent and reliable.

## Procedure

During the initial phase of the research, all individuals completed a critical thinking questionnaire and responded to reading comprehension questions within their regular class schedule. The instructor responsible for both classrooms ensured consistency by utilizing identical instructional materials for both groups. The instructional material employed for teaching purposes was the book "Family and Friends (4)" by Naomi Simmons and published by the Oxford University Press. The participants attended English language classes for a duration of 90 minutes, three days per week. The treatment period spanned a total of 24 weeks, equivalent to six months.

Both classes were conducted online under the guidance of the same instructor, ensuring that students in both groups were well-acquainted with technology and its applications. Using instructional films and songs in both classes further solidified the students' familiarity with technology. Consequently, technology did not serve as an intervening variable in either class.

In both groups, the teacher employed three stages: presentation, practice, and production. Initially, the teacher introduced the vocabulary, focusing primarily on pronunciation, meaning, and spelling within the given context. Subsequently, the teacher guided the students in reading the text, explaining the content. Following this, the students engaged in a discussion about the reading, drawing upon their own experiences. Finally, in the application stage, which involved an informal assessment of learning, the students responded to reading comprehension questions.

In the experimental group, sustainability was introduced and integrated into the educational curriculum of the classroom, employing and utilizing sustainability-focused animation as a pedagogical tool to promote a deeper understanding and awareness of sustainability-related concepts and principles among the students. This incorporation and utilization of sustainability-focused animations occurred during the initial twenty minutes of the classroom session, serving as a prelude to the subsequent educational activities and discussions that would take place throughout the remainder of the class period. As it was not feasible to showcase the entire film within the limited duration of the class, a decision was made to extract a total of 210 clips from various parts of the films. During each session, a selection of three clips were carefully chosen to be played, ensuring a well-rounded viewing experience for the students. To maintain a concise and focused session, each clip had a maximum duration of three minutes, allowing for a thorough exploration and analysis of the chosen scenes. By strategically curating these clips, it was possible to provide the students with a comprehensive understanding of the film without compromising on the time

constraints of the class. After viewing the animations, they were given a period of five to ten minutes to talk about what they had just watched. The films chosen for this project were determined by conducting interviews with both students and their parents, which provided reassurance that they had not watched these films.

The films included:

-The Ice Age franchise, consisting of movies such as Ice Age (2002), The Meltdown (2006), Dawn of the Dinosaurs (2009), Continental Drift (2012), and Collision Course (2016), is produced by Blue Sky Studios and 20th Century Fox Animation. Set in the Paleolithic era, these films follow the misadventures of the animal protagonists, including Manfred the mammoth, Diego the saber-toothed lion, Sid the sloth, and their ever-growing herd.

The Ice Age movies delve into global warming, emphasizing the need to discuss climate change. Natural disasters that shaped Earth over the years are showcased, including floods, earthquakes, volcanic eruptions, and asteroid impact. The films also address extinction, focusing on the current crisis and human impacts. By weaving these themes into their narratives, the films encourage audiences, particularly children, to reflect on the impact of human actions on the environment and the need for conservation efforts.

-The Madagascar film series, consisting of Madagascar (2005), Escape to Africa (2008), and Europe's Most Wanted (2012), was produced by DreamWorks Animation. The storyline revolves around the Central Park Zoo animals - Alex the Lion, Marty the Zebra, Gloria the Hippo, and Melman the Giraffe - who find themselves shipwrecked on an island, leading to a series of wild adventures. The films discuss themes like poaching, game hunting, animals in captivity, and depletion of natural resources. Poaching and game hunting are shown as significant threats to wildlife. In "Escape to Africa," Alex is captured by poachers and saved, while Chantel DuBois represents the dangers of game hunting. The films also highlight the mistreatment of circus animals in captivity. Different opinions exist on keeping animals in zoos, stressing the need for proper care. Natural resource depletion is emphasized, urging responsible sharing with other creatures. A dam construction in the movie causes water scarcity for reserve animals, emphasizing responsible resource usage.

-The films "Rio" (2011) and "Rio 2" (2014) were produced by Blue Sky Studios and 20th Century Fox Animation. The storyline revolves around Blu, a Spix's macaw, the last known surviving male of his species. Blu, who exhibits more human-like characteristics than bird-like ones, embarks on a journey back to Brazil to save his species from extinction. Along the way, he encounters Jewel, a wild macaw with a thirst for adventure, and their love story unfolds amidst various escapades.

The films highlight environmental issues like habitat destruction, exotic pet demand, and extinction threats. Despite stricter laws, the desire for exotic pets is increasing globally. Poachers in Brazil capture millions of animals annually for smuggling, mainly birds. In "Rio," Blu is a victim of this trade but finds a new home in Minnesota. "Rio 2" shows the destruction of the Amazon due to illegal logging, with Blu and his friends fighting to protect their habitat. The Amazon lost about 7,900 sq km in a year, endangering its diverse wildlife. Blu's near-extinction stresses the need for conservation efforts. The film, with only 60-80 birds left in captivity, reminds us of human impact on nature, urging the preservation of biodiversity for the future.

-The films 'Finding Nemo' (2003) and 'Finding Dory' (2016) were produced by Walt Disney Pictures and Pixar Animation Studio. The central theme of both movies revolves around the concept of 'finding family'. In the first film, Marlin, a clownfish, embarks on a journey to find his son Nemo, whom a reef diver has captured. In the sequel, Dory, a royal blue tang, sets out to search for her family from whom she has become separated.

The films display the beauty of coral reefs, leading to discussions on reef destruction caused by climate change and pollution. The popularity of exotic fish pets like clownfish and royal blue tangs rose due to the movies. However, these tropical fish need specific care and cannot thrive in any aquarium. Despite the film's message, the demand for these pets negatively affects their wild populations. Characters like Destiny and Bailey in 'Finding Dory' aid Dory, sparking ethical concerns about marine animal captivity for entertainment. Global movements advocate for releasing marine creatures from captivity, emphasizing their right to live freely in the ocean.

## 3. RESULTS

Table 1 presents the descriptive statistics of research variables in control and experimental groups in pretest and posttest.

**Table 1: Descriptive Statistic of Research Variables**

| Time | Variable | Control (N=15) | | Experimental (N=15) | |
|------|----------|------|------|------|------|
| | | Mean | Std. Deviation | Mean | Std. Deviation |
| Pre-Test | Reading Comprehension | 11.89 | 2.42 | 12.19 | 2.24 |
| | Critical Thinking | 47.54 | 4.19 | 48.67 | 3.69 |
| Post-Test | Reading Comprehension | 12.72 | 2.24 | 15.26 | 1.94 |
| | Critical Thinking | 47.67 | 3.83 | 75.17 | 4.03 |

To examine the research hypotheses, the normality of the data distribution was first examined. One way to do this is to test the Shapiro-Wilk test. The significance level was higher than 0.05 for all variables. This suggested that the distribution of variables in this study was normal, and so parametric tests were used to test the research questions.

To answer the first research question and examine the first null hypothesis, H01. Watching sustainability-focused animations is not statistically effective in increasing English language learners' reading comprehension. Levene's test and normality checks were performed, and the assumptions were met. The homogeneity of variance, the linear relationship between the dependent variable and covariate (pretest scores), and the homogeneity of regression slopes were met (Tables 2 & 3). Since the p-value is more than .05 in the current study, the researcher has met the assumption of homogeneity of variance and can conduct a one-way ANCOVA. Therefore, the ANCOVA test was run for the reading comprehension variable.

**Table 2: Test of Homogeneity of Variances (Reading Comprehension)**

| F | df1 | df2 | P-Value |
|------|------|------|---------|
| 1.31 | 1 | 28 | 0.26 |

**Table 3: Test of homogeneity of regression slopes (Reading Comprehension)**

| Source | Sum of Squares | df | Mean Square | F | P-Value |
|---|---|---|---|---|---|
| Group | 4.714 | 1 | 4.714 | 16.558 | 0.00 |
| Pretest | 185.71 | 1 | 185.71 | 652.333 | 0.00 |
| Pretest× Group | 0.516 | 1 | 0.516 | 1.814 | 0.19 |
| Error | 12.526 | 26 | 0.285 | | |

According to Table 4, there is a meaningful difference between the mean scores of the experimental group and the control group regarding the reading comprehension post-test. Therefore, watching sustainability-focused animations improved participants' reading comprehension ($p<0.01$). The estimated partial Eta Squared is (partial $\eta^2$ =0.83) which shows a large effect. Therefore, the null hypothesis is rejected.

**Table 4: The Result of Covariance Analysis (Reading Comprehension)**

| Source | Sum of Squares | df | Mean Square | F | P-Value | partial $\eta^2$ |
|---|---|---|---|---|---|---|
| Pretest | 188.307 | 1 | 188.307 | 649.710 | 0.00 | |
| Group | 62.078 | 1 | 62.078 | 214.187 | 0.00 | 0.826 |
| Error | 13.042 | 27 | 0.290 | - | - | |
| Corrected Total | 278.870 | 29 | - | - | - | |

According to the estimated marginal means, the experimental group performed better in reading comprehension compared to the control group (Table 5).

**Table 5: Estimated Marginal Means (Reading Comprehension)**

| Group | Estimated Marginal Mean | Std. Error |
|---|---|---|
| Control | 12.85 | 0.11 |
| Experimental | 15.13 | 0.11 |

To answer the second research question and examine the second null hypothesis, H02. Watching sustainability-focused animations is not statistically effective in empowering English language learners with critical thinking; Levene's test and normality checks were performed, but the homogeneity of variance was not met (Table 6). Since, in the current study, the p-value is less than .05, then the researcher has not met the assumption of homogeneity of variance and cannot conduct a one-way ANCOVA. Therefore, ANCOVA was not appropriate to analyze the data.

**Table 6: Test of Homogeneity of Variances (CT)**

| F | df1 | df2 | P-Value |
|---|---|---|---|
| 13.33 | 1 | 28 | 0.001 |

Therefore, the pre-test scores of this variable (CT) were controlled, and then the post-test scores of the two groups (EG & CG) were compared using an independent sample t-test. The experimental group and control group showed a statistically significant difference ($p < 0.01$). Comparing EG participants to CG participants, CT improved in EG. Accordingly, the null hypothesis is rejected (Table 7). In other words, watching sustainability-focused animations increased participants' critical thinking ($p < 0.01$). The effect size for CT was estimated at 6.62 (ES=6.62) and r=0.96, which is statistically significant.

**Table 7: Independent Sample T-Test of CT (Post-test)**

| Group | N | Mean | St. Deviation | T-Test | df | P-Value |
|---|---|---|---|---|---|---|
| Control | 15 | 0.13 | 1.51 | | | |
| | | | | -22.93 | 28 | 0.000 |
| Experimental | 15 | 26.50 | 5.43 | | | |

In conclusion, it can be deduced that the experimental group outperformed the control group in the post-test. The experimental group exhibited progress from the pretest to the post-test, whereas the control group displayed moderate variability from the initial testing phase to the final one. It is apparent that the learners' comprehension of reading underwent significant transformations, with the participants' reading comprehension scores escalating from the pretest to the post-test in the experimental group. Additionally, critical thinking in the experimental group saw an increase from the pretest to the post-test; however, the rise in mean scores was not accompanied by a substantial change from the pretest to the post-test in the control group. To put it differently, the control group did not experience a significant shift in critical thinking levels. The findings suggested that overall exposure to sustainability-focused animations positively influenced the learners' reading comprehension and critical thinking level.

## 4. DISCUSSION

Using an experimental research study with two groups of English language learners, the statistical analysis revealed that the experimental group outperformed the control group in reading comprehension. Therefore, sustainability-focused animations significantly affected EFL learners' reading comprehension. Sustainability is a multifaceted issue that necessitates researchers to consider cultural, environmental, and academic aspects. Reinholz et al. (2019) study suggested that sustainable change has enduring effects on academic and personal viewpoints. Consequently, language instruction can be conducted within a sustainable learning environment. Some other scholars have also noted this (e.g., Ryan & Cotton, 2013; Sterling, 2011).

Education for sustainability aims to enhance students' understanding, perspectives, and behaviors related to sustainability, as indicated by various researchers (Chalkley, 2006; Sipos et al., 2008). The present research endeavored to introduce environmental awareness and knowledge into the English language classroom by incorporating sustainability-themed animations. Education

for sustainability operates as an educational methodology that cultivates English language learners who are actively involved and possess the ability to think in sustainable ways. Although it may appear idealistic and theoretical initially, the current research provides empirical proof of the impact of Education for Sustainability on enhancing English language learners' comprehension and critical thinking. Bokova (2016) emphasized the transformative nature of sustainability education, highlighting its potential to reshape individuals' perspectives on education and its role in enhancing individual's character development.

Integrating sustainability and intercultural communication in English language classrooms equips students with the necessary skills and mindset for sustainable development. Extensive research shows the potential of foreign language education in promoting sustainable development principles. This is accomplished by thoroughly examining the educational content and learning environment in the context of English as a second language education. Hence, incorporating sustainability into foreign language education can generate a transformative educational encounter that equips students with language proficiency and fosters a sense of responsibility toward sustainable development (Xiao & Pan, 2022).

Moreover, the statistical analysis revealed that the EG group outperformed the CG in critical thinking. Therefore, sustainability-focused animations significantly affected EFL learners' critical thinking. This study affirms the claim made by Kelly (2009) that to teach sustainability, it is necessary for students to perceive themselves as an integral part of a larger whole and to jointly uphold a shared commitment to ensuring a high quality of life for other creatures. When individuals begin to observe and acknowledge the presence of other living beings apart from themselves, this act can be described as a profound and meaningful form of perception. It signifies the initiation of a process where one begins to evaluate and analyze situations with a discerning and analytical mindset. The foundation of engaging in critical thinking is established at this juncture. In line with the current study findings, several studies have focused on gathering valid empirical evidence of the impact of environmental and sustainability teaching and learning on components of action competence in terms of cognitive, affective, and/or behavioral outcomes among students (e.g., Johnson & Manoli, 2010; Liefländer & Bogner, 2018; Negev et al., 2008; Zhan et al., 2019).

## 5. CONCLUSION

Designing a rich curriculum and creating a conducive learning environment can effectively promote English language learning, contributing to sustainable development goals. Integrating materials and tasks focusing on the natural environment, social interactions, and intercultural communication enhances learners' critical awareness of sustainability principles. Students develop tolerance towards other creatures and are better prepared for a globalized world. Creating a teaching approach for pluralism remains a challenge for teachers and developers. Education for sustainability aims to transform students' understanding, opinions, and actions towards sustainability. Prioritizing sustainability in English language classrooms promotes environmental values and individual responsibility in addition to language learning. The outcomes of this study contribute positively to society, benefiting English language educators, students, and textbook designers. This is because promoting sustainability within English language classrooms guides learners towards transforming into a microcosm of a critical society. In this setting, environmental values are not only promoted and acknowledged but also incentivized, fostering a culture of accountability where learners are mindful of their actions and behaviors towards the surrounding world.

Despite the limitations inherent in the present study, its findings have the potential to make a valuable contribution to research in this field. However, it is important to consider these limitations when interpreting the results. The first limitation of this study pertains to the relatively small sample size. To validate and establish generalizable patterns, future studies could benefit from

using larger sample sizes. Secondly, the participants in this study were recruited from elementary EFL classes, resulting in a considerable variation in the length of their English study. Lastly, the study process was thoroughly explained to the participants prior to the project to ensure their full cooperation. This may have influenced the performance of the experimental group participants, as they were aware of being studied.

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# Investigating the impact of Using Different Forms of Picture Presentation on EFL Learners' Phrasal Verb Learning and Retention

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**Abstract**
Informed by the Dual Coding Theory, the present study investigated the effect of two picture presentation modes, namely still-picture versus motion-picture presentation, on the learning and retention of vocabulary items. To this end, we have selected 90 intermediates Iranian EFL learners and randomly assigned them to two experimental groups and a control group. The experimental groups underwent a particular picture presentation mode while the control group followed the conventional vocabulary learning instruction in place at their language institute. Results of the repeated measures ANCOVA revealed that there was a statistically significant difference in terms of the picture presentation modality used while teaching vocabulary items and that the difference led to a statistically significant effect on the participants' learning and retention of vocabulary items. In addition, the results of the pairwise comparisons revealed that the motion-picture presentation of phrasal verbs was more effective in terms of vocabulary learning and retention compared with the other two treatments, namely still-picture presentation and regular presentation of phrasal verbs. Collectively, our results revealed that pictorial presentation and the motion picture mode are both effective vocabulary instruction methods in terms of vocabulary learning and word retention. Our findings lend support to the previous line of research, revealing that the use of visuals is conducive to building a better mental image, thus improving the EFL learners' vocabulary learning in the short term and retention in their long-term memories. The implications and direction for future research are also provided at the very end.

## 1. INTRODUCTION

Developing vocabulary knowledge is considered a crucial element of any endeavor in acquiring a second or foreign language. The absence of vocabulary knowledge can render it exceedingly challenging to interpret others' messages or articulate one's own thoughts and concepts in any language. Thus, vocabulary knowledge is important in conveying what we mean, and it refers to the knowledge and appropriate use of words in a given context (SoHee, 2019). Given the extensive range of words necessary to be learned in acquiring a new language and the limited exposure of learners in a foreign language learning environment where English is not spoken outside EFL

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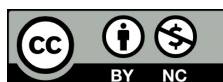
classes, one could posit that vocabulary learning poses a formidable challenge for language learners.

This challenge may intensify when dealing with phrasal verbs, which have been indicated to pose particular difficulties for language learners due to their abundance and the seemingly arbitrary nature of the combination of verbs and particles (Birjandi et al., 2015). In this regard, language teachers and learners have consistently displayed a strong interest in identifying the most effective methods for teaching and learning phrasal verbs, including the presentation of vocabulary items through diverse input forms like various media types, such as video, picture, audio, text, etc. (e.g., (Al-Seghayer, 2001; SoHee, 2019;Yeh and Wang, 2003). However, there has been a longstanding debate on the efficacy of providing EFL learners with diverse input forms and whether a single or a blend of them is more advantageous in the language learning process (Al-Seghayer, 2001; Birjandi et al., 2015; SoHee 2019).

In this regard, pictures and videos are classified as visual input, while audio and texts are categorized as verbal input (Paivio, 1969). However, despite numerous attempts to explore the impact of different media types on incidental learning of phrasal verbs through diverse modalities, the comparison between the outcomes of still and motion pictures remains an area of interest that has produced somewhat mixed and inconclusive findings (Al-Seghayer, 2001; SoHee, 2019). In particular, the integration of motion pictures as an educational tool has been demonstrated to boost students' motivation to learn (Harmer, 2001).

To this end, in light of the limited research examining the impact of two distinct modes of vocabulary presentation on phrasal verb learning and retention and the mixed nature of the existing findings in this realm (Birjandi et al., 2015; SoHee (2019) two media modalities are under scrutiny herein: still and motion pictures. Thus, the purpose of the present study is to delve into the more prominent modality of input for phrasal verbs by investigating the effects of using different forms of picture presentation (i.e., still- versus motion-picture presentation) on the learning and retention of phrasal verbs by Iranian intermediate EFL learners.

## 2. LITERATURE REVIEW

### Vocabulary learning

Vocabulary plays a significant role in language learning by enabling EFL learners to effectively express themselves. In fact, vocabulary serves as the gateway to language acquisition; yet novice language learners often struggle with finding effective strategies for vocabulary learning. Thus, vocabulary learning is essential for successful language learning and greatly affects the mastery of other language skills, such as listening, speaking, reading, and writing (Nation, 2001). In addition, a lack of vocabulary knowledge is identified as a major impediment to second language acquisition. Ur (1996) emphasized the importance of vocabulary knowledge in conveying individuals' intentions, highlighting its indispensable nature in communication. In this regard, EFL teachers have constantly been searching for different methods of presenting vocabulary items to their EFL learners so as to maximize their vocabulary learning performance (Zahedi & Abdi, 2012).

For example, Harmer (2001) referred to the decontextualized words list method through which EFL learners were given a list of vocabulary items to memorize. However, the downside of this method was that EFL teachers had to also provide the learners with the definition of those words and give examples of those words in context. Another criticism levelled against this method was that it was a time-consuming method of memorizing a long list of words, which did not help with the learning and retention of all of them. On the contrary, (Fratzen, 2003)mentioned the contextualized method of vocabulary instruction, whereby vocabulary items were taught through

inadequate textual support and contextual clues. However, since these clues were largely insufficient, this would add to the intricacies of learning the meanings of the more difficult words.

Notwithstanding, (Nation, 2001) claimed that contextualized vocabulary instruction accommodated with guessing the meaning from context through reading passages should be considered as an important vocabulary teaching method. More recently, however, one strand of studies (e.g., Aldhionita, 2015; Karimi, 2016) has focused on the effectiveness of various media types including visual media, such as pictures, on the vocabulary learning and retention of the EFL learners. In what follows, the picture presentation and its subtypes, namely still- and motion-picture presentations are described.

## Picture presentation and vocabulary instruction

In the past, educators have predominantly adhered to traditional teaching methods or adopted hybrid methodologies. Practices such as translation, repetition, and rote memorization have been commonly in place for vocabulary instruction (Alizadeh, 2016; Taheri and Davoudi, 2016). However, the recent transition from traditional methods to more modern ones has brought about various new techniques and strategies in vocabulary learning and instruction (Zohrabi et al., 2018). For example, the application of media in vocabulary instruction has been reported to hold significance in educational settings. Media tools are instrumental in facilitating the dissemination of vocabulary to learners, aiding both teachers and students in achieving educational objectives. Besides, it was found that media serve as instruments that educators use to engage students by bringing elements of real-world scenarios into the classroom, thereby presenting language in a comprehensive communicative context. Consequently, media plays a vital role in the instructional process.

There exists a plethora of media types, such as text, picture, video, etc., available for vocabulary instruction. Concerning text-based vocabulary instruction, a number of drawbacks were reported in the literature (Nguyen, 2022). For example, EFL learners are not provided with sufficient exposure to the target language. Besides, they are boring and unengaging, thus making it difficult to stay motivated. To resolve these issues, many researchers have emphasized the important role visual media could play in fostering vocabulary acquisition (Karimi, 2016). For example, Harmer (2001) highlighted the use of integrating visuals in teaching, noting that visual media can motivate students and enhance learning experiences. Visual media in the classroom allow learners to observe gestures and facial expressions, which are crucial for understanding the nuances conveyed by intonation and tone in communication. Thus, the focus of language learners is directed towards the visual stimulus, ensuring that all students in the classroom are engaged simultaneously. The utilization of visual media plays a pivotal role in helping both educators and students attain the objectives of the educational process. Concurrently, visual media serves as a means of supporting instructors' elucidation and aiding students in comprehending the educational materials or lessons provided.

Pictures, as a form of visual media, encompass any visual stimuli perceivable by the human eye. In essence, a picture can be defined as a visual representation created through various artistic means (Merriam-Webster, n.d.). Furthermore, according to Aldhionita (2015), pictures are categorized as visual instructional materials. Wright (1989) distinguishes various types of pictures, including depictions of objects, individuals, groups of people, historical scenes, and informative imagery, among others. Thus, the integration of media is integral to the teaching and learning processes. As noted by Phillips (1993), "vocabulary acquisition is most effective when the meanings of words are illustrated, for instance, through images, actions, or tangible objects." This implies that imagery can be leveraged to teach students vocabulary, necessitating the avoidance of monotonous teaching approaches on a consistent basis.

More recently, the impact of multimedia annotations on vocabulary acquisition has been a topic of debate in research. Studies indicated that incorporating verbal (e.g., video) and visual (e.g., images) elements together with text is more advantageous for vocabulary learning than using verbal or visual stimuli independently (Ramezanali and Faez (2019); Teng, 2022). Critically, however, research findings in this regard are still inconclusive, suggesting that learning new words with annotations comprising text and images is more effective than learning with text alone, text combined with video or audio input accompanied by text and picture annotations (Yeh & Wang, 2003). Conversely, some studies have reported no significant variance between different glossing conditions, such as textual glosses, pictorial glosses, and combined text and picture glosses (Çakmak and Erçetin, 2018; Yanguas, 2009), or between text-only glossing and text with pictures (Boers et al., 2017). In any event, two picture presentation modalities, namely still-picture and motion-picture presentation modalities, have been studied less often, and the comparative effect of the two modalities on EFL learners' vocabulary learning and retention has not been adequately dealt with in the literature. Thus, they are described below.

### Still-picture presentation

Pictures are considered a valuable aid, which brings "images of reality into the unnatural world of the language classroom" (Hill, 1990). They are capable of attracting the EFL learners' attention and drawing it to the vocabulary items being taught. Still, Pictures are regarded as a kind of visual instruction that is thought to increase the EFL learners' motivation to generate positive perceptions towards vocabulary learning and statistically improve it (Akbulut, 2007; Baralaei & Najmabadi, 2015; Khafidhoh & Carolina, 2019; Ta Na & Trang, 2022; Yoshii, 2006; Zou & Feng Teng, 2023). EFL teachers generally believe that still picture presentation can deepen the EFL learners' understanding of lexical items because EFL learners can associate new words with a still picture and this association in their memory makes it easier for them to remember the meaning of those words. Another general attitude concerning the effectiveness of still picture presentation is that it provides more time for centralization compared with other types of visual media, such as motion pictures (Ghader & Bahlooli Niri, 2016).

For example, Zou and Feng Teng (2023) examined the effects of three task types (i.e., reading comprehension, cloze test, and sentence writing) accompanied by four annotation types (i.e., text, picture, graphics interchanges format (GIF), and video annotations) on learning 10 vocabulary items by 360 adults assigned to 12 groups. Findings revealed the more effectiveness of sentence writing tasks, cloze tasks, and reading comprehension tasks, respectively. Besides, pictures and GIFs were more effective than video annotations and texts. Overall, the participants held a positive attitude towards multimedia-supported vocabulary learning.

Also, Amalia (2019) delved into the effectiveness of utilizing still pictures on thirty eighth-grade students' vocabulary learning. The experimental group received a still-picture presentation, while the control group followed their conventional translation-based vocabulary instruction without pictures. Results revealed the significant effectiveness of still-picture presentation modality on the learners' vocabulary attainment. Similarly, Ta Na and Trang (2022) scrutinized the impact of utilizing images for vocabulary instruction in EFL classrooms, concurrently evaluating the EFL students' perceptions regarding this instructional approach. The experimental group exhibited superior performance, and the study unveiled positive attitudes among the experimental students toward the utilization of images for vocabulary instruction.

In the Iranian EFL context, Heidari Zad (2018) conducted a study to investigate the impact of utilizing images on enhancing the vocabulary acquisition of Iranian EFL learners. The quasi-experimental research involved sixty female students at the elementary level and spanned one academic semester. Findings from the study revealed that employing pictures as educational aids is a potent approach for teaching vocabulary, possibly because they stimulate both the visual and

verbal memory of learners. By incorporating pictures, students were able to establish connections between images and corresponding verbal expressions. The utilization of pictures created a relaxed learning environment attributed to their inherent nature, which is crucial as anxiety hinders the learning process. Another significant outcome was the boost in self-confidence among students in the experimental group, as they grasped the material easily and effortlessly, leading to feelings of success and efficiency. The enhancement of self-confidence is pivotal for fostering learner autonomy, a crucial element in the overall learning process, especially in language acquisition.

### Motion-picture presentation

A number of studies (e.g., Liu et al., 2018; Teng, 2022; Yeh & Wang, 2003) revealed the positive impact of motion-picture presentation versus still-picture modalities on vocabulary learning. They reported that the difference between the two is such that motion pictures produce an illusion of movement through which abstract concepts can be explained more easily.

In the same vein, (Teng, 2022)compared various annotation modes such as text-only, text with additional word information, text with word information and audio, and text with word information and video annotations. Results indicated that the text with word information and video annotation mode was the most efficient in bolstering vocabulary learning. Conversely, in a study by (Yeh & Wang, 2003) comparing text-only, text-plus-picture, and text-picture-plus-audio annotations, text-plus-picture annotations emerged as the most effective, while text-picture-plus-audio annotations were the least effective. Similarly, in a study by (Liu et al., 2018) comparing graphics with audio, graphics with text, and graphics with audio and text, no significant disparities were observed in learning outcomes as measured by both a knowledge retention test and a vocabulary test.

SoHee (2019) delved into an examination of how Korean college students learning English as a Foreign Language (EFL) engage with different forms of media, specifically images paired with texts and video clips accompanied by texts, in relation to their acquisition of vocabulary. The researcher aimed to scrutinize the impact of varied visual stimuli. The findings revealed that images paired with texts yielded superior results compared to video clips with texts, particularly for individual words in the immediate post-test, whereas video clips with texts facilitated longer retention of phrasal verbs. Participants indicated that the use of images with texts established strong word associations, while video clips with texts motivated them to engage with vocabulary within authentic contexts. Some participants also expressed the view that English explanations and examples were beneficial when inferring word meanings in context. The study suggested that the integration of media could promote learner autonomy in vocabulary acquisition.

### 3. THEORETICAL FRAMEWORK

#### *Dual Coding Theory*

The above studies were informed by the Dual Coding Theory, positing that human beings are armed with two different systems, namely a verbal and a nonverbal system, for storing the incoming data in their short- and long-term memories. The verbal system stores the symbolically represented data, while the other system stores the nonverbal data. In fact, the Dual Coding Theory proposes that there is a great difference between the ways an EFL learner comprehends pictures and that of comprehending textual information (Paivio, 1971), as cited in (Nassaji, 2004). Put differently, the verbal cognitive subsystem is in charge of processing a text, while the non-verbal cognitive subsystem is responsible for processing a picture. The two systems function independently. However, if the data is coded in both systems, it allows for better recall. According to this theory, it was hypothesized that EFL learners could display better mastery of the vocabulary items when they are taught the vocabulary items through pictures, compared with when they are only taught them through text alone. This occurs because the verbal text and imagery combined can be highly effective in terms of learning vocabulary items (Sadoski, 2005).

Within the framework of Dual Coding Theory, the inclusion of images is expected to positively influence vocabulary acquisition. Studies have indicated that pairing an image with a word to be learned may enhance retention compared to presenting solely the word and its translation (Akbulut, 2007; Shahrokni, 2009; Yeh and Wang, 2003). Images have the potential to activate multiple codes, incorporating both visual and verbal elements, offering a theoretical advantage in memory recall. The theory posits that a higher number of activated codes during encoding and retrieval correlates with improved memory retrieval, suggesting that associating an image with a word to be learned may promote deeper processing and subsequently enhance vocabulary acquisition. Nonetheless, conflicting findings exist, with some studies reporting no effects or even detrimental impacts associated with the addition of images to foreign language learning strategies, hinting at the possibility of redundancy effects, especially when dealing with concrete nouns.

Drawing on the strengths and weaknesses of the reviewed studies above, three primary unresolved concerns should be addressed. The primary concern pertains to whether time should be considered a crucial element in the realm of vocabulary acquisition. Another concern involves exploring the utilization of diverse combinations of media presentation (e.g., single versus dual). While existing studies have primarily focused on text annotations, text-plus-picture annotations, videos, and static pictures, research on dynamic annotations (e.g., GIFs and video annotations) and motion-picture presentation remains scarce. The reliance on still or static pictures may not cater to the needs of the learners. Thus, the simultaneous presentation of words alongside static and dynamic visuals to language learners might be a solution (Mayer & Fiorella, 2014). Dynamic visuals may facilitate learners in establishing meaningful associations between words and meanings, aiding in their active encoding into long-term memory. (Mayer, 2014) opined that learners engage in two distinct information processing channels: auditory or verbal and visual or pictorial. Dynamic images and videos can play varying roles in forging connections between verbal and visual representations, ultimately integrating them into the learner's existing knowledge base. A third unresolved issue revolves around whether the impact of multimedia annotations on vocabulary acquisition is contingent on the multimodality of the annotations (Bozorgian et al., 2022; Teng & Zhang, 2023).

In conclusion, second and foreign-language learners often struggle with learning and retaining multi-word verbs, such as phrasal verbs, which are absent in their native languages. This lack of familiarity impedes the learners' ability to acquire such vocabulary effectively (Laufer, 2000). Thus, the present study examined two main forms of media presentation (e.g., static versus motion picture presentation) while accounting for the element of time to resolve parts of the above gaps in the related literature. To this end, the purpose of the present study was to investigate the effect of still- versus motion-picture presentation of vocabulary items and compare their effectiveness with respect to the vocabulary learning and retention of Iranian intermediate EFL learners. The significance of this investigation lies in addressing the existing research gaps, reconciling inconsistencies in previous findings, and enhancing our understanding of the optimal combinations of picture presentation modalities for vocabulary learning. By examining the interaction effects among time and conditions, the study seeks to evaluate the applicability of the Dual Coding Theory in the context of multimedia-enhanced vocabulary learning tasks and contribute to the development of more effective instructional approaches in the realm of vocabulary learning. Thus, drawing upon the gaps and issues identified in the related literature, the following research questions have been postulated:

RQ1: Does using different modes of picture presentation have any statistically significant effect on Iranian intermediate EFL learners' phrasal verb learning and retention?

RQ2: Which picture presentation modality is more effective in improving Iranian intermediate EFL learners' phrasal verb learning and retention?

## 4. METHODS

### Design

A three-group, pre-test, post-test quasi-experimental design with a quantitative approach was used to answer the two research questions. The participants were selected through a convenient sampling procedure and then randomly assigned to the experimental groups and the control group. The three groups went through the pretest phase first. Then, the experimental groups were given the vocabulary learning treatments, namely the still-picture presentation (EG1) and the motion-picture presentation (EG2) for a period of 10 sessions, whereas the control group (CG) followed their conventional instruction. However, the three groups underwent the treatments in exactly the same sessions and received the same vocabulary learning tests with rearranged items during the pretest, immediate posttest, and delayed posttest phases. These were done to rule out the negative effects of history and testing effects and threats to internal validity (Ary et al., 2019). Finally, statistical analyses were used to determine whether the two forms of picture presentation treatments (i.e., still picture vs. motion picture) had a meaningful effect on the participants' vocabulary learning and retention.

### Participants

The original pool of the present study consisted of 120 Iranian EFL learners who were learning English at an English language academy in Mazandaran, Iran. They shared the same first language background and were in the range of 15 to 20 years of age. They were kindly invited to participate in an Oxford Quick Placement Test (OQPT) to examine their L2 proficiency levels at the beginning of the study. Then, 90 intermediate EFL learners were selected and randomly assigned to three groups, namely EG1 ($n = 30$), EG2 ($n = 30$), and CG ($n = 30$). EG1 was the still picture presentation group, EG2 was the motion picture presentation group, and CG was the regular class practice group.

### Instruments and material

The present study employed two instruments (i.e., OQPT and vocabulary quiz) to collect the data, which are described below. An Oxford Quick Placement Test (OQPT), developed by Oxford University Press and the University of Cambridge Local Examinations Syndicate, was administered among the participants. This test was used to identify homogeneous participants in terms of their language proficiency level. The test consisted of 60 items on grammar, structure, vocabulary, and reading. The participants were given 40 minutes to complete the test. The test had high validity and reliability measures, as reported in the literature.

A 50-item, multiple-choice vocabulary quiz was uniquely developed for the purpose of this study. The test consisted of 50 target English phrasal verbs to measure the participants' knowledge of vocabulary items. The same test was used as the immediate and delayed post-tests to examine the participants' vocabulary learning and retention after receiving the 10-session vocabulary learning treatment. The internal consistency reliability of the instrument was calculated to be equal to .89, which is considered acceptable. Also, the content validity of the instrument was examined at the outset by two professors in the subject-specific field.

### Data collection procedure

Initially, the researcher obtained ethical permission from the research ethics committee of the Islamic Azad University of Qaemshahr. Besides, written informed consent was obtained from the participants below the age of 18 and their parents. They were informed about the purpose of the research and were advised that their data would remain confidential and be used merely for research purposes. Besides, they were notified that their names would remain anonymous during the whole research project. One week before the outset of the treatment, Oxford Quick Placement

Tests (OQPTs) were given to the target population to select homogeneous participants in terms of language proficiency.

To conduct the study, the three groups were given the pre-test on vocabulary learning. The study was conducted in ten sessions. Each session took 30 minutes to complete. Following previous studies (e.g., Nemattabrizi & Marzieh, 2016), EG1 was given the first treatment on vocabulary learning, that is, the still picture presentation of vocabulary items through PowerPoint slides, while EG2 was given the second treatment on vocabulary learning; that is, the motion picture presentation of vocabulary items through a laptop and a projector (i.e., projecting the animated pictures of target words). Besides, CG, which was the regular class practice group, followed the conventional vocabulary learning instruction used at the English Language Academy; that is, through the word list method. The picture presentation method for teaching vocabulary items (i.e., phrasal verbs) aimed to present the target words in the form of still and motion pictures. The reason was that the participants could attend to the spelling, parts of speech and definitions of these lexical items. Another reason was that they could employ them when asked to make an example sentence using that target word to activate their schema stored in their long-term memories and extract the words repeatedly for the sake of vocabulary learning and retention. After the treatments, all three groups underwent immediate and delayed vocabulary learning posttests a week later. To recap, the data collected in the present study consisted of the results of the OQPT test and the target form vocabulary pre-and post-tests.

## 5. DATA ANALYSIS

The Statistical Package for the Social Sciences (SPSS), version 24 (IBM SPSS Statistics 24.0), was used to analyze the EFL learners' performance on vocabulary learning pre-and post-tests. Prior to data analysis, the acceptable internal consistency reliability of the vocabulary tests in terms of Cronbach's Alpha statistic was ensured. Then, we ran one-way and repeated measures ANCOVA to address the research questions. However, we initially checked and confirmed the assumptions for running this test; that is, normality of the data, Levene's homogeneity of variances, random independent samples, homogeneity of regression slopes, scatterplot, and linearity. Effect sizes were also reported in terms of the statistical tests performed.

To compare the vocabulary learning performance of the participants from time one (i.e., pretest) to time two (i.e., immediate posttest), their performances were compared using a one-way ANCOVA test. In addition, to examine their retention of the vocabulary items, a repeated measures ANCOVA test was run on their performances from time one (i.e., pretest) to time three (i.e., delayed posttest). The choice of the one-way or repeated measures ANCOVA was because we intended to compare the effects of an independent categorical variable (i.e., vocabulary instruction method) with two levels (i.e., still-picture presentation and motion-picture presentation) on one dependent continuous variable (i.e., vocabulary learning) with two or three levels (i.e., vocabulary learning pretest, immediate posttest, and delayed posttest) while controlling for the effects of an independent continuous covariate (i.e., vocabulary learning pretest).

## 6. RESULTS

Table 1 presents the descriptive statistics related to the experimental groups and the control group, and Figure 1 also shows the participants' marginal means of vocabulary learning performance scores from time one to time three.

**Table 1: Descriptive statistics related to the participants' performance from time one to time three**

| Group | Pretest | | Posttest1 | | Posttest2 | |
|---|---|---|---|---|---|---|
| | Mean | Std. deviation | Mean | Std. deviation | Mean | Std. deviation |
| regular presentation | 11.20 | 2.35 | 12.67 | 2.09 | 14.07 | 1.94 |
| still-picture presentation | 11.63 | 2.59 | 13.37 | 2.18 | 14.77 | 1.94 |
| motion-picture presentation | 11.43 | 2.68 | 13.53 | 2.36 | 15.13 | 2.33 |

**Figure 1. The estimated marginal means of the three groups from time one to time three**
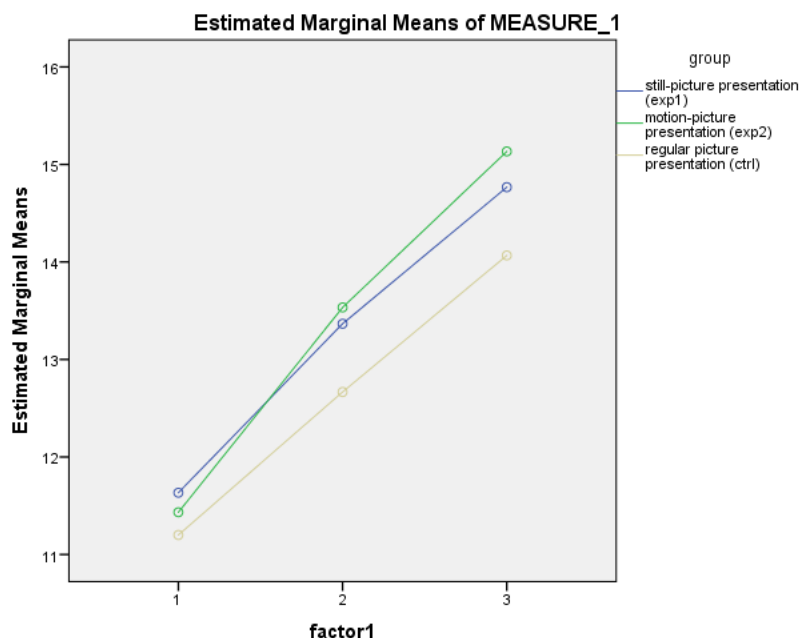


### Research question one

The first research question examined whether using different modes of picture presentation has any statistically significant effect on the phrasal verb learning and retention of Iranian intermediate EFL learners. The first research question consisted of two parts: vocabulary learning and vocabulary retention. In what follows, Table 2 presents the inferential statistics related to the results of a one-way ANCOVA test run on vocabulary learning and immediate post-test scores of the participants in the three groups, respectively. As evident from Table 2, there was a statistically significant difference among the three groups in terms of their performance on the vocabulary learning posttest ($F_{(2, 86)} = 3.78$; $p < .05$) with a medium effect size ($\eta p^2 = .07$).

**Table 2: One-way ANCOVA on vocabulary learning of the three groups from time one to time two**

| Source | Type III Sum of Squares | df | Mean Square | F | Sig | Partial Eta Squared | Noncent. Parameter | Observed Power |
|---|---|---|---|---|---|---|---|---|
| Corrected Model | 360.10 | 3 | 120.03 | 129.55 | .00 | .81 | 388.66 | 1.00 |
| Intercept | 74.05 | 1 | 74.05 | 79.92 | .00 | .48 | 79.91 | 1.00 |
| Pretest | 347.41 | 1 | 347.41 | 374.96 | .00 | .81 | 374.96 | 1.00 |
| Group | 7.00 | 2 | 3.50 | 3.78 | .02 | .08 | 7.56 | .67 |
| Error | 79.68 | 86 | .92 | | | | | |
| Total | 16095.00 | 90 | | | | | | |
| Corrected Total | 439.78 | 89 | | | | | | |

In addition, to examine whether there were any statistically significant differences among the three treatments in terms of the participants' vocabulary retention from time one to time three, we ran a repeated measures ANCOVA test. In what follows, Table 3 presents the inferential statistics related to the results of a repeated-measures ANCOVA test run on the immediate and delayed posttest scores of the participants in the three groups, respectively. Table 3 shows that there was a statistically significant difference among the three groups in terms of their performance on the vocabulary retention posttests ($F (2, 86) = 4.97$; $p < .05$) with an almost large effect size ($\eta p^2 = .10$).

**Table 3: Repeated Measures ANCOVA on vocabulary retention of the three groups from time one to time three**

| Source | Type III Sum of Squares | df | Mean Square | F | Sig | Partial Eta Squared | Noncent. Parameter | Observed Power |
|---|---|---|---|---|---|---|---|---|
| Intercept | 250.03 | 1 | 250.035 | 131.52 | .00 | .60 | 131.52 | 1.00 |
| Pretest | 614.50 | 1 | 614.50 | 323.23 | .00 | .79 | 323.23 | 1.00 |
| Group | 18.92 | 2 | 9.46 | 4.97 | .00 | .10 | 9.95 | .79 |
| Error | 163.49 | 86 | 1.90 | | | | | |

Thus, null hypothesis one ($H_01$) was rejected. Therefore, it could be concluded that there was a statistically significant difference among the three groups in terms of vocabulary learning and retention.

### Research question two

The second research question queried which picture presentation modality was more effective in improving the phrasal verb learning and retention of Iranian intermediate EFL learners. Results of the pairwise comparisons with respect to the participants' vocabulary learning from time one to time two and with regard to their vocabulary retention from time one to time three are presented in Tables 4 and 5, respectively. Table 4 shows that the only statistically significant difference in terms of vocabulary learning was the one between the motion picture presentation treatment given to the experimental group two and that of the regular presentation given to the control group participants ($p = .02$). No statistically significant difference was found between the still picture presentation and that of the regular presentation; nor did we find any statistically significant difference between the two treatments given to the experimental groups (i.e., still picture vs. motion picture presentation). Thus, it can be concluded that the only treatment that was more effective in terms of the participants' vocabulary learning performance compared with the other treatments was the motion-picture presentation.

**Table 4: Pairwise comparisons related to the one-way ANCOVA on vocabulary learning**

| (I) Group | (J) Group | Mean Difference (I-J) | Std. Error | Sig. | Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|
| Still picture | Motion picture | -.32 | .24 | .59 | -.93 | .28 |
| | Regular | .36 | .24 | .45 | -.24 | .96 |
| Motion picture | Still picture | .32 | .24 | .59 | -.28 | .93 |
| | Regular | .68 | .24 | .02 | .07 | 1.29 |
| Regular | Still picture | -.36 | .24 | .45 | -.96 | .24 |
| | Motion picture | -.68 | .24 | .02 | -1.29 | -.07 |

**Table 5: Pairwise comparisons related to the repeated measures ANCOVA on vocabulary retention**

| (I) Group | (J) Group | Mean Difference (I-J) | Std. Error | Sig. | Lower Bound | Upper Bound |
|---|---|---|---|---|---|---|
| Still picture | Motion picture | -.41 | .25 | .31 | -1.02 | .20 |
| | Regular | .38 | .25 | .40 | -.23 | .99 |
| Motion picture | Still picture | .41 | .25 | .31 | -.20 | 1.02 |
| | Regular | .79 | .25 | .00 | .18 | 1.41 |
| Regular | Still picture | -.38 | .25 | .40 | -.99 | .23 |
| | Motion picture | -.79 | .25 | .00 | -1.41 | -.18 |

Also, Table 5 shows that motion picture presentation was also the only treatment that was more effective in terms of the participants' vocabulary retention from time one to time three ($p < .05$). In conclusion, motion picture presentation was the most effective treatment in terms of the Iranian intermediate EFL learners' vocabulary learning and retention.

## 7. DISCUSSION

Literature suggests that the provision of various media types may lead to varying levels of vocabulary learning. Thus, the present study aimed to examine the comparative effects of two vocabulary instructional methods (i.e., motion- versus still-picture presentation) on vocabulary learning and retention of Iranian intermediate EFL learners. To this end, the first research question examined whether using different modes of picture presentation had any statistically significant effect on the learning and retention of phrasal verbs by Iranian intermediate EFL learners. The answer to the first research question was affirmative. We found that there was a statistically significant difference in terms of the picture presentation modality used while teaching vocabulary items and that the difference created a statistically significant effect on the participants' learning and retention of vocabulary items.

In general, our results were in dissonance with those of Jiang (2015), who revealed no significant differences among the three presentation modes, namely vocabulary list, picture/animation/imagery mode, and incidental context in terms of the participants' vocabulary learning and short-term recall. However, they found that the three modes significantly affected the participants' long-term vocabulary retention. That being said, it was found that certain images exhibited more consistent memorability than others (Isola et al., 2011).

Still, the results of the present study were in agreement with those of the previous one, such as (Ghader & Bahlooli Niri, 2016), revealing that different pictorial presentation modes would leave a significantly positive effect on the short-term and long-term retention of vocabulary items. Results were also in tandem with those of (Al-Seghayer, 2001), arguing that the use of video and visual presentation created a better mental image. In addition, it was also found that motion pictorial media in animated form was more effective than real videos. Consequently, juxtaposing images alongside text could facilitate the development of a more interconnected understanding within a comprehensive knowledge network (Butcher, 2006, 2014).

The second research question queried which picture presentation modality was more effective in improving the phrasal verb learning and retention of Iranian intermediate EFL learners. Results of the pairwise comparisons revealed that the motion-picture presentation of phrasal verbs was more effective in terms of vocabulary learning and retention compared with the other two treatments, namely still-picture presentation and regular presentation of phrasal verbs.

Our results were in partial discord with those of (SoHee, 2019), who examined the effectiveness of different forms of media, specifically images paired with texts and video clips accompanied by texts in their acquisition of vocabulary items. The findings revealed that images paired with texts yielded superior results compared to video clips with texts, particularly for individual words in the immediate post-test, whereas video clips with texts facilitated longer retention of phrasal verbs. Participants indicated that the use of images with texts established strong word associations, while video clips with texts motivated them to engage with vocabulary within authentic contexts. Some participants also expressed the view that English explanations and examples were beneficial when inferring word meanings in context. The study suggested that the integration of media could promote learner autonomy in vocabulary acquisition.

On the other hand, the results of our study were in line with those of (Ghader & Bahlooli Niri, 2016), who indicated the effectiveness of the pictorial presentation of vocabulary learning and retention and asserted that the motion picture presentation mode was more effective. Results were also in partial agreement with those of (Jiang, 2015), asserting that the pictorial presentation mode had the most significantly positive effect on vocabulary recall and production. In general, it was found that the application of visual aids fostered the motivation and engagement factors, which were necessary for effective vocabulary learning (Harmer, 2001). In the same vein, (Wright, 1989) asserted that images contributed to generating interest and motivation, establishing a sense of language context, and providing a specific reference point or stimulus. Similarly, (Chastain, 1988) suggested that vocabulary learning using pictorial presentation triggered the involvement of both hemispheres of the brain, which was crucial for the retention and recall of information among language learners.

To recap, the only statistically significant treatment with more effectiveness in terms of vocabulary learning and retention was the motion-picture presentation. The possible reasons were better engagement, more motivation, and higher achievement as a result of receiving the motion-picture presentation of vocabulary items. It provides EFL learners with additional learning experiences, thus adding to their vocabulary knowledge more efficiently (Milah, 2022). In addition, it provides more exposure to vocabulary items, thus increasing their vocabulary knowledge more expediently (Ashcroft et al., 2018). Along this line, our findings drew on Dual Coding Theory, revealing that pictorial presentation and the motion picture mode were both effective vocabulary instruction methods in terms of vocabulary learning and word retention. Similarly, (Baralaei & Najmabadi, 2015) explained that Iranian EFL learners' vocabulary retention through exposure to visualized vocabulary in illustrations and visuals was enhanced because this method of vocabulary instruction engaged and motivated the EFL learners to embed the

vocabulary items in their long-term memory with more ease through active involvement and agency.

Theoretically speaking, images and visuals are more effectively retained than words due to their activation of both visual and verbal codes, unlike words that primarily trigger verbal codes. By stimulating two codes, visual and verbal, an image is believed to create a robust memory imprint. As elucidated by (van den Broek et al., 2021), the amalgamation of words and images has the potential to enhance learning outcomes in comparison with text-based learning exclusively, which was the case with the present study. Therefore, the findings of the present study are in complete alignment with the research findings regarding the Dual-Coding Theory positing a nuanced perspective, particularly in studies demonstrating that foreign language vocabulary retention was more effective when accompanied by visuals and pictorial presentations rather than textual annotations.

## 8. CONCLUSION

The present study examined the effect of different forms of picture presentation on Iranian EFL learners' *learning* and *retention* of a number of vocabulary items (i.e., phrasal verbs). We found that there was a statistically significant difference in terms of the picture presentation modality used while teaching vocabulary items and that the difference created a statistically significant effect on the participants' learning and retention of vocabulary items. In addition, the results of the pairwise comparisons revealed that the motion-picture presentation of phrasal verbs was more effective in terms of vocabulary learning and retention compared with the other two treatments, namely still-picture presentation and regular presentation of phrasal verbs. Thus, our findings revealed that using different forms of presentation, such as still-picture and motion-picture presentation, has a positive impact with a large effect size on the vocabulary learning and retention of EFL students, with the motion-picture presentation being more effective compared with the other forms.

Collectively, our results are informed by the Dual Coding Theory, revealing that pictorial presentation and the motion picture mode are both effective vocabulary instruction methods in terms of vocabulary learning and word retention. EFL learners' vocabulary retention through exposure to visualized vocabulary in illustrations and visuals is enhanced because this method of vocabulary instruction engages and motivates the EFL learners to embed the vocabulary items in their long-term memory with more ease through active involvement and agency. Theoretically speaking, images and visuals are more effectively retained than words due to their activation of both visual and verbal codes, unlike words that primarily trigger verbal codes. By stimulating two codes, visual and verbal, an image is believed to create a robust memory imprint.

In fact, our approach to enhancing the process of deep encoding in vocabulary acquisition involves the utilization of multimedia. Multimedia learning is characterized as the assimilation of information through both textual and visual elements simultaneously (Mayer, 2002). With respect to 'simple' vocabulary learning (i.e., presenting the L2 word by itself as opposed to in-text), the effects of multimedia learning have been confirmed in the related literature. However, a tentative consensus suggests that adding images is advantageous solely for learning abstract words. This proposition is supported by studies involving concrete words which did not reveal notable advantages when pairing the foreign word with an image.

As noted by Phillips (1993), "vocabulary acquisition is most effective when the meanings of words are illustrated, for instance, through images, actions, or tangible objects." This implies that imagery can be leveraged to teach students vocabulary, necessitating the avoidance of monotonous teaching approaches on a consistent basis. By incorporating visual media, educators can efficiently and effectively impart vocabulary knowledge to their students. Consequently, images serve as

potent tools for enhancing English language proficiency, particularly for students with a preference for visual learning.

All in all, among the array of techniques proposed for teaching vocabulary, the integration of visual stimuli stands out as one of the most prevalent ones. This is backed by previous literature, such as (Mayer, 1999) study, which discovered that presenting vocabulary items alongside images as visual stimuli enhances students' learning and retention capabilities. Indeed, imagery proves to be highly beneficial, motivating students to engage more deeply in the learning process. Thus, it stands to reason that the incorporation of these different modes of pictorial presentation of vocabulary items is highly useful in language classrooms. Although the provision of differentiated input via media effects may lead to varying levels of awareness in acquiring new vocabulary, this study posited that the utilization of media can yield positive impacts on the acquisition of vocabulary. Due to the absence of comprehensive research scrutinizing the impacts of two distinct modes on learning individual words and phrasal verbs, this study proposed educational implications for identifying effective instructional methodologies for vocabulary acquisition in general, and phrasal verb acquisition in particular, among EFL learners in language institutional settings and beyond.

Taking into account the significance of vocabulary on the four macro-skills in EFL classrooms, it is recommended that the EFL teachers and researchers utilize these vocabulary presentation modes in their classrooms and studies to maximize the learning and retention of the vocabulary items. For example, EFL teachers can use contextualized vocabulary instruction methods facilitated by motion-picture presentations to improve the EFL learners' vocabulary learning and retention significantly. In doing so, they need to raise their EFL learners' awareness of mobile phone use in EFL classroom contexts or use a laptop and a projector to teach the vocabulary items. Also, it is advisable that EFL teachers reinforce this motion-picture presentation modality with comprehension questions and other word drills. Notably, the motion picture presentation can be used during reading instruction to develop word knowledge. Besides, material developers are also advised to embed suitable pictures in their textbooks and include multimedia applications or instructional CDs with visual presentations along with the textbook to improve the EFL learners' vocabulary learning and retention. Various factors, such as a convenience sampling procedure, a quasi-experimental quantitative research design, an intermediate proficiency level, and a picture presentation mode of instruction, might have limited the generalizability of the findings. Thus, future studies can consider a true randomization method, a mixed methods research design, lower- and upper-intermediate proficiency levels, and audiovisual presentation of vocabulary items. Besides, future lines of research can consider other EFL contexts, such as high schools and universities. Also, a new stride could be to consider EFL learners with various individual difference variables, such as working memory capacity, motivation, anxiety, etc. In particular, it would be of interest to the future line of research to examine whether working memory capacity can impact the effect of these picture presentation modalities on EFL learners' vocabulary learning and retention. Nevertheless, the findings here can provide fresh insights into our understanding of the transfer patterns of vocabulary learning in language institutes when using images and video clips for single words and phrasal verbs.

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# The Correspondence Between Culture and Creativity in Iranian and Internationalized ELT Textbooks

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**Abstract**
Creativity and culture are two intertwined but most unexplored phenomena in language and linguistic discipline, especially in English textbooks' domains. Hence, the purpose of the study was 1) to investigate the existence and distribution of cultural and creativity-related contents in two ELT textbooks based on Cortazzi and Jin (1999) textbook classification and investment theory of creativity, and 2) to examine the confluence of creativity components and culture elements. Using basic content analysis, the researcher analyzed the creative components and cultural elements of two ELT textbooks prepared and utilized in Iran (localized textbook) and the UK (internationalized textbook). The researcher found that the ELT textbooks of Iran (Prospect 1) and the UK (Teen2Teen 1) both included components of creativity. In Iranian Prospect 1, knowledge was the most prominent element, but in the internationalized Teen2Teen 1 (UK) book, intelligence, motivation, environment, and personality were mostly observed. Furthermore, the findings revealed that in the localized textbook (Prospect 1), except for source products, the other elements of culture, such as persons, practice, and perspectives, are absent. On the other hand, in Internationalized Teen2Teen book 1, the global products of culture are mostly presented, and the other elements, such as persons, practice, and perspectives, are underrepresented. Thus, this study's findings can help policy makers, material designers and teachers to modify the content of ELT textbooks to obtain better advantages.

## 1. INTRODUCTION

Creativity is the most prominent, complex, and unseen notion in all disciplines and English language teaching is not an exception (Alabbasi et al., 2022; Lee, 2013; Meihami, 2022; Peachey & Maley, 2015; Tajabadi et al., 2024). According to (Peachey & Maley, 2015), creativity is considered to observe new ideas out of the box. Its multifaceted and dynamic nature makes it difficult to state a one-size-fits-all definition for creativity (Tajabadi et al., 2024). Therefore, many researchers strive to express the essence of creativity from different prospects and visions to provide a comprehensive and full-fledged campaign definition that suit different contexts. In recent years, a surge of interest in the concept and notion of 'creativity' is observable in almost all aspects and angels of life steps due to its significant role in paving the way for success, and educational

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context is not an exception (Tajabadi et al., 2024). In this vein, the importance of creativity in teachers' methods of teaching and the content of textbooks should be an end for policymakers and syllabus designers (Tomlinson, 2013). Although studies have admitted the huge effect of creativity on learners' engagement, production, critical thinking, and open-mindedness still, scant research has foregrounded creativity in ELT textbooks (Meihami, 2022; Tajabadi et al., 2024). Textbooks are the framework and cornerstone of every didactic activity (Kasmaienezhadfard et al., 2015). Certainly, textbooks have a variety of functions, sometimes as a means of providing knowledge or as a bridge for developing students' creativity (Kasmaienezhadfard et al., 2015; Shao et al., 2019; Tajabadi et al., 2024). So, creative thinking activities should be manifested in textbooks as they considerably affect the teaching-learning processes (Al-Jabri et al., 2020). Since creativity is an important part of ELT teaching, which more than before is burdened on the content of textbooks, analysing the creative parts of ELT textbooks will be a priority to help teachers and learners improve their mission and programs in language learning (Richards & Cotterall).

Traditionally, textbooks were assumed to equip students with linguistic knowledge. Therefore, cultural content was ignored in materials evaluation (Rybková, 2018; Sattarpour et al., 2024). But nowadays, there is a full-fledged agreement about the association between culture and language McKay (2002);Rashidi and Meihami (2016); Silva, 2015). According to Kramsch (2014), language involves cultural reality. In Sapir's (1921) words, language is intertwined with culture. So, fruitful language learning involves not only educating a spectrum of the cultures in which language is utilized but also how other cultures are expressed and depicted in that specific culture (Yuen, 2011). It confirms that learning about different cultures will benefit both classroom context and out-of-class and real-life situations (Rybková, 2018).

In addition, investigating the components of creativity and elements of culture and their confluence in ELT textbooks will be beneficial in exploring why some textbooks are more interesting, challenging, and incentive. Therefore, in this study, a descriptive/exploratory design of basic content analysis was followed to analyse and explore the creative and cultural content of two ELT textbooks and their confluence related to two countries, Iran and the UK, where English is a foreign and a first language subsequently. The researcher used Cortazzi and Jin (1999) textbooks' cultural classification to choose underexamined ELT textbooks. Accordingly, textbook content is source culture(localized), target culture, and global(internationalized). The researcher selected Prospect book1(localized) as a representative of Iranian-Islamic culture which has been localized for Iranian students to counter linguistic imperialism and the influence of English-speaking countries over developing countries (Pishghadam and Naji, 2012; Mofidi and Hashemi, 2019). On the other hand, the Teen2Teen textbook was selected as a representative of internationalized ELT textbooks, which are used as a source of teaching and learning English around the world (Alemi et al., 2013). Teen2Teen books are produced by Western leading publishers for international students with different cultures. These ELT textbooks suit the purpose of this study as they are localized (Prospect) and multi-cultural (Teen2 Teen). The investment theory of creativity (Sternberg & Lubart, 1991) was utilized to help us explore the confluence of creativity and culture upon its components, involving intelligence, personality, knowledge, thinking styles, environment, motivation, and four Ps' of culture (persons, products, perspectives, and practices). This study was followed to observe if these ELT textbooks traced the confluence of culture and investment theory components to develop learners' creativity (Tajabadi et al., 2024; Zhang and Sternberg, 2011). This research seeks to answer the following research questions:

1. How are creativity and culture content distributed in Iranian (Prospect1) and UK (Teen2Teen 1) ELT textbooks?
2. How is the confluence of creativity components and culture in Iranian (Prospect1) and the UK(Teen2Teen1) ELT textbooks?

## 2. LITERATURE REVIEW

### Creativity

Creativity is viewed as one of the most distinguished 21st-century resources and hidden apparatus of mankind (Çelik & Tümen Akyildiz, 2021). Creativity is highly indispensable for a competitive advantage (Langley, 2018). It is not feasible and will not be logical to present a one-size-fits-all definition for the creativity concept, meaning that all possible definitions with their components are accepted and practiced (Meihami, 2022). Creativity does not grow in a vacuum ( Meihami, 2022; Peachey and Maley, 2015; Tajabadi et al. (2024); Tomlinson, 2013). Therefore, it is noteworthy to discover suitable procedures and prepare obligatory contexts to nurture students' creativity (Çelik & Tümen Akyildiz, 2021). As a result, researchers are attempting to discover indications that improve students' creativity (Fan & Cai, 2022).

Most scholars have emphasized the role of teachers in providing a creative context (Maley, 2015; Read, 2015). Read (2015) proposed seven pillars of creativity with sample tasks for each pillar for EFL teachers. They are subsequently involved in improving positive self-esteem, empowering creativity and subjectivism, and improving intellectuality in students; helpful questions and making connections are among them. Few scholars have underscored the role of textbooks in improving creativity in EFL students (Bao & Liu, 2018; Maley, 2015; Meihami, 2022; Shao et al., 2019; Tajabadi et al., 2024)investigated the role of textbooks in improving students' creativity. The researchers analyzed the content of the primary ELT textbook called "Success with English", which was taught in Guangzhou, China. They explored that one way to develop students' innovation is to play with them (Bao & Liu, 2018). According to their research, textbooks would improve students' creativity if they use imagination to create new content, stimulate personal responses, use creative decontextualization, and support innovative efforts through design. Creativity will not be seen in a vacuum (Meihami, 2022; Peachey and Maley, 2015; Shao et al., 2019) or be isolated from other materials (Peachey & Maley, 2015).

### Investment Theory of Creativity

In recent years, there has been a full-fledged campaign to define the concept of 'creativity 'in all life aspects for its helping essence which paves the way for successful individuals (Tajabadi et al., 2024). A large number of theories have put effort into exploring the nature of creativity concepts from a spectrum of viewpoints to prepare a comprehensible definition of creativity in different situations. The investment theory of creativity is one of these theories which tries to discrete creativity based on six factors: knowledge, thinking styles, personality, environment, motivation, and intelligence (Sternberg & Lubart, 1991). This study explored the inclusion of the investment theory of creativity components in ELT textbooks as it is significant to mention the investment theory components together (Tajabadi et al., 2024). To search for the creative content of localized ELT textbooks in Iran (prospect series) and internationalized ELT textbooks in the UK (Teen2Teen series), the researcher utilized the investment theory of creativity as the framework and theory of the study.

### Component of Investment Theory of Creativity

According to the investment theory of creativity, there are six resources for creativity: intelligence, knowledge, intellectual styles, personality, motivation, and environment. The first component is intelligence which consists of three important parts: A) synthetic intelligence to view everything from a variety of perspectives (Zhang & Sternberg, 2011) or to see out of the box (Peachey & Maley, 2015). B) analytical intelligence is to choose the best idea from among many ideas and c) practical intelligence refers to the ability and skill to encourage other people about the value and usefulness of the newly suggested ideas. To put it in other words, the intelligence

component includes critical thinking, problem-solving, and analytical reasoning (Tajabadi et al., 2024).

Knowledge has been remarked as the most important component in the investment theory of creativity and knowledge is the first step and a foundation for every creative act or every creative person (Zhang & Sternberg, 2011). It is important to acquire enough knowledge of a discipline to make a development. Accordingly, without knowledge, the other creative components will be paralyzed (Tajabadi et al., 2024). The researcher examined the presence of this component in ELT textbooks by investigating whether learners have the chance to obtain knowledge in all features and aspects of the target language, including phonetics, semantics, syntax, pragmatics, and culture.

Thinking styles are also crucial in creativity as they affect how individuals face problems and tasks. Thinking styles are viewed as selected ways of using one's abilities, involving legislative styles (freedom of choice), global styles (general schemata about general concepts), and liberal styles (willingness to think in different ways). Researchers examined the presence of intellectual styles in ELT textbooks to observe how much this component makes learners autonomous in learning about different cultures.

Personality is the fourth component of creativity. It is a willingness to grow, take risks, and dominate problems (Sternberg & Lubart, 1991). A creative thinker should be open-minded and intellectual to find a variety of novel solutions for one obstacle, which is against the traditional trend of solving a problem (Anderson and Graham, 2021; Feist ,1998). Researchers examined this component within ELT textbooks by analyzing the linguistic and cultural features that empower learners to improve their tolerance for ambiguity and explore their willingness to take risks and encounter problems from different aspects and perspectives (Tajabadi et al., 2024).

Motivation is the fuel for every human act and without motivation, no creative work will happen. In the lack of motivation, creativity will not be induced and transformed into products. Therefore, creativity without motivation is like a driver without a car (McCoach & Flake, 2018). The available research findings about motivation show that mankind scarcely does any creative act or product unless they truly love what they are doing and concentrate on it (intrinsic motivation) (Zhang & Sternberg, 2011). The motivation component of creativity was utilized to observe how often ELT textbooks use the cultural and linguistic aspects to motivate students for different tasks, activities, and group work.

Lastly, one could have all the required components of creativity, but without a supportive and rewarding environment, creative ideas would be paralyzed. Helping environments that prepare facilities, persuasion, and feedback will improve creativity (Zhang & Sternberg, 2011) on the contrary, a limited and unevocative environment will barricade a creative idea (Zhang & Sternberg, 2011); so, providing a constructive environment that cultivates creativity and persuades students to find novel ideas is significant (Tajabadi et al., 2024). Similarly, a creative environment in an educative context means encountering creative teachers who are motivated to teach creatively (Al-Jabri et al., 2020; Meihami,2022; Peachey and Maley, 2015; Suwartono et al. (2022) and creative ELT textbooks that involve culture and creativity in their tasks and activities. The researcher operationalized ELT textbooks to examine their efficacy in supplying learners with chances to apply their knowledge in diverse cross-cultural contexts and activities. Although some studies have investigated the role of creativity and culture in their research, rarely has any study posed the confluence of creativity and culture, especially in ELT textbooks.

**Table 1. The summary of studies on creativity and culture in ELT textbooks (chronologically ordered)**

| Authors | Aim | Methodology | Results |
|---|---|---|---|
| **Bao and Liu (2018)** | Explore the presence of creativity tasks and activities in success with English book by Guangzhou Education Bureau | Content analysis of ELT book and exploring five tasks (creative drama, imaginative activities, innovative design and intriguing personal answers) | These tasks improve critical thinking in students |
| **Rybková (2018)** | Examines the role of culture in Czech ELT textbooks | Content analysis of ELT textbooks to explore the extent to which different cultures appear in tasks and activities | Providing a different culture knowledge in textbooks increases students' creativity |
| **Al-Jabri et al (2020)** | Investigate the existence of critical thinking skills in ELT textbooks of Oman | Content analysis of Omani ELT textbooks | Creative activities in ELT textbooks of grade 12 are about 20% |
| **Tajabadi et al (2024)** | Explore the creative components in ELT textbooks of inner, outer, and expanding countries | Content analysis of Iranian, Indian, and American ELT textbooks | There is an overlap in three ELT textbooks |

## Culture in ELT Textbooks

Culture is thoroughly defined from different viewpoints (Ratnasari (2018); (Silvia, 2014); Shao et al., 2019). Culture representation of ideas, beliefs, and activities of a social group of people, as well as human-made artifacts, is a perfect definition of culture (Silva, 2015). Cultural knowledge is the cornerstone of language acquisition (Abdullah et al., 2014; Saemee and Nomnian, 2021; Silva, 2015). Learning a foreign language is not an accessible thing without acquiring the culture of the society that uses the language. That is the reason why cultural and cross-cultural knowledge teaching in language classes is a need. In this vein, textbooks have a major role in directly or indirectly conveying cultural norms and values to some extent (Silva, 2015). Textbooks that are used in educational contexts generally show a certain way of looking at the world (Aliakbari, 2004). It determines the students' and teachers' visions and perspectives about culture (Silva, 2015). Cortazzi and Jin (1999) attempted to evaluate ELT textbooks from the cultural lens of authors. They classified ELT textbooks from their cultural content as below:
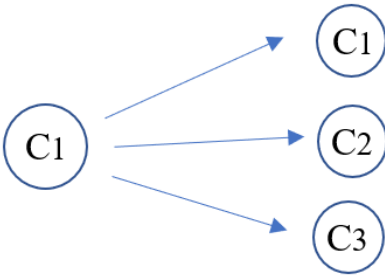


**Figure 1: Culture in English textbooks**

C1 shows the local culture of students, the source culture (originator); C2 shows the target culture, which is the culture of native speakers of English like British or Canadian people; and C3 shows the global target culture (internationalized), which depicts different cultures around the

world (Banaruee et al., 2023). Some EFL textbooks designed at the national level for specific countries address the source culture rather than the target culture (Aliakbari, 2004; Silvia, 2014). Cortazzi and Jin (1999) discussed a Venezuelan textbook that provides information about the national heroes of Venezuela. McKay (2002) explored how most textbooks used in Chile concentrate on the local culture and discussed that English is nowadays used internationally, and it cannot be limited to students' local culture (McKay, 2002). On the other hand, facing students with Western culture creates cultural conflict which respectively makes dissatisfaction with learners' own culture.

In another research, Rybková (2018) investigated the role of culture in ELT textbooks. The researcher reiterated that culture in ELT textbooks has been mentioned in three ways, based on Cortazzi and Jin (1999) textbook classification.

Target culture materials: providing knowledge about the culture of countries that speak English as a native language such as the UK and the USA. The advantage of target culture-oriented ELT textbooks is the students' interest in knowing about anglicized culture, due to the popularity of Western films or music or their interest in immigration to those countries. On the other hand, it may be uninteresting and stereotyped to some students.

Source culture materials: these contents mostly focus on learners' own culture (Aliakbari, 2004). It has some drawbacks such as students' demotivation about the topics and their lack of vocabulary to talk about their own culture, etc.

International Target Culture Material: These kinds of ELT textbooks provide a spectrum of knowledge about the culture of English native speakers' countries and non-native speaker countries. It points out the internationalized usage of English and emphasizes that although the English language has been de-anglicized it has not been deculturized. This viewpoint strengthens and refers to the internationalized usage of English in the global village. Providing adequate knowledge about other cultures in ELT textbooks will strengthen language learners' tolerance of ambiguity and cultural awareness. In this vein, Rybková (2018) explored that a learner who obtains sufficient knowledge about other cultures in his textbook will be more open-minded, intellectual, intelligent, and has a critical and diplomatic mind. It also increases students' motivation to work with the textbook. The findings also reminded us that repetitive structure and focus on source culture would have a negative effect on student's motivation to learn about cultures.

EFL materials in addition to containing knowledge and data about source culture, target culture, and international culture, also involve four elements of culture: products, persons, practices, and perspectives (Silvia (2014); Yuen, 2011). According to Yuen (2011) classification of culture in the EFL material, products are depicted in some form, like images, photos, or realia, which illustrate palpable cultural subjects and themes like foods, movies, songs, or fashion. The second component is persons, which mention heroes, figures, and popular people, either real or unreal, who are part of a culture. It also increases students' intrinsic motivation for language acquisition (Mora, 2001). The third component is practices, which refer to activities, ceremonies, and holidays that belong to a special part of society and are rooted in the old generation. The last component of culture is 'perspectives', which shows how a particular group of people view some aspects of life like job relationships or family relationships and some concepts about money, time, and behaviours. To put it in other words, it is the thoughts, ideas, and beliefs that can be similar or different from one group of people to another (Soy et al., 2023) .(Yuen, 2011) investigated the presence of foreign culture in ELT textbooks of Hong Kong secondary schools. He examined the ELT textbooks by using process, product, practice, and perspective elements of culture. Yuen (2011) mentioned that ELT textbooks mostly equipped students with a 'tourist 's perspective ', which provides the product aspect of culture mainly about food and entertainment and less about sociological and ideological aspects of culture (Silvia, 2014).

**Table 2: Textbooks' classification based on Yuen's (2011) cultural elements theory**

| Element | Description | Examples |
|---|---|---|
| Products | Products are connected to tangible cultural objects that involve real or unreal products such as movies, songs, books, novels, food, inventions, and so on. | Hijab and special clothes and foods |
| Persons | Persons are related to famous people who represent a culture or a nation. For example; famous singers, writers, heroes, and poets | Avicenna who is a famous doctor in the old history of Iran |
| Practices | Cultural activities and ceremonies that are rooted in a special group of people | Christmas and Halloween for American people in the USA |
| Perspectives | A particular group of people's visions about some aspects of life. People's thoughts are different from one culture to another. | Concepts about time, money, family, and more |

In another study, (Silvia, 2014) investigated the presence of cultural elements (persons, products, perspectives, and practices) in ELT textbooks of Indonesia called English on Sky and English in focus series. Silvia used (Yuen, 2011) cultural classification was used to run a content analysis on these books. The result showed that products and persons dominate the other cultural elements in these books. Practices also appeared in the English on Sky series in a few numbers of cases, and perspectives were the most unseen element in both books. Based on this research, all examined textbooks enjoy four Fs (food, fairs, folklore, static facts) (Kramsch, 2014), but there is a paucity of knowledge about perspectives and practices. The other result of this research was the leadership of source culture which was mostly presented in the examined book and followed by target culture, free culture, and international target culture.

Saemee and Nomnian (2021) examined and ran a content analysis about the presence of cultural elements based on (Yuen, 2011) cultural classification in ELT textbooks of 1 to 6 at a governmental and public school in the district of Nadee in the Samut Sakhon province in Thailand. According to the research findings, the five elements involving persons (6%), products (41%), practices (26%), and perspectives (6%) were presented in the examined ELT textbooks. According to the result, there is a lack of attention to learners' local culture, and most of the cultural aspects in these books are dedicated to the target language culture. Furthermore, the persons' element as the most notable cultural element, which represents the cultural heroes and famous people and creates a sense of motivation in students, was ignored in these books. Perspectives and practices are other important elements of culture that deface learners' ambiguity about other cultures and increase their risk-taking personality and intelligence (Rybková, 2018). These elements are less observable in this research. On the other hand, a lack of access to source culture in these books will make it difficult for students to talk about their own culture with foreigners and it increases their language ambiguity (personality) and decreases their risk-taking ability (personality) and the same time a lack of knowledge about their own culture will demotivate them (Rybková, 2018; Saemee and Nomnian, 2021)

There is a paucity of research regarding the investigation of creativity and culture in ELT textbooks. First, there are differences in the inclusion of creativity and cultural components in the same skills in different ELT textbooks (Baleghizadeh and Dargahi, 2016). Second, creative and cultural content was not the main purpose of L2 material developers (Al-Jabri et al., 2020). In this vein, in Iranian Prospect books, cultural and intercultural components of learning English have not been covered efficiently in Prospect ELT textbooks. Also, it can be concluded that no study compared the creative and cultural content of ELT textbooks, which are used as a foreign language (Iran) and a first language. Furthermore, the interconnection among components of creativity and culture in ELT textbooks has been ignored.

Although some studies have investigated the role of creativity and culture in language learning, specifically ELT textbooks (Peachey and Maley, 2015; Rybková, 2018; Silva, 2015; Tajabadi et al., 2024), scant research has examined the confluence of creativity and culture elements in ELT textbooks.

## 3. METHODOLOGY

Content analysis is a research procedure used to make reliable conclusions from texts to their contexts of use (Krippendorff, 2018). Among different data collection and data analysis procedures and methods, content analysis was selected thanks to its advantages and benefits (Meihami, 2022; Soy et al., 2023; Tajabadi et al., 2024). Researchers can use content analysis to examine, scrutinize, and record subjects' thoughts in a variety of domains and cultural contexts (Drisko & Maschi, 2016). In this study, a content analysis was performed to explore the existence of the investment theory of creativity components and cultural elements in Iranian and UK ELT textbooks used at the elementary level. To do so, the researcher used a descriptive/ exploratory design to address basic content analysis.

### The Research Design: Descriptive/Exploratory

The researcher traced a descriptive/ exploratory design to run this basic content analysis (Drisko and Maschi, 2016; Meihami, 2022). In this vein, the researcher analyzed the content of two ELT textbooks deductively. The elements of culture (Yuen, 2011), four Ps (process, products, practices, and perspectives) in line with the investment theory of creativity components (knowledge, personality, intelligence, environment, and motivation) were used as pre-specified codes to anatomize the content of two ELT textbooks. Textbooks were selected based on Cortazzi and Jin (1999), which classifies textbooks according to their cultural content to target, source, and internationalized culture. In this study, the researcher selected Iranian Prospect as a source culture textbook and Teen2Teen as an internationalized one. Next, the researcher explored the co-appearance and connection of investment theory components and cultural elements inductively in the content of ELT textbooks to determine the confluence among the elements and components.

As illustrated in Figure 2, the first two steps of descriptive/exploratory content analysis are choosing and deducting data. To make use of these steps, the researcher chose two convenient and appropriate ELT textbooks for this study, according to Cortazzi and Jin (1999), which are cultural form classifications of textbooks at the elementary level. The third step of the content analysis is the anatomization of the content. To this end, this study investigated the content of two ELT textbooks deductively applying pre-specified codes that involve six components of the investment theory of creativity (Sternberg & Lubart, 1991) and five elements of cultures (Yuen, 2011). At the exploratory stage, new evidence about the co-incident in the content of two pre-selected ELT textbooks was recognized. In the last stage, the researcher showed the results using Code Matrix Browser and Code Map, which are accessible in MAXQDA 20, to answer questions 1 and 2 respectively.

### Corpus of the Study

The researcher chose two elementary ELT textbooks from localized and internationalized textbooks based on (Cortazzi & Jin, 1999),which divided textbooks into source (localized), target (native speakers), and internationalized (global) from the lens of culture. The source culture textbooks (localized) include the culture of countries in which English is the first language of their people, such as native speakers of English in the UK or USA. A huge amount of materials is about lifestyles in countries and places where English is their native language (Riadini & Cahyono, 2021). On the other hand, source culture addresses the learners' local culture as material. Riadini and Cahyono (2021) underscored that ELT textbooks in Indonesia mostly focus on and present Indonesian culture and life to make sure that students are aware of their own culture and will be

lucky to learn it. Finally, global culture materials originated from English and non-English-speaking countries and portray a spectrum of cultures. Using Cortazzi and Jin (1999) cultural classification of textbooks' content will be fruitful for observing and evaluating ELT textbooks meticulously to guarantee the development of teaching materials. Furthermore, previous studies have scarcely used this theory to assess an ELT textbook (Riadini & Cahyono, 2021). On the other hand, it is a constructed model and cannot meticulously classify all cultures into three cultural forms. Language diversity is a complicated phenomenon that cannot address and guarantee every local aspect of elaboration during the sociolinguistic shift. So, when addressing this model, it is significant to accurately choose ELT textbooks that can be represented as source culture type, target culture type, and internationalized culture type. It is noteworthy that the researcher has selected two ELT book series based on Cortazzi and Jin (1999) textbooks, the cultural type classification of which is called Prospect series (Iranian) and Teen2Teen series (UK). Iranian Prospect book1 represents the local culture of Iranian people, and Teen2Teen book1 represents a variety of other cultures (internationalized). In this study, the selected ELT textbooks were written by scholars and experts who belonged to that specific cultural geography ranked by Cortazzi and Jin (1999) , native speakers of English (UK) and speakers of English as a foreign language (Iran), respectively.

The first book series is Prospect that is the localized Iranian secondary school ELT textbooks. The second ELT textbook is an American accent ELT textbook which has been published by Oxford University Press for internationalized education around the world.

## Data Analysis and Rigor of the Study

The purpose of this study was to explore the existence and convergence of creative components and cultural elements in the content of selected ELT textbooks by using a pre-selected code list encircling knowledge, intellectual, personality, environmental content, and motivation for creativity and persons, products, practices, and perspectives for cultural elements. To do so, the researcher employed the Code Matrix Browser (CMB) of MAXQDA20 to see the distribution of creativity and cultural elements in the content of two ELT textbooks. Through its visualization, the researcher was able to find the segments that were dedicated to each code. The symbols in CMD regarded the coded segments, and the quantity and size of symbols point to the number of segments dedicated to each code (Figure 3). In this vein, the researcher numbered the percentage of components and elements for each ELT textbook in the Appendix for supplementary information. For better understanding and analyzing, the researcher showed source cultural elements by 's', target cultural elements by 't' and global cultural elements by 'g'. For example, persons's' indicated the localized heroes' names of source culture and products 't' showed the foods places of target culture (native speakers of English). This analysis inquired how these textbooks presented source, target, and global cultural concepts and elements to help language learners create knowledge, allowing for the construction of a variety of thinking styles, novel ideas, and personalities and providing a risk-taking and critical thinking context and environment. Furthermore, the study explored the ELT textbooks to observe how they motivated and engaged learners to use different elements of culture to enhance their risk-taking, tolerance of ambiguity, motivation, and critical thinking ideas.

The researcher put two ELT textbooks into MAXQDA20. Then, the researcher goes through all parts of the textbooks to find sections that represent the pre-determined codes, namely the investment theory of creativity components and cultural elements. When a part of each book represented the above-mentioned components of creativity and culture, the researcher codified it using MAXQDA20. Figure 2 shows an example of the way codes were made over a cognitive enhancement practice in Teen2Teen.

**Figure 2: Teen 2 Teen books' creative and cultural analysis by MAXQDA.**

As it is observable in Figure 2, this exercise prepares a channel for the confluence of the seven components and elements of the investment theory of creativity and the theory of cultural elements: motivation, intelligence, personality, knowledge, environment (creativity), and persons, global products for culture. The researcher codified this section like this because this practice, which is in the form of a fill-in-the-blank and cognitive one, provides a context (environment) for the international students and language learners to put into practice the materials that already have been taught (knowledge) through a motivating procedure which is also about learning and knowing different cultural heroes and notables.

This study underscored the dependability of this research by asking another coder to codify 50% of the content of ELT textbooks. In this vein, the researcher asked another coder who was a specialist in this domain of study. The researcher elaborated and explained the scheme and the components of the investment theory of creativity and cultural elements theory for the second coder. As the researcher used MAXQDA20 as software for performing and framing qualitative content analysis studies, the researcher was required to obtain the agreement between two coders using coding agreement tools. The result was opportunistic as it showed 90% agreement in MAXQDA20.

MAXQDA is a qualitative data analysis program that provides an encompassing sequence of tools and probs to anatomize qualitative data, such as coding and classifying, exploring themes and models, and providing snapshot representations (Meihami, 2022; Tajabadi et al., 2024). In this research, the researcher used two features and tabs of MAXQDA 20 to analyse ELT textbooks for their creativity and cultural elements; namely, code matrix browser (CMB) and code map. The CMD is a tool that illustrates the connection between codes and data. It shows valuable data about the frequency and number of sections in each document that have been involved in a code and how many times a code has been marked to each document. Whenever the researcher met a document that showed the components of the investment theory of creativity or cultural elements, the researcher codified it. Furthermore, to address the confluence of creativity components and cultural elements, the researcher used a code map. The code map depicts a portrait of selected codes, where their occasion on the map is compatible with their correspondence in usage within the data (Meihami, 2022; Tajabadi et al., 2024). The closer two codes appear on the map, the more they co-occur and the more similar they are in the course of their use. In this research, when some codes occur together and they have the same colour, the result shows that there exists a confluence among those codes.

## 4. FINDINGS

The first research question of this study was about the distribution of creative components and cultural elements in the content of localized (Prospect series) Iranian and internationalized (Teen2teen) UK elementary ELT textbooks. The outcome of CMB displays that there were likenesses and unlikeness in the inclusion of creativity components and cultural elements among the ELT textbooks of localized (Iran) and internationalized (UK). The most tangible similarity among ELT textbooks is that they involve all creativity components. Although intelligence and environment were the most noted creativity components in the internationalized UK (Teen2Teen) ELT textbooks, knowledge was the most addressed component of creativity in Iranian (Prospect series) ELT textbooks. According to Figure 3, in the internationalized (Teen2Teen series), creativity components are strongly matched and are fairly balanced compared to localized Iranian ELT textbooks (Prospect series). According to the CMB result, it was observed that the circles in the figure are nearly of the same size when it regards intelligence, personality, environment, motivation and intellectual.
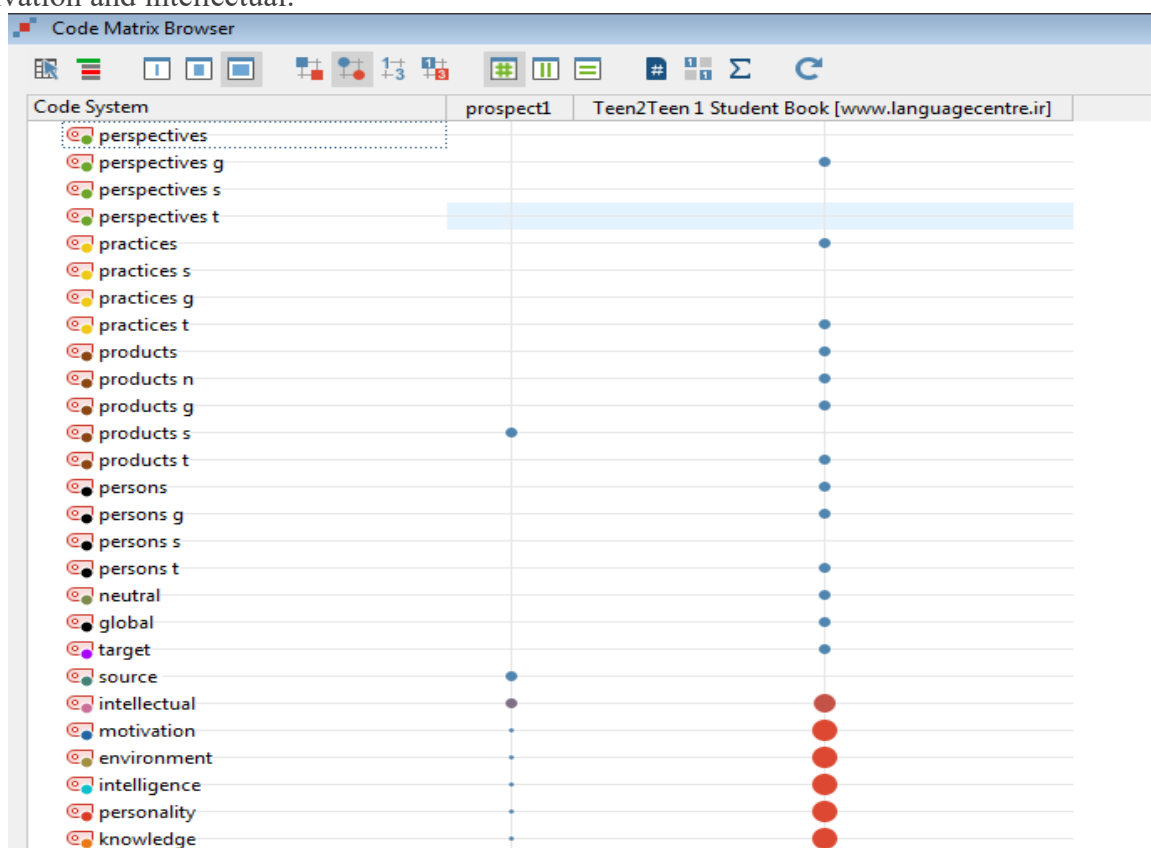


**Figure 3: The results of segments dedicated to each code**

By noting the percentages of these components (see Appendixes A and B), one can come to the end that there are only slight differences among them. On the other hand, in localized Prospect series, the presence of these components varies dramatically.

Another significant difference between examined ELT textbooks was the presence of cultural elements in the content of these books. According to Figure 3, Iranian ELT textbooks (Prospect) tend to use the component 'source cultural products' more than other components. There is a lack of presentation toward other components of culture in Prospect book. On the other hand, in Teen2Teen books, global products and global persons are strongly present. Also, the poor presence

of target products and persons is observable. In the examined books in this research, practice elements and perspectives were absent in Prospects or under-represented in Teen2Teen.

The second research question of the study was to scrutinize the interconnectedness of creativity components and cultural elements in the content of localized (Iranian, prospect books) and internationalized (UK, Teen2Teen books) elementary ELT textbooks. Although CMB prepares fruitful data about the presence of creativity components among the ELT textbooks of localized and internationalized elementary ELT textbooks it is not capable to show the jointness of components and elements. Therefore, the researcher saw Code Map as a useful tool in MAXQDA20 to see the togetherness of creativity components and cultural elements simultaneously in the ELT textbooks. The researcher used a distance matrix of cluster method, the proposed procedure for portraying the clusters. This clustering approaches dedicated colors to codes well found on their group membership. Selected based on the distances calculated between them. The same color and the close distance of the codes depict their co-occurrence. Figure 4 shows the interconnection of creativity components and ELT textbooks. Figure 4 shows a strong confluence among the five components of creativity: knowledge, motivation, intelligence, personality, environment, and cultural elements of global products (products g). Furthermore, global cultural elements are more observable in comparison to target and source cultural elements.
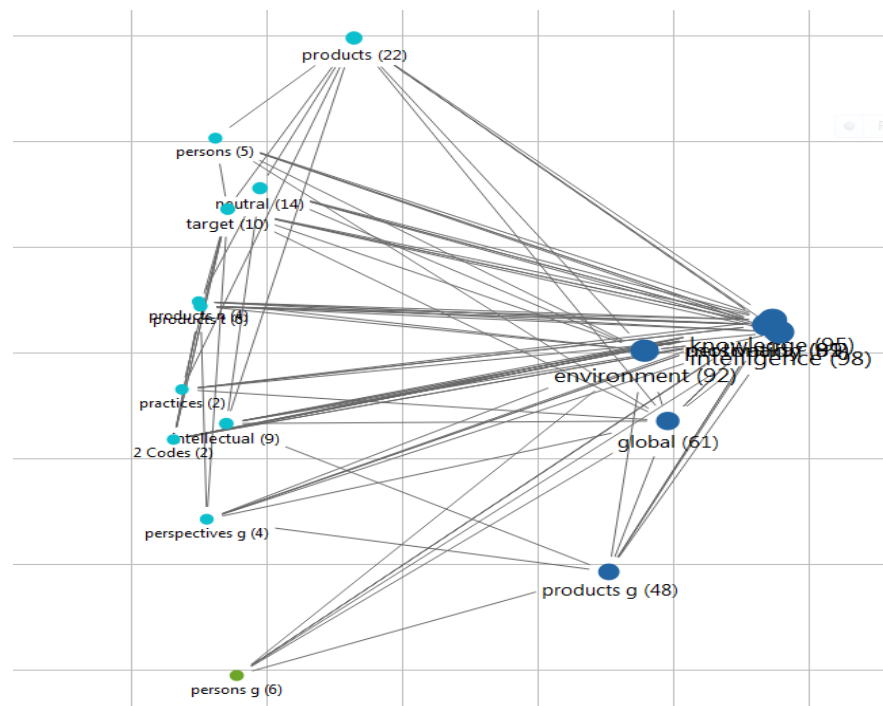


**Figure 4: The interconnection of creativity components and cultural elements in Teen2Teen books**
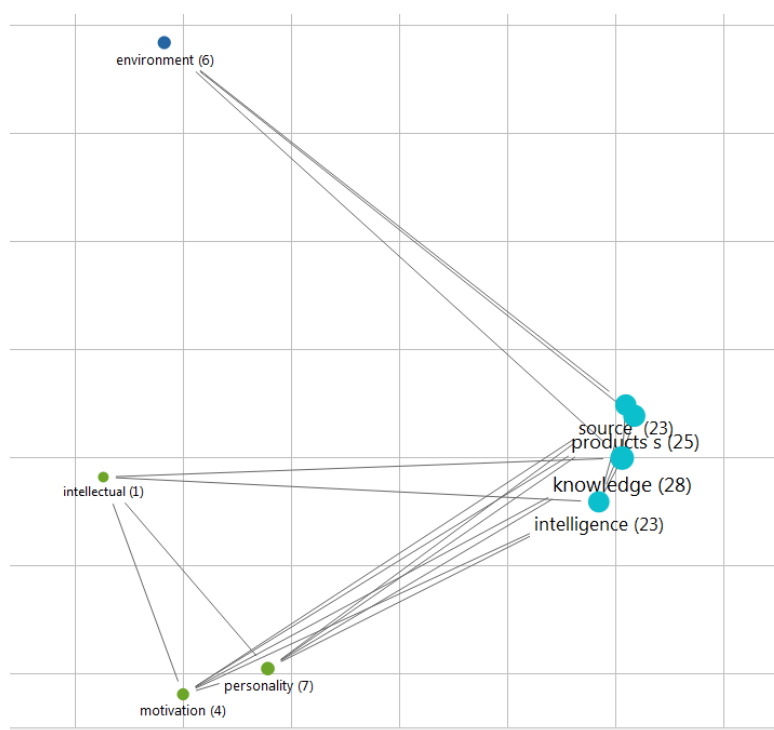
**Figure 5: The jointless of creativity components and cultural elements in Prospect books**

As regards the intellectual component of creativity, it is at a distance from the other five components of creativity. Also, Figure 4 illustrates that the internationalized (Teen2Teen) ELT textbooks unite the creativity components: knowledge, motivation, intelligence, environment, and personality with cultural elements of global products in their tasks and activities. It is notable that the intellectual component of creativity and perspective practices elements of culture are marginalized or totally absent in Teen2Teen books. The researcher also scanned (Figure 5) the confluence and jointness of creativity components and cultural elements in localized ELT textbooks of Iran (Prospect series).

Figure 5 shows a great jointness and togetherness among creative components of knowledge and intelligence and cultural elements of source products. The four components (motivation, personality, intellectual, and environment) were rather far from connecting and joining to two creativity components (knowledge and intelligence) and cultural elements of source products. Figure 5 portrays that localized (Prospect) ELT textbooks tended to join and involve creative components of knowledge and intelligence next to the cultural element of source products. Figure 6 is a part of the Prospect book which was analysed by MAXDA2020. As it is illustrated, the dedicated codes are knowledge intelligence components and source product cultural elements.

Teacher: Nargess, when is your birthday?

Nargess: It's in Mehr.

Teacher: Really? How old are you now?

Nargess: I'm 12.

Teacher: What about you, Tahereh?

Tahereh: My birthday is in ..............

knowledge
intelligence
..source
..products s

16   sixteen

**Figure 6: Prospect books' creative components and cultural elements analysis by MAXQDA2020**

According to Figure 6, the first and last cultural elements that were presented in the Prospect series are source product elements. It is mostly related to Iranian localized names, which are considered source cultural products, such as Nargess and Reyhaneh, which are Iranian names. The other elements of culture are totally absent from the Prospect series. On the other hand, the knowledge and intelligence components of creativity are more presented in comparison to other creativity components.

## 5. DISCUSSION

The focus of this study was to explore the presence and interconnection of creativity components and cultural elements in the elementary ELT textbooks of localized (Iranian, Prospect) and internationalized (the UK, Teen2Teen). The results of this research mirror that ELT textbooks from localized (prospect) and global (Teen2Teen) all entailed creativity components, with a focus on knowledge in Iranian Prospect book 1 and knowledge, intelligence, personality, motivation, and environment in Teen2Teen book1 (internationalized). Teen2Teen book showed more equity in the distribution of creativity components compared to Prospect books. It was shown that creativity components and cultural elements in internationalized (Teen2Teen) textbooks' activities and tasks strongly overlapped.

The researcher discovered that Prospect books1 (localized) disregarded the use of other components of creativity as much as the knowledge component (Gurteen, 1998). This might be discussed from different views. First, creativity regards the procedure of making and using new knowledge; in other words, creativity is at the center of knowledge. According to Atkinson (2022), textbook writers put knowledge into practice to write their textbooks. Localized Textbooks may focus on knowledge as a creative component because language learners cannot improve their creativity without improving their knowledge (Tajabadi et al., 2024; Zhang and Sternberg, 2011).

The result of this study also showed that the global (Teen2Teen) ELT textbooks mirror nearly all components of creativity next to cultural elements of global products. Including cross-cultural images, names, foods, and tourist views (Yuen, 2011) and places that increased students'

engagement, critical thinking and democracy, and language learning. This is in accordance with Rybková (2018) findings that if students obtain the required and needed knowledge about other cultures in their textbooks, they will be more open-minded, intellectual, and motivated to work with their textbooks. Another reason is that the material developers of this book might believe in improving creativity through developing all components of the investment theory of creativity. According to, creativity will be observed when all components of creativity are implemented and addressed.

The result of this study also indicated that ELT textbooks of Prospect (Localized) addressed the cultural elements of source products accompanied by creative components of knowledge and intelligence. These ELT textbooks under-represent the role of other cultural elements such as practice, persons, and perspectives, which undermines creativity in ELT textbooks and students (Silva, 2015; Yuen, 2011). It is in line with Yuen (2011) that most ELT textbooks ignore cultural elements of practice and perspectives in their content and focus on source cultural products (Touristic vision). The focus and emphasis of localized Prospect books on the cultural elements of source products decreased the motivation component of creativity, as is observable in the findings of this research Figure 5. It is also mentioned by Rybková (2018) that the reduplication of old structures and source cultural concepts will make students demotivated to follow ELT textbooks tasks and activities. This might be discussed from different perspectives. First, since ELT textbooks are considered the main sources of language-related knowledge, the material developers of this book might believe in developing learners' local knowledge and identity through the presentation of local and source product elements of culture in the Prospect series. The same into taken, for language learners will be aware of their own culture while learning the target language. Another reason is that language learners should be aware of their own identity and culture to be able to talk about that with other people from other countries (Alfaya et al., 2023; Cortazzi and Jin ,1999; McKay, 2002; Silva, 2015). Such beliefs might be held based on the studies that indicate facing language learners to target culture (English native speakers) will cause conflict and dissatisfaction through their own local culture. Another reason is that textbook designers wanted to make learners more familiar with their own culture rather than the target or global culture (Alfaya et al., 2023; Riadini and Cahyono, 2021; Silva, 2015).

The researcher also found that the presence of a person's cultural element will increase textbooks 'motivation component. In the Prospect series, as is observable in Figure 5, a person's cultural elements are not addressed. On the other hand, the motivation component has been undermined and ignored in these (Prospect) ELT books. As Moran (2001) stated, personal cultural elements entail notable people of a society, like heroes, poets which are part of a culture and increase students' intrinsic motivation when they are included in textbooks.

The finding of this research Figure 5 confirmed that perspectives and practices as the most important elements of culture (Yuen, 2011) are absent in localized ELT textbooks of Iran (Prospect 1). It is in line with Yuen (2011) research findings that most of it decreased the presence of creativity components like motivation, intelligence, personality, environment, and intellect in Prospect ELT books. It is in accordance with Rybková (2018) that perspectives and practices are the important elements of culture that improve students' personality when learners make a comparison between their own culture (Intelligence) and other cultures. It also helps them to enhance their tolerance of ambiguity and risk-taking ability (Personality). Addressing other cultures' elements of Perspectives and practices in ELT textbooks will be a means for textbook designers to make students more aware of ceremonies and notions of people from other countries by including these elements (perspective and practices) in different contexts (environment creativity) (Alfaya et al., 2023; Silva, 2015).

As McKay (2002) and Rybková (2018) mentioned, although English is used internationally but most ELT textbooks have been concentrated on the local and source culture of students. To improve the quality of language learning, ELT textbooks should entail knowledge of other cultures (Kim & Paek, 2015; Yuen, 2011). As Silva (2015) stated, ELT textbooks anticipated to supply rich cultural concepts not only source culture but also target and international target cultures to prevent stereotyping and misinterpreting other cultures (Silva, 2015). Therefore, there should be a balance among source, target, and international cultures in ELT textbooks to motivate students to reflect on their own culture concerning others (McKay, 2002).

## 6. CONCLUSION AND IMPLICATIONS

This study investigated the presence and confluence of six components of creativity (Sternberg & Lubart, 1991) and four elements of culture (Yuen, 2011) in selected English textbooks of Iran (localized, Prospect series) and the UK (internationalized, Teen2Teen series). Specifically, it intended to explore how culture and creativity are distributed and joined together in localized (Prospect) and internationalized (Teen2Teen) textbooks. It was found that the knowledge component of creativity and source products cultural element are mostly observed and represented in Prospect book1, and the other cultural elements are totally absent. On the other hand, there is a good balance among components of creativity in Teen2Teen1. Although global product elements of culture are mostly used by these components, the other elements of culture, such as practice, perspectives, and persons, are rarely observed. Moreover, in the Teen2Teen book1, each cultural element is not in good balance as products have the highest proportion followed subsequently by persons, perspectives, and practices. It can be concluded that cultural elements in the analyzed English textbooks are not included in a good balance. Therefore, these textbooks should be developed further.

The findings of this study have implications for ELT material developers and teachers. First, ELT teachers will predicate the most used creativity and cultural components in two examined ELT textbooks; therefore, they can use compensatory materials to improve creativity and cultural components that have not been addressed adequately. Theoretically, the finding of this study revealed the possibility of interconnection among the components of creativity and culture in ELT textbooks of different countries. Therefore, the ELT materials developers might provide new tasks and activities based on the observed interconnection (Figure 2).

The limitation is that the current study findings cannot be generalized to other English textbooks because this study is conducted in elementary-level textbooks. Further study can investigate the representation of culture and creativity in ELT textbooks used at all three levels to observe whether students are encountered with more components of creativity and cultural elements while their proficiency in English increases. Other studies can utilize other creativity and cultural theories in different ELT textbooks. The delimitation of this study is that the researcher only analyzed the first volume of the Prospect and Teen2Teen series. Future research can examine the role of creativity and culture in prospect 2 and 3. In order to better understand how creativity and culture are interconnected, more research is required. A comprehensive model needs to be developed to investigate how cultural components can positively impact creativity in ELT textbooks and students. By a deeper investigation into this topic, we can gain a greater understanding of the ways through which cultural components can be leveraged to improve textbooks and students' creativity.

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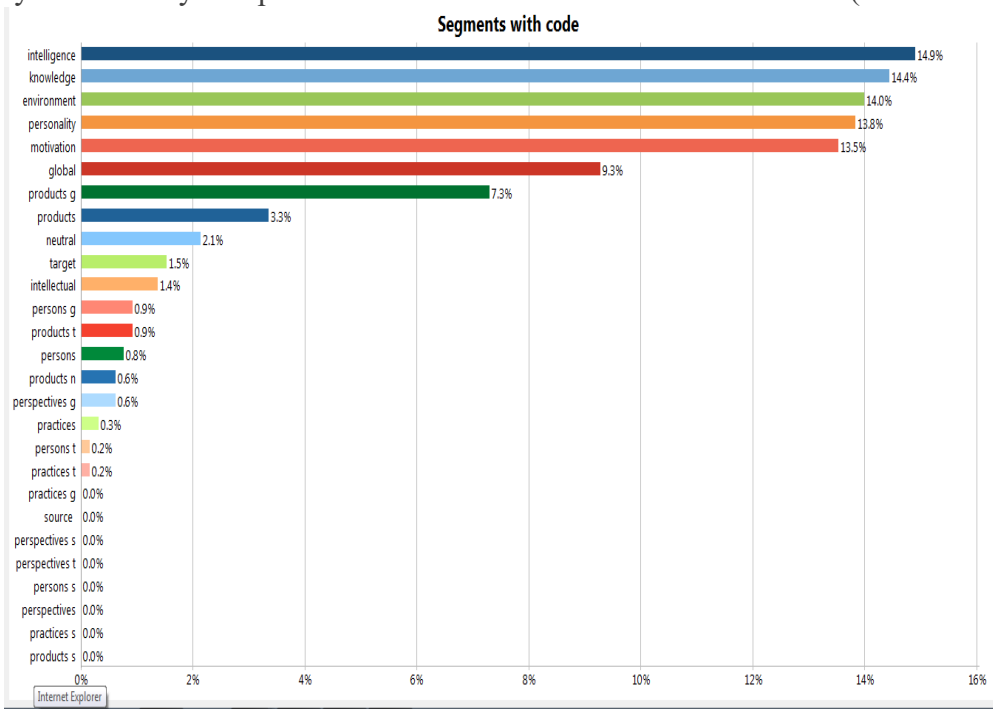
## Appendices

### Appendix A

Frequency of creativity components and cultural elements in Prospect1(Localized ELT textbook)
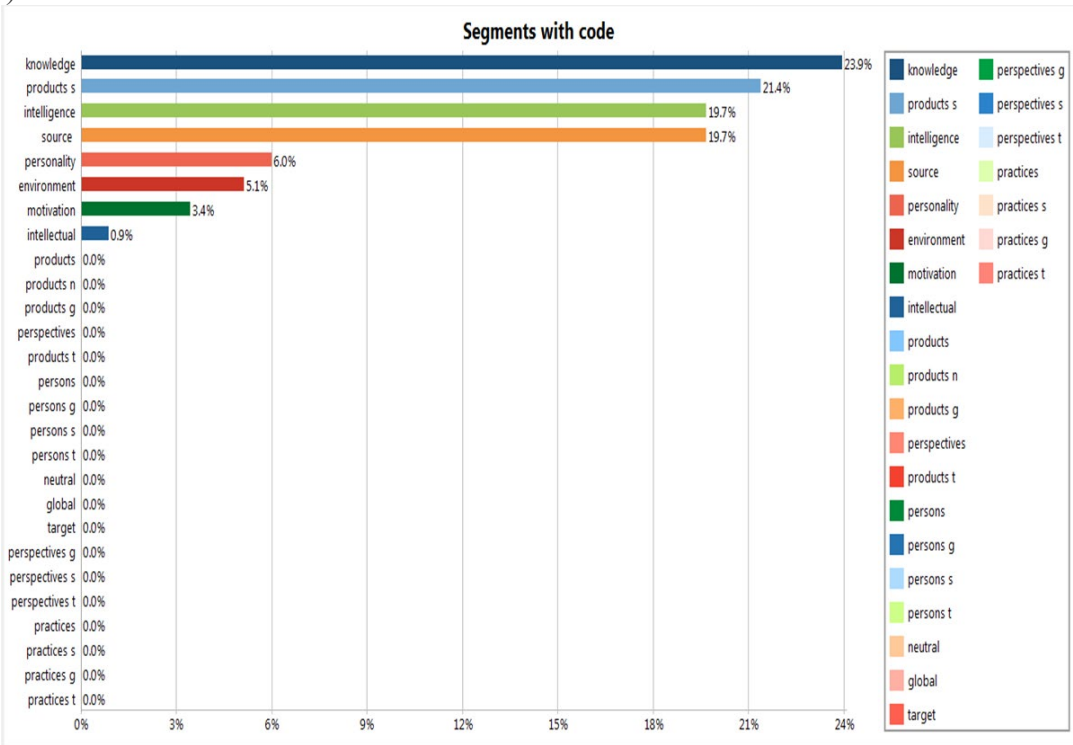


### Appendix B

Frequency of creativity components and cultural elements in Teen 2Teen1(Internationalized)

# The Effect of the Six Thinking Hats Technique on Iranian EFL Learners' Writing Skill and Their Attitudes Toward it

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## Abstract

Fostering thinking skills can lead to better achievements in general and writing ability in particular. Accordingly, the present study aimed to find out the effect of the six thinking hats technique as a new model of thinking on the writing ability of Iranian English as a Foreign Language (EFL) learners. To this end, 80 learners who were homogenized based on their performance on the Oxford Placement Test (OPT) were randomly and equally assigned to experimental and control groups. The experimental group received instruction on writing through the six thinking hats technique, while the control group received instruction through the conventional method, and the treatment lasted for ten sessions. Both groups participated in a writing pretest and a writing posttest to compare their performances. The results of repeated-measures two-way ANCOVA showed that the experimental group outperformed the control group in terms of their writing ability. Moreover, 23 participants from the experimental group were interviewed about their attitudes toward the six thinking hats technique, and the results indicated that they had positive attitudes toward this technique and found working with peers very useful in improving their writing ability. Despite being uncomfortable with some color hats and putting various ideas together which were the main challenges, the majority of the respondents expressed they could write better and easier after using this technique. The most important implication of the study is that EFL teachers and learners should use the six thinking hats technique as an effective technique to promote writing skill.

## 1. INTRODUCTION

Writing serves as a crucial medium of communication through which language learners can effectively articulate their perspectives, concepts, and cognitive processes in a manner that allows for creative expression (Almelhi, 2024). Moreover, the significance of being proficient in a second language in speaking and writing is increasingly acknowledged as the educational, business, and personal demands of the global community expand. However, writing is frequently regarded as the most difficult among the four primary language skills, posing challenges for both students and teachers. This is especially true for EFL learners, who commonly face obstacles during the writing process (Wale & Bogale, 2021).

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There is a nexus between thinking and writing in that one cannot write clearly without clear thinking. Writing helps people think more clearly. Since it calls for the expression of ideas and arguments in a style that promotes higher-order thinking, it improves thinking and aids individuals in developing their thinking skills (Esmaeil Nejad et al., 2022). Moreover, writing is related to innovation, which prompts critical thinking in students (Teng, 2020). Elder (2007) stated that the traditional approaches to education are incapable of developing the intellectual abilities required for academic achievement. The students are expected to write down information without questioning and reflecting. As Al-Tarawneh (2022) asserted, a mindful classroom should be developed to feed students' thinking. In the pursuit of meaningful learning, a mindful classroom not only actively engages students but also supports, encourages, and motivates them. To promote, inspire, and encourage people to think and reason freely, a thinking-friendly environment should be established. People who work in such environments ask questions about current practices and operations and look for, create, and assess information, knowledge, and fresh mental models. They also actively seek out, evaluate, and synthesize knowledge (Esmaeil Nejad et al., 2022).

De Bono (2002) Six Thinking Hats (STH) technique is a tool for both individual and group reflection which aims at assisting the learners to foster critical thinking as well as problem-solving skills. This technique has been unexplored in EFL contexts. According to Duncan (2020), this technique is both pedagogical and meaningful which lets the students think in both effective and authentic manners. As Ercan and Bilen (2014) clarified, the STH approach is more organized when contrasted with the current instructing exercises. Moreover, this technique promotes more interaction between the learners. Payette and Barnes (2017) stated that the STH technique leads to more classroom interaction since the learners are involved in six different cognitive features, which cooperatively improve problem-analyzing skills.

Despite its potential to foster critical and creative thinking in various language skills, the utilization of the Six Thinking Hats technique remains relatively unfamiliar in the Iranian EFL context. In this particular context, students face challenges in developing critical thinking and reasoning skills, primarily due to the nature of the education system in Iran. The emphasis on rote memorization of subject matter limits their ability to engage in independent and innovative thinking. Traditional teaching methodologies restrict the expression of ideas, further hindering the cultivation of critical thinking skills in their native language. Consequently, Iranian students are not provided with opportunities to engage in diverse thinking approaches (Fahim & Sa'eepour, 2011). A thorough examination of this phenomenon reveals that the methodology employed in Iranian education is the primary factor responsible for this issue. To address this problem, it is crucial to prioritize the promotion of critical thinking and reasoning skills. One effective strategy that can be employed is the utilization of the STH approach, which encourages students to explore various perspectives and modes of thinking. By implementing such strategies, Iranian students can enhance their ability to think critically and develop their reasoning skills.

In addition, Iranian EFL teachers predominantly focus on providing feedback based on the final product of students' writing, emphasizing the evaluation and marking of grammatical accuracy and structural correctness. Consequently, the process of writing itself is often undervalued, resulting in the neglect of vital elements such as critical thinking, creativity, and organizational skills. Additionally, students in the Iranian EFL context have limited exposure to authentic writing tasks that authentically reflect real-world contexts. Instead, their writing instruction primarily revolves around mundane exercises and prompts that do not effectively stimulate creativity or cultivate critical thinking abilities (Birjandi & Malmir, 2009). Research results have also demonstrated that Iranian EFL learners encounter serious obstacles in the English writing process (Rezaei & Jafari, 2014), such as generating ideas, organizing thoughts, and developing coherent and cohesive written texts. The STH approach, with its focus on different modes of thinking (e.g., creative,

analytical, practical), can potentially help learners overcome these challenges and enhance their writing. According to the researchers' experience and considering the context of the problem, this technique can be employed to improve EFL learners' writing. Additionally, numerous researchers have affirmed the necessity of writing development, and the absence of appropriate writing instruction in the Iranian EFL context has previously been highlighted (Du, 2020; Jabali, 2018). Due to the complex nature of writing and the lack of attention to this skill, writing problems emerge at any level, and the difficulties the learners face have attracted a great body of research (Bitchener & Basturkmen, 2006). Different strategies have been examined to promote self-regulation during writing stages and proposed different methods to teach writing in the future methods(Kanlapan & Velasco, 2009). Moreover, there may be a lack of research on the implementation of the STH approach, specifically in the Iranian EFL context. By conducting this research, the study aimed to contribute to the existing body of knowledge on writing instruction and provide insights into the effectiveness of this approach within the Iranian educational context. To achieve this goal, the current study attempts to answer the following questions:

1 - Does the thinking hats technique have any statistically significant impact on the writing ability of the Iranian intermediate EFL learners' writing skill?
2 - What are the attitudes of the Iranian intermediate EFL learners toward the thinking hats technique regarding their writing skill?

## 2. LITERATURE REVIEW

### Theoretical Framework

According to Vygotsky (1978), social constructivism is a learner-centered paradigm that emphasizes the value of social interactions in the process of knowledge construction. According to social constructivism, knowledge is created by active learning, interpreting, and experiencing in social contexts. Students construct knowledge through engaging with contexts or other students as well as analyzing the environment they are located in Fu et al. (2019).

The overarching objectives of social constructivism, which support students in becoming active meaning-makers and self-regulatory learners, are compatible with the aims of critical thinking education. Social constructivism emphasizes that knowledge is actively generated by learners through engaging in meaningful social interactions as a general concept. This shows that learning is a social process and that it is impossible to learn something new without having some prior experience or prior knowledge structure. Social interactions with other people are where effective and long-lasting learning occurs (Pritchard & Woollard, 2013). From a social constructivist perspective, writing is a process through which one constructs meaning. This approach helps the learners to reconsider the traditional isolated writing activity as a more meaningful activity that motivates them in academic writing (Hidi & Bosocolo, 2007). Having a social perspective in mind, the learners need to be taught about the social functions of writing. Viewing writing as a multi-disciplinary activity allows teachers to provide opportunities for their learners to improve their awareness of writing as a medium by which we assume roles in communicating (Graham et al., 2007). Fostering thinking skills can lead to better academic achievements and better reasoning and evaluating skills, which are developed through the roles of both the teacher and interactions among students (Costello, 2000). Critical thinking and social constructionism are both beneficial to add a dimension to academic writing. The six thinking hats technique can be implemented in various contexts and improve collaborative thinking, concentration, interaction, creativity, and productivity in a way that establishes a universal language that is effective across various cultures, ensuring improvements in both products and processes (Serrat, 2017).

Within a classroom environment, the implementation of a social constructivist approach to learning and writing would entail the incorporation of collaborative activities and discussions among students, which aligns with the goals of critical thinking. As students engage in collaborative problem-solving and peer feedback, they develop both social interaction skills and critical thinking abilities. The STH technique fosters critical thinking in learners by encouraging them to analyze issues from various perspectives. For instance, the white hat promotes fact-finding and information gathering, the black hat encourages problem identification, and the yellow hat helps students explore positive solutions. A concrete example of this technique in action is a writing assignment on climate change, where students consider the issue from economic, environmental, and political angles. This application of the STH technique not only enhances critical thinking skills but also results in well-rounded, thoughtful compositions.

### The Relationship between Writing and Thinking Skills

The term writing refers to the act of thinking, creating, and encoding language into written material (Namaziandost et al., 2022). Writing and thinking skills are related in the sense that without clear thinking, one cannot write clearly. Writing serves as a catalyst for the development of thinking skills by promoting higher-order thinking. It allows individuals to express ideas and arguments in a manner that encourages critical thinking, thereby facilitating the growth of their cognitive abilities (Jiang et al., 2021). Critical thinking, characterized by active analysis, evaluation, and synthesis, is essential for effective writing. It involves questioning assumptions, examining evidence, considering multiple perspectives, and employing logical reasoning to assess the credibility and coherence of arguments or claims. Without a foundation in critical thinking, writing may lack a broader context or purpose, potentially giving rise to the presence of prejudices, biases, myths, and stereotypes (Paul & Elder, 2008). Therefore, it is essential to make sure that writing in a classroom setting incorporates critical thinking abilities. This will imply that knowledge is efficiently applied and used. In research on the relationship between writing ability and critical thinking, one of the early studies was carried out by Condon and Kelly-Riley (2004), who found that although pupils may start writing on their own, they soon understand they need to first think about it before putting pen to paper. Their research suggested an inverse relationship between writing and critical thinking, challenging the prevailing belief that these two skills are inherently connected. While it is acknowledged that cognitive abilities tend to correlate to some extent, the authors clarified that the findings might stem from insufficient assessment methods and the inherent difficulty in measuring such abilities.

The Sapir-Whorf hypothesis, which asserts that language determines cognitive activity, is intriguing in the EFL context since it suggests that there is a relationship between the (Wale & Bogale, 2021). The ability of the language to convey ideas clearly to the audience will decide how well the cognitive activity is mirrored in written text (Esmaeil Nejad et al., 2022). (Elbow, 1981) believed that voice was one of the most significant factors in evaluating student writing, and McLaughlin and Moore (2012) suggested that it is common for a piece of work that is well-written and organized to be rated as mediocre because it does not have a unique and novel thought. Without using open-minded thinking as the foundation for approaching the writing task – thinking that encourages the writer to take into account various strategies and potential outcomes – the writer may not achieve the standard of deductive reasoning required for writing. One of the characteristics of college-level thinking and writing may well be this thorough, impartial approach with meticulous reasoning that results, frequently conveyed in a clear yet neutral tone (McLaughlin & Moore, 2012).

Even though many approaches to teaching writing have developed from various teaching techniques, studying EFL writing is still one of the most difficult subjects for both teachers and students. According to Ahmed (2010), students' writing in an EFL classroom setting should

demonstrate their understanding of their own communicative goals, the context of the writing, and the intended readers. Iranian students' writing, according to (Birjandi et al., 2004), clearly lacks both the macro (content and organization) and micro (grammar, vocabulary, and mechanics) writing skills. Contrastive analysis has revealed additional proof of this lack of both micro and macro skills and that the other problems in the Iranian language learning environment include the learners' errors rooted in their mother tongue. Furthermore, significant pedagogical attention must be directed towards the instruction of English in order to enhance the writing skills of Iranian TEFL sophomores (Alifatemi, 2008).

Golpour (2014) examined the correlation between the critical thinking abilities of Iranian EFL learners and their performance across various writing modes among advanced students at the Kish Institute of Science and Technology in Rasht, Iran. The results demonstrated those who thought more critically employed more cohesive sentences, proper grammar, and content terms in their writing. In other words, those who were more capable of critical thought scored higher in writing. Moreover, providing a writing structure accompanied by an evaluation rubric that takes into account critical thinking standards has the potential to guide less experienced writers in their journey toward producing sophisticated and analytical compositions instead of relying on predictable and formulaic writing (Chason et al., 2016).

## Six Thinking Hats (STH) Technique

As Nunan (2004) elaborated, tasks are of two kinds: an authentic piece of a task in which the learners manipulate the language in everyday social contexts and tasks with a pedagogical purpose. Pedagogical tasks necessitate the learners' involvement in the learning setting and manipulation of the target structure. The STH activity is related to the manipulation of language, and it is based on De Bono (1985) Six Thinking Hats (STH) model. It causes various reasoning modes and makes the members check various parts of the issue and make inferences (Swamy et al., 2019).

The six colored hats represent various thinking modes or behaviors. The hats are an instrument to trigger thinking and they serve as physical representations which elicit information and help them think beyond the regular patterns. As Jensen and Nickelsen (2008) stated, by wearing each hat the learners activate a certain thinking mode consciously. The principal concern of the STH technique is to enable the learners to discuss a certain issue and reach an agreement to find the best solution for the problem (Pang & Burri, 2018). On the other hand, teachers enable their students to handle situations in real life. Teachers can encourage the students to work together in a non-threatening environment despite having different learning styles. As such, through the six hats technique, teachers can create positive attitudes among the learners and motivate them (Khadzhiev & Rakhimov, 2019). STH helps the learners view the issue from six different angles by shifting attention through different colors. The various modes of thinking include positive or negative thinking and creative or emotional reactions (De Bono, 2002). Teachers design tasks incorporating the hats as tools, guiding students' thinking and encouraging consideration of different perspectives. By leveraging the hats, teachers create a conducive learning environment that promotes creative language manipulation among students. (Al-Khataybeh & Al-Tarawneh, 2015). The long-believed idea that viewed the teacher as the sole knowledge provider and the learners as passive beings is eliminated in this technique, and the learners are supposed to have a more active and creative role (Litak, 2015).

In EFL instruction, STH has been applied to assist in better achievements for EFL students. The study carried out by Kwayotha and Tantriratna (2008) examined the effects of STH and mind mapping on the improvement of reading, thinking, and writing skills. The research sample comprised nine students over the course of one semester. Data collection instruments included 24 learning management plans and lessons, assessments of student performance, a teacher observation form, a learning behavior observation form, and an interview. The findings indicated that students

demonstrated superior performance in reading, thinking, and writing. Al-Bakri (2011) employed STH as a teaching methodology for EFL students engaged in composition writing in Iraq, aiming to introduce innovative techniques that highlight the practical elements of teaching this skill. The study observed a notable enhancement in the performance of the experimental group, particularly regarding writing scores, quality, style, sentence structure, usage, and mechanics.

Ballantyne et al. (2001), for instance, examined the STH in contrast with a different thinking strategy, named story walk, in primary and secondary Australian schools. The outcome showed that both strategies had led to success in awareness raising of environmental issues. In another study, Kumari (2014) suggested the implementation of STH as a distinctive teaching approach that aids students in developing higher-order thinking skills, including parallel thinking, lateral thinking, as well as creative and critical thinking. He stated that some of the outcomes of STH include becoming more critical, constructive, and creative thinkers which are revealed in writing and speaking of the Indian students in their everyday lives. Hani et al. (2017) also examined the impact of STH on speaking skill among students with high, mid, and low levels of critical thinking. A factorial design was implemented involving 48 students who were categorized into experimental and control groups. The findings indicated that the experimental group exhibited greater enhancement in speaking proficiency. Nonetheless, a partially significant interaction effect was observed between the STH and the students' critical thinking concerning speaking achievement, particularly in the area of pronunciation. Furthermore, the results revealed notable differences in students' critical thinking levels within the experimental group, especially regarding comprehension, pronunciation, and fluency.

Several studies specifically examined the STH impact on writing skill. For instance, Al-Khataybeh and Al-Tarawneh (2015) investigated the impact of the STH method on developing EFL female eleventh-grade students' writing skill in the Al-Mazar directorate of education during the academic year 2013/2014. The findings of their study revealed a significant impact of the STH technique on the participants' writing skill by fostering creativity, imagination, thoughtful thinking, and problem-solving skills among students. Similarly, Swamy et al. (2019) explored the effect of implementing De Bono's STH method on the enhancement of university students' paragraph writing skills in Saudi Arabia. The study confirmed the effectiveness of the STH method in promoting university students' writing ability. Through engaging in discussions and receiving scaffolding support from the teacher, students successfully acquired the relevant vocabulary and phrases essential for effective writing. The collaborative nature of the discussions and the guidance provided by the teacher created an enabling environment that facilitated the students' ability to gather and incorporate appropriate linguistic elements into their written compositions. In a similar vein, Al-Khataybeh (2020) examined the effect of conducting the STH technique and the fishbone strategies on the improvement of Jordanian EFL students' writing skill. The findings of the study indicated statistically significant differences that favored the group that received the treatment involving the Six Thinking Hats and fishbone strategies. These strategies proved to be valuable in assisting students with organizing and clarifying their ideas before engaging in writing tasks. As a result, students were able to independently revise their drafts with minimal need for teacher intervention. The collaborative nature of cooperative activities and oral discussions further enhanced student engagement and fostered a heightened commitment to completing writing assignments. In another study, Phuntsho and Wangdi (2020) probed the influence of employing the STH technique on EFL learners' creativity and writing skill in higher secondary schools in central Bhutan. They found a significant difference in the writing skills and creativity of the experimental group, which received the Six Thinking Hats (STH) technique. Assigning specific thinking hats to students during group work positively impacted their engagement and responsibility. The students actively participated and shared information within their designated

thinking hat roles. The STH strategy also motivated the experimental groups, fostering creativity, imagination, and thoughtful consideration of their thoughts before writing their answers. In a recent investigation conducted by Fahmy Hashem (2021), the impact of the STH strategy on enhancing English language speaking skills and attitudes towards these skills was examined among 32 online EFL students. The study employed a checklist for speaking sub-skills, a speaking test, and an attitudes scale. Over a period of twelve weeks, the experimental group received instruction utilizing the STH. The findings provided substantial support for a positive influence of the STH strategy on the development of English language speaking skills and positive attitudes towards these skills among online EFL students.

The above-mentioned studies have proved that the STH technique effectively improves students' writing, including creativity, imagination, thoughtful thinking, and problem-solving abilities. It facilitates vocabulary acquisition through guided discussions and teacher support while promoting independent revision and reducing reliance on teachers. The technique enhances student engagement, fosters collaborative participation, and improves the organization and clarity of ideas in written compositions. However, this technique has hardly been addressed in teaching writing skill in the Iranian EFL context. To fill the gap in research and solve the problems of writing skill among Iranian EFL students, the researchers attempted to both examine the learning outcome of the STH technique on writing and explore the students' attitudes toward this critical thinking mode of teaching.

## 3. METHODOLOGY

### Participants

The participants of the current study comprised 80 EFL female learners at the intermediate level selected through convenience sampling from Iran Language Institute (ILI) in Kermanshah, Iran. They were native Kurdish speakers of the age range from 14 to 22. It is worth mentioning that the age distribution of the participants deviates from conventional categorizations such as adolescents, adults, and older individuals. This deviation arises from the application of the Iran Language Institute (ILI) policy, which designates individuals aged 14 and above as adults. Consequently, the researcher had access to a sample population that necessitated a slightly adjusted age range criterion compared to traditional categories. However, it is important to note that the majority of the learners fall within the age range of 14 to 17 years. In order to make sure of the participants' homogeneity, they were required to participate in the Oxford Placement Test (OPT). Then, they were assigned randomly into two groups of 40 participants: one experimental and one control group. Additionally, 23 students were selected randomly from the experimental group to take part in a semi-structured interview and provide the researchers with their ideas on the six thinking hats technique after the treatment.

### Instruments

#### *Oxford Placement Test (OPT)*

The researchers administered an OPT, version 2001, to 90 EFL female students to make sure they were a representative sample of the intermediate EFL female learners in Iran, out of which 80 students were selected. Sixty cloze and multiple-choice items testing grammar, vocabulary, reading comprehension, and writing are included in this test. This test was selected because it offers a reliable and efficient way to categorize the participants into different proficiency levels and to measure global language abilities (Brown & Abeywickrama, 2010). As Brown and Abeywickrama (2010) stated, in a normal distribution, proficiency test results are interpreted in terms of how each student's performance relates to the performance of all other students. OPT frequently evaluates general language proficiency and comprises 50 multiple-choice items that test

the students' understanding of basic to intermediate grammar and vocabulary. Ten additional multiple-choice items require students to select the best word from a list of alternatives to complete the given sentences. The time allotment for the test is 30 minutes. An optional writing task that tests the pupils' ability to write the language was also utilized whose time allotment is around 20 minutes. The participants with scores above 51 based on OPT criteria were chosen as intermediate-level EFL learners for the present research.

## Writing Pretest and Posttest

Since the EFL learners in this study were at the intermediate level, they were asked to write a paragraph for the pretest and another one for the posttest. In addition, because the purpose was to improve thinking in writing through the STH technique, the writing topics were about promoting thinking in learners. The topic for the pretest was "Should there be an exam to enter university?" and the topic for the posttest was "Should teachers be responsible for students' failure?" To conduct the pretest and the posttest, the participants were given a task to compose a concise paragraph on the assigned topic within a time limit of seven minutes. This timeframe was determined based on the understanding that, typically, after engaging in critical thinking for approximately two minutes, students would require approximately five minutes to complete their written responses. Additionally, to ensure a reasonable level of content, students were instructed to produce a minimum of 70 words in their paragraphs. However, it should be noted that certain students failed to meet this criterion, resulting in the application of penalties for paragraphs that fell short of the required word count.

To ensure the validity of the assessment of students' writing ability, it was deemed necessary to avoid using the same topic for the posttest as the pretest. Extensive research has established that utilizing identical test content can yield unreliable data, as any improvement observed may be attributed not only to enhanced skills but also to familiarity with the specific question. However, in order to maintain a comparable level of difficulty in terms of the writing topic, a subject matter related to schools and the education system, which all students were familiar with, was selected. Although the underlying theme of the questions remained consistent, students were required to approach them from various perspectives and critically analyze both the advantages and disadvantages.

## Six Thinking Hats Technique

The six thinking hats technique was used based on De Bono (1985, 2002) as the following:

*The White Hat*: It covers facts, data, and numbers. The learners collect the available or missing information and try to distinguish facts from interpretations. The inquiries posed here incorporate what the students know, what data is missing, what data they need to know, and what data they can obtain.

*The Red Hat*: It analyzes the issue by guts, feelings, and instincts. The inquiries for the red hat thinking incorporate what sentiments students have. Should learners include or exclude their emotions from thinking, to what degree emotions should be included, and is the learner passionate, terrified, or doubtful concerning the thinking?

*The Black Hat*: It perceives problems, dangers, and negative features of the issue. It promotes productive criticism and considers if a solution fits the information or facts. The black hat proposes the issues this speculation includes, what limits this speculation has, and what troubles a student in the reasoning might have.

*The Yellow Hat*: It encourages positive reasoning as opposed to the black hat. It offers critical thinking abilities and helpful reasoning. The questions posed with this hat include what the best feature of the issue is, what advantages there are, and how advantages can be enacted.

*The Green Hat*: This hat promotes creative thinking. The questions incorporate what ways can solve the problem, how the ideas differ from one another, and what the impact of these thoughts will be in real life.

*The Blue Hat*: It controls the thinking process, so it may be called the metacognitive thinking hat like summaries, overviews, and conclusions. The inquiries incorporate what the outcome is, what the most ideal way is to characterize the issue, and how we can accomplish more.

## Semi-structured Interview

In the second phase of this study, a semi-structured interview was conducted with 23 participants selected randomly from the experimental group to explore their attitudes toward utilizing the STH technique to improve their writing skill in an EFL context. The semi-structured interview was administered to a total of 23 participants for two primary reasons. Firstly, conducting a personal interview with a larger number of participants proved to be less feasible due to the time constraints faced by both the researchers and the participants. Therefore, a decision was made to limit the number of participants for practical reasons. Secondly, not all participants expressed a willingness to provide their opinions regarding the use of the STH strategy. Out of the 33 participants who expressed interest in participating, a random selection of 23 individuals was made by the researcher, taking into consideration the limitations imposed by time constraints.

In order to provide the researchers with rich data, the interviewer requested the interviewees to expand more on their responses because this was a semi-structured interview (Dornyei, 2007) with 6 key questions (Appendix). Each interview lasted roughly 20 minutes and was audio recorded, later transcribed, and coded by two researchers. Another researcher then double-checked their coding to guarantee correctness and consistency. Negotiations were conducted in cases of disagreement in order to come to a consensus.

## Research Design

This study used an explanatory mixed methods research design (Creswell & Creswell, 2018) to generate appropriate answers to the research questions. In the quantitative phase, the researchers controlled the conditions to which participants were exposed, conducted an intervention, and then determined whether the intervention affected the outcome. When measuring such an effect, researchers subject one or more groups (the experimental group) to a particular treatment while keeping the control group unaffected by it. The researchers then collected qualitative information after an intervention to further analyze the results and explain whether the intervention was successful. The effectiveness of the intervention and the participants' attitudes were then assessed through a semi-structured interview.

## Data Collection Procedure

First, 90 female participants were homogenized by administering an OPT test. Next, based on their performance on OPT, 80 intermediate EFL female learners were selected and were randomly assigned into two groups: one experimental and one control. Then, a writing pretest was administered to both experimental and control groups to test their initial status in writing skill. Afterward, the experimental group was instructed in writing through the STH technique, whereas the control group received the routine teaching of writing. The treatment took ten sessions and, in each session, 30 minutes were allocated for the treatment. In the experimental group, students first selected a topic and brainstormed ideas using the green hat for creativity and the white hat for gathering facts. Next, they planned and outlined their writing by considering the problems and advantages of the black and yellow hats, respectively. During the drafting stage, students expressed their emotions using the red hat and linked different sections for coherence. They then engaged in peer review and revision, employing the hats to provide constructive feedback. Lastly, students finalized and edited their work before reflecting on their experience using the Six Thinking Hats

technique. Both groups' performances were evaluated after the intervention through a writing posttest. Finally, to investigate the experimental group's attitudes toward the STH technique, 23 of them were randomly asked to take part in a semi-structured interview.

### Scoring Procedure

In order to score the participants' writings, the researchers used a rubric by Han and Huang (2017) with a 100-point analytic scoring checking the indices of syntax, content, arrangement, style, nature of articulation, and mechanics. Every category got different points based on the information in Table 1.

**Table 1: The Score Weights of Han and Huang's (2017) 100-point Analytic Scale**

| Category | Weight Percentage |
| --- | --- |
| Syntax | 30% |
| Content | 20% |
| Arrangement | 20% |
| Style and nature of articulation | 15% |
| Mechanics | 15% |

### Intervention

The intervention took place for ten sessions in a row. For every session, 30 minutes were allocated for the treatment. Prior to the implementation of the treatment, the teacher, who was one of the researchers, explained the STH technique and showed images of the hats to the class. Through the intervention, the teacher divided the class into groups of six. Each group was responsible for discussing the topic, and each individual was assigned a different hat. In the first session, the students could pick up the hat they felt more comfortable with. However, they were assigned different hats in each session to experience various reasoning modes. If a student refused to take the assigned hat responsibility, another student who felt the same would announce to exchange their hats.

During the 30-minute treatment sessions, the class was partitioned into groups of six students each. At the commencement of each lesson, a rapid review of the ideas associated with each thinking hat was conducted, with the active participation of the students. Following this, each group member selected a hat based on their personal interest, and a total of 10 minutes was allocated for the selection process and the consolidation of ideas within the group. Subsequently, a period of five minutes was dedicated to individual writing, during which each student crafted their own initial draft paragraph, taking into consideration all the ideas generated during the group discussion. Following the writing phase, the students were given 10 minutes to share their written work and engage in peer editing or provide feedback on their peers' paragraphs. Toward the end of the session, the teacher provided additional guidance and tips for improving the final drafts. In contrast, the control group received conventional Iran Language Institute (ILI) writing instruction. They were instructed to write a paragraph in class while receiving general tips from the teacher. They were encouraged to organize their writing by incorporating a topic sentence, supporting sentences, and a concluding statement. Similar to the experimental group, they were also allowed to assist each other with editing. However, the timing differed as there was no hat selection or idea-pooling process involved. The control group was given a total of 15 minutes for writing and editing, with the same five-minute duration allocated for the writing phase.

## 4. RESULTS

### Quantitative Data Analysis

Since two raters were correcting the writings, the inter-rater reliability was checked through correlations. Moreover, because of the normality of the data sets, the suitable correlation type was Pearson Correlation.

**Table 2: Inter-rater Reliability of the Writing Pretest and Posttest Scores of the Control and Experimental Groups**

|  |  | Pre, CG, 2nd rater | Pre, EG, 2nd rater | Post, CG, 2nd rater | Post, EG, 2nd rater |
|---|---|---|---|---|---|
| Pre, CG, 1st rater | Pearson Correlation | .94** |  |  |  |
|  | Sig. (2-tailed) | .00 |  |  |  |
| Pre, EG, 1st rater | Pearson Correlation |  | .95** |  |  |
|  | Sig. (2-tailed) |  | .00 |  |  |
| Post, CG, 1st rater | Pearson Correlation |  |  | .92** |  |
|  | Sig. (2-tailed) |  |  | .00 |  |
| Post, EG, 1st rater | Pearson Correlation |  |  |  | .91** |
|  | Sig. (2-tailed) |  |  |  | .00 |

** Significant at .05 level

To check whether the reliability of a test is strong or not, Muijs (2004) categories, provided here, were used. The closer the values are to +/-1, the stronger the reliability will be and the closer it is to 0, the weaker the reliability will be. Based on the above criteria and the correlation values in Table 3, which are all above .8, the conclusion is that there was a very strong correlation between the scores assigned by the two raters to the students' writing in the pretest and posttest.

To make sure of the homogeneity of the groups in the present study, their pretest scores were analyzed through an independent-sample t-test. Checking the homogeneity of the scores is necessary to be able to claim the progress of the participants, if there is any, has been the result of the treatment they have received.

**Table 3: Descriptive Statistics of the Pretest Scores of the Two Groups**

|  | N | Mean | SD |
|---|---|---|---|
| Control Group | 40 | 64.06 | 10.27 |
| Experimental Group | 40 | 71.37 | 9.23 |

Checking the mean scores of the two groups in their pretest, 64.06 for the control and 71.37 for the experimental group, it seemed that there was a difference between the two groups' performance at the start of the inquiry. However, whether this is a significant difference, the two groups' pretests were investigated through an independent-sample t-test.

Table 5 further confirms the results obtained in Table 4. Because of the significant value reported for Levene's Test for Equality of Variances, which is a value higher than the critical value ($p=.38$; $\alpha=.05$; $p>\alpha$), equal variances were assumed. However, the significant value for the t-test for Equality of Means is .00 and smaller than the critical value ($p=.00$; $\alpha=.05$; $p<\alpha$), meaning that there was a significant difference between the mean scores of the participants of the two groups on the pretest. Therefore, the homogeneity of the groups was not approved at the start of the research. Thus, this difference has to be taken into account when investigating the research questions.

**Table 4: Independent-Samples T-Test on the Pretest of Two Groups**

|  |  | Levene's Test for Equality of Variances | | t-test for Equality of Means | | |
|---|---|---|---|---|---|---|
|  |  | F | Sig. | t | df | Sig. (2-tailed) |
| Pretest | Equal variances assumed | .75 | .38 | -3.34 | 78 | .00* |

** Significant at .05 level

## Investigation of the First Research Question

To check whether the performance of the control and experimental groups showed a significant improvement from the pretest to the posttest and compare their improvement level, a repeated-measures two-way ANCOVA was run to take into consideration the two groups' initial differences. In all the analyses on the writing pretest and posttest scores, the two raters' mean scores were utilized. First, the descriptive statistics of the two groups' writing scores in their pretest and posttest are presented.

**Table 5: Descriptive Statistics of the Writing Pretest and Posttest of the Control and Experimental Groups**

|  |  | Pretest | Posttest |
|---|---|---|---|
| Control Group (N=40) | Mean | 64.06 | 64.00 |
|  | SD | 10.27 | 10.32 |
| Experimental Group (N=40) | Mean | 71.37 | 77.12 |
|  | SD | 9.23 | 8.67 |

Since the mean scores of the pretest and posttest of the control group are 64.06 and 64.00, respectively, it could be said that the participants did not improve in the posttest. However, regarding the mean scores of the experimental group's pretest and posttest, which show a fair amount of development from 71.37 to 77.12, it could be concluded that they had a better performance in their posttest compared to their pretest. Checking the outcomes of a repeated-measures two-way ANCOVA run on the performance of the control and experimental groups could help conclude about such difference.

**Table 6: Tests of Within and Between Subjects Effects (ANCOVA) of the Control and Experimental Groups**

| Effect | | Value | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|
| Time | Pillai's Trace | .13 | 11.95 | .00* | .13 |
| Group | | | 413.94 | .00* | .33 |
| Time * Group | Pillai's Trace | .13 | 11.95 | .00* | .08 |

** Significant at .05 level

The significance value for the within-subjects factor, represented by 'time' referring to the time interval between the pretest and the posttest, is .00, which is a value below the critical level ($p=.00$; $\alpha=.05$; $p<\alpha$). It means a noteworthy difference was observed in the performance of the participants from the pretest to the posttest. This difference size was moderate according to the Partial Eta Squared reported, which is .13. The effect size is considered large according to Pallant (2020) classification, where the Partial Eta Squared is small if it is .01, it is moderate if it is .06, and it is large when it is .14.

The significance value for 'group' indicates the outcomes of the effect between-subjects effect. Since the value is .00 and below the critical .05 level ($p=.00$; $\alpha=.05$; $p<\alpha$), the conclusion is that

the two groups performed considerably differently from each other on their pretest and/or posttest. The size of this effect is large as the Partial Eta Squared is .33. Such a difference is in line with the mean scores presented in Table 6 showing the improvement of the experimental group in comparison to the control group.

The third and most important row indicates the interaction between time and group. The significance value reported for the interaction is again .00 ($p$=.00; $\alpha$=.05; $p<\alpha$) and smaller than the critical value. This means that the participants of the two groups performed significantly differently from each other in the pretest and the posttest. That is, the amount of improvement seen in the two groups' performance was not the same from the pretest to the posttest, which confirms the experimental group's progress and the control group's lack of progress. The effect size of this interaction is .08 indicating a moderate effect size.

**Table 7: Pairwise Comparison of the Two Groups in their Posttest**

| (I) Pre. Post | (J) Pre. Post | Mean Difference (I-J) | Std. Error | Sig. |
|---|---|---|---|---|
| Experimental group | Control Group | 2.84[*] | .51 | .00* |

** Significant at .05 level

To check whether the two groups' performance was statistically different from each other in the posttest, a pairwise comparison was run on their posttest scores (Table 8). The significance value reported for comparing the two groups' performance in their posttest is .00 and below the critical level ($p$=.00; $\alpha$=.05; $p<\alpha$). The conclusion was that the two groups had significantly different performances in their post-test. Putting this outcome together with the previous results, it can be seen that the control group did not perform well and did not improve a lot, while the experimental group's performance was significantly better in the post-test.
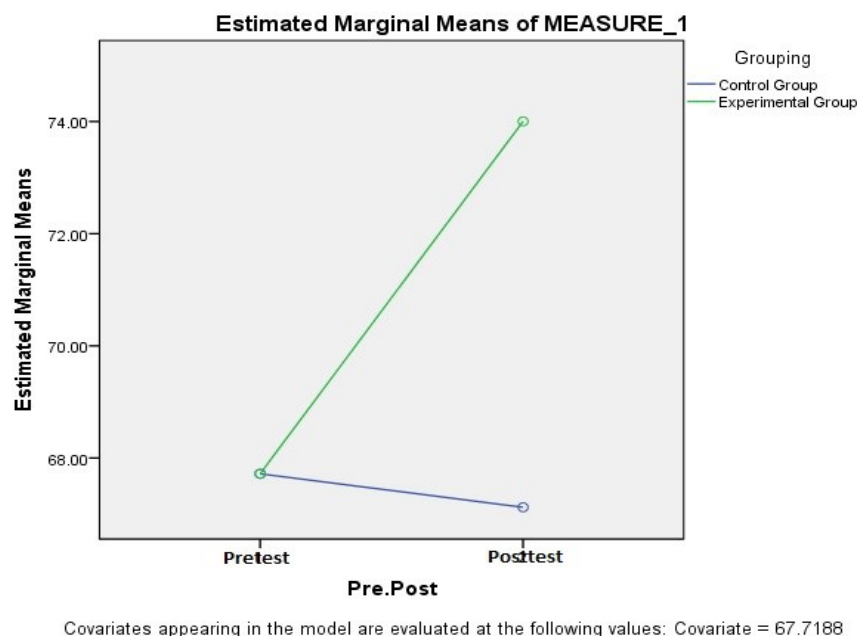


**Figure 1. Differences between the Writing Pretest and Posttest of the Experimental and Control Groups**

Figure 1 shows the two groups' progress from the pretest to the posttest visually. As can be seen in Figure 1, the control group did not improve, as shown by the lower line, while the experimental group performed significantly better in the post-test, as depicted by the upper line.

To wrap up, the results of Tables 6, 7, and 8, as well as Figure 1, indicated that the experimental group improved significantly from the pretest to the posttest, while such progress did not occur for the control group. Comparing the progress of the experimental groups with the control group makes it clear that such progress could be due to the treatment they received. Accordingly, the first research question could be answered as "the thinking hats technique has a statistically significant impact on the writing ability of the Iranian intermediate EFL learners' writing skill.

## Qualitative Data Analysis

### Investigation of the Second Research Question

To shed light on the contribution of the STH technique to the improvement of EFL learners' writing skill, a semi-structured interview (Appendix A) was run with 23 EFL learners. The interview responses were then transcribed and analyzed. The content analysis involved identifying major themes and sub-themes from the responses by carefully reading and reflecting on the content mentioned by the participants. Two researchers worked collaboratively to identify the themes and sub-themes, and the third researcher rechecked the coding to ensure accuracy and consistency. For instance, codes like "positive experience," "contributing to previous writing experiences," and "useful and fun steps" were grouped under the theme "perceived benefits of the STH technique." The emerged themes and sub-themes along with the frequency and the percentage of their occurrence in the interviews are presented in Table 8.

As illustrated in Table 8 and regarding the first interview question, the participants in the experimental group who received writing instruction through the STH technique pointed to its benefits and found it a positive experience. For example, Respondent 1 asserted:

> *"Actually, it was teamwork, it was great. I enjoyed talking to my classmates and getting their feelings and views but we had some problems, too. At first, it was hard for us to understand the Six Thinking Hats method and how to use it in our writing. Also, it was difficult to agree on different ideas because everyone had their own opinions. But even with these challenges, we learned to communicate better and think more carefully about our work."*

Concerning the second interview question which asked whether this technique facilitated their writing, the respondents answered positively. Respondent 7, for instance, stated that:

> *"Actually, it was better* and *easier than before because, in this term, I learned how to write my opinions in a good and suitable way, so I think it was good. I could correct sentences better and easier than before so I learned to write better."*

Respondent 11 answered:

> *"I think in future I can use this method through my writing because it regulates our mind."*

Interview question three asked whether the experience of writing by the STH technique contributes to learning in comparison with their previous writing experience. The majority of the respondents agreed that it contributed to their previous experience. Respondent 6 affirmed:

> *"Yeah, it contributes to those techniques of writing that we learned before. As you know, we had to write about similar feelings that we experienced in this exam and others."*

**Table 8: Themes and Sub-themes Extracted from the Semi-structured Interviews**

| Themes | Sub-themes | Frequency | Percentage |
|---|---|---|---|
| Perceived benefits of STH technique | Positive experience | 23 | 100% |
| | Facilitative technique | 23 | 100% |
| | Contributing to previous writing experiences | 19 | 83% |
| | Clarity of what to do | 5 | 22% |
| | Useful and fun steps | 5 | 22% |
| Critical thinking development | Considering different thinking modes | 13 | 57% |
| | Idea generation and sharing | 7 | 30% |
| Improved writing skills | Writing process improvement | 23 | 100% |
| | Teamwork and collaborative writing | 20 | 87% |

Interview question four asked which section of the STH technique they found most/least useful. Some respondents referred to the point that clarity of what to do was the most useful feature. Several students referred to the point that every step in this process was useful and fun. Some referred to different colors of hats since that aspect of thinking helped them a lot in writing. Respondent 14 stated:

> "*Black hat is the most useful because the subjects were very special and it has a lot of negative points. Especially when we were asked to write about the impact of technology on education. This subject was particularly special because it has an important influence on our daily lives as students. When I mentioned 'negative points,' I was referring to the potential drawbacks of technology in education, such as the risk of distraction and students' potential challenge of access to technology. The black hat enabled us to critically analyze these concerns and develop well-rounded arguments in our writing.*"

In a similar vein, Respondent 11 affirmed:

> "*All of it! My classmates were the best and very helpful and not only this but also teamwork is very good to teach students and make them enjoy writing.*"

Interview question five asked if the students felt that this technique allowed them to write better. All of the students found this method very useful in writing better. The reasons varied, though. Some expressed that comparing ideas against each other was helpful and developed their critical thinking since they tried different thinking modes. Some argued that sharing different ideas for each hat let them write better. Respondent 7 argued:

> "*Yes, because each person can concentrate on a specific part or hat. Yeah, it helped me know new things and talk to different people with different points of view and write a better paragraph.*"

Respondent 4 mentioned:

> "*It was good, a bit scary, and weird, because I am a shy and introverted person. When I thought about this work, I was nervous. But when I did it with my classmates,*

> *I felt good because we could share our opinions and learn a lot of things that could help us be better in class and communicate with others better than before."*

The last interview question asked if working with peers was helpful. The majority of the students agreed that working together promoted more communication and teamwork. Respondent 5 stated:

> *"Yes, I think if all group members do their jobs properly, teamwork is so good. We should learn how to work with other people and I think my classmates did their best, and they were very kind and sociable with each other. We had a good time of teamwork."*

To sum up, the interview questions elicited the participants' attitudes toward the STH technique and revealed positive perceptions about using it. All of the respondents enjoyed the experience of writing through the six thinking hats technique. Several students affirmed the positive impact of teamwork on their writing, too. Some of them have asserted that different colors enhanced different thinking modes which they were not familiar with before. A number of students have specified that knowing what to do in their writing was the most advantageous feature. All of them found working with peers very fruitful.

## 5. DISCUSSION AND CONCLUSION

The current research intended to inspect the impact of the STH technique on the writing skill of Iranian EFL learners. The outcome of data analysis revealed that the STH had a significant impact on the writing ability of the learners, and the participants of the experimental group demonstrated positive attitudes toward this method. The outcomes of the explanatory mixed methods design indicated that the traditional teaching method of writing, which focused on the product, did not lead to considerable improvement in the EFL learners' writing ability. The reasons could be due to the teacher-centered method and lack of engagement on the students' part. The traditional teacher-centered approach in writing instruction limits student participation, hindering their ability to express ideas and develop writing ability. This lack of student involvement and agency hampers motivation and progress. Conversely, student-centered approaches, such as the Six Thinking Hats technique, foster active engagement, collaboration, and critical thinking. By providing opportunities for exploring perspectives, generating ideas, and engaging in meaningful activities, student-centered methods promote a deeper understanding of writing concepts and enhance motivation to improve writing abilities. Thus, transitioning from a teacher-centered to a student-centered approach is vital for significant improvements in EFL learners' writing skills, particularly in the Iranian EFL context. It is also admitted that in the Iranian context, teachers mostly provide feedback on the students' final product ((Birjandi & Malmir, 2009), and such an approach has led to serious problems in the writing ability of Iranian EFL (Rezaei & Jafari, 2014).

The results of this research are in agreement with the literature that De Bono's six thinking hats improved the writing skills of the learners in various contexts (Al-Khataybeh, 2020; Al-Khataybeh & Al-Tarawneh, 2015; Phuntsho & Wangdi, 2020; Swamy et al., 2019). The findings in this study confirmed that the STH technique taught the learners how to look at the issues from various perspectives. Each hat symbolizes a distinct viewpoint: white for objective facts, red for emotional responses, black for risks, yellow for benefits, green for creative solutions, and blue for metacognitive reflection. By systematically using each hat, learners analyze different facets of an issue, such as factual information, emotional reactions, drawbacks, and positive outcomes. This approach fosters a comprehensive understanding of the topic and cultivates critical thinking skills. The research results corroborated the ideas that viewed this technique as a trigger to improve classroom interaction (Ercan & Bilen, 2014). Writing necessitates critical thinking and social constructionism. The STH technique promoted writing in this study, most probably because it enhanced collaborative thinking, concentration, interaction, creativity, and productivity (Serrat,

2017). These findings can be understood within the framework of Vygotsky (1978) Social Cultural Theory (SCT). According to SCT, learning is socially constructed, with learners building knowledge via interactions within their cultural context. The STH technique aligns with SCT by promoting social constructionism, as it facilitates collaborative thinking, interaction, and shared understanding among learners. This method encouraged peer-to-peer learning through the exchange of ideas, feedback, and co-construction of knowledge, reflecting Vygotsky's "zone of proximal development" concept, where learners advance their skills with support from peers or instructors. Additionally, the STH technique enhanced critical thinking and creativity, which is consistent with Vygotsky's focus on higher-order cognitive skills. By employing different thinking modes, learners explored diverse perspectives, analyzed ideas, and generated unique solutions, resulting in improved writing and problem-solving abilities.

Further, the content analysis of the semi-structured interviews revealed that all of the participants expressed positive attitudes regarding STH. They expressed that STH was a facilitative technique that contributed to their previous writing experiences. They also mentioned that they had a positive experience with writing due to implementing teamwork and collaborative writing through comparing and sharing ideas. Moreover, utilizing different hats representing various thinking modes led to the clarity of the writing process and in turn improved their writing product.

The findings of this study have several pedagogical implications for EFL teachers, students, materials developers, and teacher educators. By encouraging learners to engage in different modes of thinking, the STH technique fosters the co-construction of knowledge as students collectively explore various perspectives, share ideas, and build upon each other's insights. Incorporating the STH technique into writing instruction aligns with the SCT principle of creating authentic learning environments that promote active engagement, collaboration, and problem-solving. As students participate in activities that require them to don different thinking hats, they develop critical thinking and communication skills while simultaneously honing their writing abilities. For EFL teachers, the STH technique offers a structured approach to guiding writing workshops and discussions, ensuring a balanced exploration of ideas and fostering a supportive learning environment. This method encourages active student participation and cooperation, reflecting the SCT emphasis on collaborative meaning-making and knowledge construction. Moreover, integrating metacognitive prompts and activities can help teachers foster students' awareness of their own thinking processes, empowering them to take greater ownership of their learning and development as writers. In terms of materials development, incorporating the STH technique into writing materials provides EFL learners with opportunities to engage in diverse thinking modes and collaborate with peers. This approach aligns with SCT principles by fostering critical thinking, creativity, and effective communication skills within authentic learning contexts. Additionally, materials developers can include prompts that encourage reflection on thinking processes and writing strategies, further promoting metacognitive awareness and self-regulated learning. EFL teacher educators play a pivotal role in introducing and promoting the STH technique within a social constructivist framework. By offering professional development opportunities that demonstrate the practical applications and theoretical underpinnings of the technique, teacher educators can equip pre-service and in-service teachers with the knowledge and tools needed to create engaging, collaborative learning environments that support the development of EFL students' writing skills.

The study also suffered some limitations. Time limitations posed a significant challenge, affecting the depth of research and the participants' exposure to the STH technique. Additionally, the reserved nature of some students hindered their engagement in group activities, potentially impacting the quality of their writing and the overall findings. It is worth noting that certain

students experienced discomfort while using specific hats, which might have further influenced the results. To enhance the effectiveness of the STH technique in fostering critical thinking, incorporating visual stimuli could provide a clearer representation of each thinking mode. Further research should focus on implementing and evaluating the impact of higher-order thinking skills in pedagogical settings, specifically exploring how students develop their abilities to reflect, analyze, coordinate, and summarize thoughts. Moreover, examining the effects of the STH technique on other language skills and components, as well as its application among diverse age groups and proficiency levels, would contribute to a more comprehensive understanding of its potential benefits in language learning. In future studies, researchers should strive for more coherent and elaborate discussions of limitations, ensuring that the impact of these constraints on the study's outcomes is clearly articulated. It is crucial to present substantial and innovative research ideas that can lead to more significant advancements in the field. By addressing these limitations and expanding the scope of investigation, the efficacy of the STH technique in various contexts can be more accurately assessed, ultimately benefiting language learners and educators alike.

## Acknowledgment

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## Appendices

### Appendix A: Semi-structured Interview Questions

1. How did you find the Six Thinking Hats (STH) technique to write?
2. Did the technique facilitate your writing?
3. Does the experience of writing through the STH technique contribute to your learning in comparison with your previous writing experience?

4. Which section of the STH technique did you find most/least useful?
5. Do you feel that the STH technique allowed you to write better?
6. Did you find working with peers helpful in improving your writing?

# The Effect of Project-Based vs. Data Driven Language Learning on Reading Comprehension of Iranian Elementary English Learners

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**Abstract**

This study investigated the comparative impact of Project-Based Language Learning (PBLL) and Data-Driven Language Learning (DDLL) on the reading comprehension skills of Iranian elementary EFL learners. Thirty-two elementary-level undergraduate students of English translation were selected through a purposive convenience sampling process to participate in the study. Participants, all possessing native proficiency in Standard Farsi, were balanced in terms of gender and randomly assigned to two experimental groups: PBLL and DDLL. The intervention spanned five weeks, comprising four treatment sessions and a final post-test session with a two-week interval, utilizing PBLL through specific project-based activities and DDLL via the Longman Dictionary of Contemporary English (LDOCE). LDOCE, a user-friendly, corpus-based resource, was noted for its intuitive search engine, facilitating ease of use for learners with lower proficiency. Instructions for both groups were provided in Persian by the researchers. Pre- and post-intervention tests assessed reading comprehension, and the results showed that the DDLL group significantly outperformed the PBLL group in post-test scores, highlighting DDLL's effectiveness. Although these results suggest DDLL's potential as an impactful educational strategy in EFL contexts, the study's short duration suggests that these findings should be interpreted cautiously. Future research is recommended to explore these methodologies further by involving longer durations and larger, more diverse populations while also investigating how integrating DDLL with AI technologies can refine and enhance educational practices, effectively combining traditional and modern methodologies for optimal learning outcomes.

## 1. INTRODUCTION

Reading is pivotal to developing proficiency in a foreign language (Hsu, 2004). In countries like Iran, where English is taught as a Foreign Language (EFL), students often have limited opportunities to interact with native English speakers or engage with authentic English texts. This scarcity makes developing strong reading comprehension skills in English particularly important. Proficient reading not only enables learners to access a wealth of information and resources

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This paper is an extract from an MA thesis in TEFL by Mohsen Sheikhveisi.

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independently but also serves as a vital means of acquiring knowledge and engaging in cultural exchange (Gorsuch & Taguchi, 2008). As a result, the need to improve accurate and fluent reading comprehension in EFL contexts has become essential, driving scholarly efforts to assess effective teaching methods for Iranian EFL learners.

Effective teaching methods for reading comprehension in EFL and English as a Second Language (ESL) settings are categorized into bottom-up, top-down, and interactive approaches. Bottom-up approaches stress the significance of decoding individual words to form the foundation for text comprehension (Perfetti et al., 2008; Stahl & Nagy, 2007). Top-down approaches utilize the reader's prior knowledge to make predictions and inferences about text meanings. Interactive approaches blend these methods, acknowledging that reading comprehension is a dynamic balance of decoding and contextual understanding (Kintsch, 2005).

Research has explored numerous effective teaching strategies for reading comprehension, including direct and indirect vocabulary instruction, reciprocal teaching, think-alouds, graphic organizers, and cooperative learning. Direct vocabulary instruction (Bottom-up) provides clear explanations of new words, aiding in comprehension by focusing on the building blocks of language, that is, individual words. Vocabulary notebooks (Bottom-up) support the retention of new words, prioritizing the understanding and memorization of vocabulary to improve comprehension from the ground up. Think-alouds (Top-down) model thought processes during reading, guiding students to access and use their prior knowledge and context to interpret texts, focusing on comprehension as a holistic process. Graphic organizers (Interactive) help visualize and organize text information, bridging the detailed text analysis and broader contextual understanding by creating a visual synthesis of ideas (National Reading Panel, 2000). Reciprocal teaching is an interactive approach where educators and learners engage in shared discussions to understand text together. This method incorporates four key comprehension techniques: making predictions about the text, forming questions, seeking clarification of unclear points, and creating summaries of the content. These strategies are deliberately chosen to help students track and improve their understanding of the material (Mohamed, 2023).

Project-Based Learning (PBLL) and Data-Driven Language Learning (DDLL) have emerged as effective strategies, especially during remote learning prompted by the COVID-19 pandemic. PBLL presents students with real-world tasks to solve, emphasizing student-centered learning and interdisciplinary connections, aligning with an interactive approach (Solomon, 2003 as cited in Sadeghi et al., 2016). DDLL uses linguistic data to help learners identify language patterns, drawing on online corpora and dictionaries, reflecting a bottom-up approach (Barabadi & Khajavi, 2017). These methodologies facilitate both independent and collaborative learning in remote environments. PBLL motivates learners through meaningful projects, while DDLL leverages technology for language learning—approaches that align with post-COVID-19 educational landscapes (Beckett, 2002; Kleinman et al., 2022; Novikov, 2022). The current research aims to compare and contrast the effectiveness of PBLL and DDLL, providing insights into how each methodology supports EFL learners' reading comprehension in an Iranian EFL context.

### Statement of the Problem, Purpose, and Significance of the Study

In recent years, particularly in the wake of the COVID-19 pandemic, the integration of technology into educational methodologies has become increasingly prominent. Remote learning has transformed from a temporary solution into a staple of modern education, proving crucial across diverse learning environments, from remote regions to densely populated urban areas. Innovative, student-centered strategies such as DDLL and PBLL have become increasingly popular, especially in technology-enhanced remote learning environments. PBLL, characterized by its project-focused and collaborative learning environment, may offer vital benefits in terms of real-world application. Furthermore, being primarily student-centered, it has the potential to be

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implemented effectively in remote learning settings through video calling platforms, as well as by assigning projects via electronic communication tools. While PBLL engages students actively by linking language skills to practical, real-world projects, DDLL emphasizes the learner's interaction with authentic linguistic data. This enables students to uncover language patterns and meanings through extensive investigation of large text corpora, facilitating deeper linguistic insights via pattern recognition and promoting independent learning (Corino & Onesti, 2019).

However, while both PBLL and DDLL methodologies have gained worldwide recognition for their contributions to language learning, particularly in remote education, a significant research gap exists in assessing their relative effectiveness, specifically among Iranian English learners (Sadeghi et al., 2016). More specifically, in the Iranian EFL context, there has been limited exploration into how PBLL and DDLL compare in terms of their impact on reading comprehension skills. Given this backdrop, the principal aim of the current study was to bridge this research gap by examining the impact of these two instructional strategies on the reading comprehension of Iranian elementary EFL learners. Furthermore, the study aimed to incorporate these methodologies in real-life classroom settings, providing insights into their practical application and potential benefits. By integrating project-based tasks and corpus-based language investigation into classroom activities, students can experience diverse learning dynamics, including group interactions and autonomous language exploration.

## Theoretical framework

The current paper situates its inquiry within the theoretical frameworks of both PBLL and DDLL. PBLL is an instructional strategy that requires students to engage in solving real-life problems and creating tangible products through projects that integrate various language skills in authentic contexts. Drawn from the principles of constructivism and sociocultural theories, PBLL places the learner at the center of the educational experience. Learners actively construct knowledge and derive meaning by completing projects that require problem-solving, inquiry, and meaningful communication. This method enhances motivation and student autonomy by providing learners with the opportunity to apply language skills practically, promoting the development of critical language competencies essential for effective reading comprehension (Allen, 2004; Dörnyei, 2005; Egbert, 2003 Grant, 2017).

Within PBLL, an "interactive approach" is employed where language learners build their understanding from concrete experiences in project work, integrating various language skills such as reading, writing, speaking, and listening in a cohesive manner. The interactive element of PBLL encourages collaboration and peer learning as students navigate group projects both inside and outside the classroom to negotiate meaning and apply language in real-world scenarios (Laverick, 2018). By designing a learning environment where the teacher acts as a facilitator, PBLL provides a student-centered space that fosters active engagement and deeper comprehension skills through immersive and practical activities (Cocco, 2006; Cooper & Murphy, 2016).

DDLL immerses students in authentic language data to uncover linguistic rules and patterns independently. This approach relies on tools like corpora and corpus-based dictionaries (such as the Longman Dictionary of Contemporary English (LDCE)), which are vital in providing accurate and contemporary language data (Barabadi & Khajavi, 2017). Corpus-based dictionaries are indispensable in the DDLL approach, offering learners a robust platform to independently discover and internalize language patterns, significantly enriching their language competence and comprehension skills. This aligns with DDLL's aim, as outlined by Johns (1991), to empower learners to extract and generalize linguistic patterns themselves. The dictionary's entries offer not only meanings but also context through extensive example sentences from various genres and registers, facilitating a deeper understanding of syntax and semantics. By using corpus-based dictionaries, learners can explore elements like collocations and sentence structures, enhancing

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reading comprehension by observing context-based language use. The inclusion of language frequency and usage notes helps students identify patterns, such as common collocations or verb tenses, fostering their ability to apply these in different contexts. This method encourages active engagement, supporting learners in developing a nuanced and authentic understanding of language.

DDLL's bottom-up approach is inductive, requiring students to analyze linguistic data without prescriptive teaching methods. Learners engage in a data-driven exploration and are encouraged to develop the skills necessary for identifying linguistic patterns across syntax, vocabulary, and grammar. By using tools such as concordances (which are also available in corpus-based dictionaries), students form a comprehensive understanding of language usage patterns, akin to conducting linguistic investigations (Talai & Fotovatnia, 2012). This method promotes learner autonomy and cognitive engagement by fostering skills like predicting, analyzing, reasoning, and making inferences about language phenomena (Bernardili, 2004; Gaskell & Cobb, 2004). As learners engage with authentic texts, they develop a systematic approach to language that builds their reading comprehension through increased linguistic awareness (Boontam, 2022; Boulton, 2008). The teacher's role in DDLL is minimal in content delivery, acting instead as a facilitator for resource access and strategy development, encouraging learners to become autonomous language users (Johns, 2002).

## 2. LITERATURE REVIEW

This section provides research findings globally and within the Iranian context to identify previous scholarly work's gaps and inform our study's focus on the effect of DDLL and PBLL on Iranian elementary English learners reading comprehension.

### Previous Research on PBLL and Reading Comprehension

PBLL has been integral to EFL education for over two decades, offering a dynamic approach that has gained recognition for its effectiveness in teaching English (Fang & Warschauer, 2004). Beckett (2002) describes PBLL as an approach that allows variability in outcomes, as it enables students to apply a range of strategies to complete tasks, thereby fostering learner responsibility and autonomy.

Alan and Stoller (2005) emphasize the collaborative nature of PBLL, which involves group projects that develop students' communication skills by engaging them in real-world scenarios. This pragmatic approach to language learning connects classroom activities with practical, outside-the-classroom applications, enhancing students' social abilities and critical thinking (Lessard-Clouston, 2016; Long & Porter, 1985). By immersing students in authentic, task-based scenarios, PBLL effectively bridges the gap between theoretical knowledge and practical skills.

A substantive body of research supports PBLL's efficacy in enhancing reading comprehension, particularly among ESL and EFL learners. In a case study, Le and Nguyen (2021) demonstrated that students participating in PBLL outperformed those engaged in traditional instruction in reading comprehension assessments. This advantage is attributed to PBLL's emphasis on active engagement and critical thinking, which assists with a deeper understanding and retention of language concepts. Notably, PBLL allows students to construct understanding through contextual and meaningful project-based activities that align with their lived experiences.

Similarly, Imbaquingo and Cárdenas Castillo (2023) explored PBLL's impact on vocabulary and reading skills among EFL learners, in Quito, Ecuador, noting that the engagement with authentic texts in project scenarios resulted in significant improvements in vocabulary retention and reading comprehension. The contextual projects facilitated connections between vocabulary and real-world applications, which enhanced comprehension and language proficiency.

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In another study, Kavlu (2024) integrated PBLL into English for Specific Purposes (ESP) courses to examine its impact on EFL learners' ability to acquire discipline-related knowledge and its effect on their academic performance in ESP courses. The research was conducted at Tishk International University in Iraq's Kurdistan Region. Employing a mixed-method approach with both quantitative and qualitative tools, the study assessed PBL's influence on undergraduate Iraqi EFL learners. The results indicated that PBL significantly enhanced students' acquisition of specialized vocabulary and knowledge in English, along with a marked improvement in their academic achievement in ESP courses.

Further, Cao (2024) investigated the effectiveness of project-based language learning PBLL in enhancing self-regulated learning (SRL) among intermediate EFL students in a reading comprehension class. Utilizing a mixed-methods approach, the research employed a questionnaire based on Zimmerman's SRL model and qualitative observations to assess students' motivation, metacognitive strategies, and behaviors throughout three PBLL projects. Findings indicated that PBL significantly improved students' SRL abilities, as evidenced by increased proactive learning behaviors, such as 65% of students engaging in online information searches and 72.5% using visual media for research, while also highlighting that despite the integration of writing tasks, students primarily reported intentions to practice reading, and other skills as well.

## Previous Research on DDLL and Reading Comprehension

Data-Driven Language Learning has similarly demonstrated significant potential in improving various language skills, including reading comprehension. Research supports the effectiveness of DDLL in fostering language acquisition by encouraging students to interact directly with authentic language data. Rutherford (1987) highlights DDLL's role in enhancing grammatical awareness through direct engagement and exploration of language data, empowering learners as active participants in discovering linguistic patterns.

Similarly, Boulton (2008) investigates the use of data-driven learning (DDL) through language corpora, particularly focusing on its potential for lower-level language learners, a group often thought unsuitable for this approach. The research involved an experiment with 113 lower-intermediate English learners who were exposed to raw concordance data related to phrasal verbs "pick (up)" and "look (up)." The results were encouraging, showing that even learners at this level can benefit from engaging with corpus data. This suggests that DDLL could be a valuable addition to the techniques available for teaching lower-level learners.

Further research by Al-Mahbashi et al. investigated DDLL's effectiveness by considering individual learner differences to identify who benefits most from it. The literature highlighted the need to explore which learners are best suited for DDLL. This study aimed to determine if learners' predominant intelligences could predict DDLL learning outcomes. It involved 30 female Yemeni EFL students from Sana'a University, using a multiple intelligence questionnaire and vocabulary tests. Analysis showed no significant link between intelligence and test outcomes. Findings suggested that addressing learners' needs and preferences in instruction helps create an engaging learning environment.

Lee and Lin (2019) indicated DDLL aids second/foreign language acquisition through its inductive (bottom-up) approach and authentic language samples, promoting deep learning. However, cognitive load posed a challenge, prompting calls for studies on inductive versus deductive methods in DDL-based ESL/EFL instruction. This study compared these approaches regarding vocabulary acquisition and retention using the Corpus of Contemporary American English (COCA), involving 27 EFL learners divided into inductive and deductive groups. A modified Vocabulary Knowledge Scale assessed learning before, immediately after, and two weeks post-instruction. Results showed that both methods were equally effective, with vocabulary knowledge generally improving. Deductive DDLL proved as effective as inductive but with

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reduced time, suggesting it might complement DDLL efficiently by mitigating inductive challenges.

Rasikawati (2020) corroborated these findings in an English for Academic Purposes (EAP) context, where DDLL led to superior vocabulary acquisition and reading comprehension compared to traditional methods. Lusta et al. conducted a systematic review highlighting the role of corpora and DDLL in language education. Their extensive search yielded 89 studies from 1997 to 2022, focusing on terms like "DDLL" and "corpus linguistics" to find relevant literature on DDLL classroom interventions. The review considered peer-reviewed English texts with available PDFs. These studies explored DDLL applications in classrooms, identifying common practices, challenges, and limitations. While DDLL shows promise as a teaching tool, its impact is limited by various challenges. Effective strategies for engaging lower-proficiency students include tailored tasks, additional guidance, support materials, and peer/group learning activities.

In another study, Crosthwaite and Baisa (2023) examined the interplay between Generative AI (GenAI) and Corpus-Assisted Data-Driven Learning (CDDL), highlighting the critical role of integrating these methodologies to advance language education. They conducted a comparative analysis that showcased the benefits of DDL, particularly the authenticity and replicability of language data sourced from established corpora compared to AI databases. Conversely, the authors noted that GenAI offered advantages such as immediate feedback and user-friendly interfaces, which could enhance learner engagement. Their findings indicated that while GenAI had the potential to broaden engagement and generate contextualized text rapidly, traditional corpora remained vital for providing reliable language patterns necessary for meaningful learning. Ultimately, the authors advocated for a synergistic approach that combined the strengths of both CDDL and GenAI, emphasizing the importance of innovation in educational practices within the field of language learning.

In a more recent study, Flowerdew (2024) examined the integration of DDLL and large language models (LLMs) in enhancing research writing skills among PhD students in Hong Kong. The research involved conducting 24 workshops with 473 students, where they were introduced to various corpus tools, such as BNCweb and AntConc, which allowed them to analyze language patterns in academic writing. The findings indicated that students demonstrated significant improvements in their ability to identify, comprehend, and effectively use reporting verbs, such as "the data suggest" and "the study indicates," reflecting a deeper understanding of academic discourse. This study highlighted the importance of DDLL in language learning, illustrating how traditional corpus-based approaches can be effectively combined with modern AI technologies to create enriched learning experiences in academic writing.

## DDLL and PBLL Research in the Context of Iran

In the Iranian educational context, research into PBLL and DDLL reveals significant insights into their effectiveness. Koosha and Jafarpour (2006) examined three key aspects of teaching and learning English preposition collocations among Iranian adult EFL learners. Firstly, they explored the effectiveness of using DDLL through concordancing materials in teaching these collocations. Secondly, they assessed whether variations in proficiency levels among EFL learners influenced their mastery of preposition collocations. Lastly, they explored how the native language of Iranian EFL learners impacted their understanding of these collocations. The study involved 200 senior English majors at Shahrekord University, divided into two groups: one received traditional instruction, while the other was taught using DDL-based concordancing methods. Pre-tests and post-tests were conducted to measure the impact of these methods. The findings revealed that DDL-based instruction was highly effective, higher proficiency levels positively influenced collocation acquisition, and the learners' native language significantly impacted their patterns of using English prepositional collocations.

Poordaverdi Shiraz and Larestani (2014) investigated PBLL's effect on intermediate Iranian EFL students. They divided participants into three groups: two project-based (magazines and wall newspapers) and one control group using Communicative Language Teaching (CLT). The results showed that PBLL significantly improved reading comprehension compared to the CLT approach, highlighting the diverse effectiveness of PBLL activities regardless of their nature.

Sadeghi et al. (2016) focused on PBLL's impact on writing skills, revealing that PBLL fostered greater improvements in comparison and contrast paragraph writing among Iranian intermediate EFL learners than traditional methods. This study connected PBLL's project-oriented environment with enhanced writing performance.

Barabadi and Khajavi (2017) explored corpus-based DDLL as an innovative method for teaching vocabulary to EFL students, contrasting it with traditional methods like using dictionaries or grammar books. Two intact classes (N = 42) formed the experimental group, while one class (N = 20) served as the control group, all studying for the Certificate for Advanced English (CAE). A standardized vocabulary size test ensured participants had similar vocabulary knowledge. During the semester, the experimental group used teacher-prepared materials from the COCA corpus and conducted similar searches independently. A post-test based on their course book assessed outcomes. Results showed the experimental group outperformed the control group, likely due to their active role in self-discovery and inductive learning processes emphasized in DDL.

While extensive research supports PBLL and DDLL's positive impacts on reading comprehension across different proficiency levels, a noticeable gap remains in the specific comparative study of these methodologies within the context of Iranian EFL learners' reading comprehension skills. Most existing studies focus on higher proficiency levels, different demographic settings, or skills other than reading comprehension, necessitating further exploration into how these approaches affect reading comprehension at the elementary level in an Iranian setting. The present study aimed to address this gap by posing the following questions:

**RQ1:** Does DDLL significantly enhance the reading comprehension skill of Iranian Elementary EFL learners?

**RQ2:** Does PBLL significantly improve the reading comprehension skill of Iranian Elementary EFL learners?

**RQ3:** Is there a significant difference in post-test reading comprehension scores between the DDLL and PBLL groups among Iranian Elementary EFL learners?

The answers to these questions can offer insights into optimizing language instruction strategies for learners in Iran and contribute to existing literature by highlighting the comparative efficacy of PBLL and DDLL in specific context of elementary reading comprehension.

## 3. METHODOLOGY AND DESIGN

The study utilized a quasi-experimental design with a pre-test, treatment, and post-test structure. This approach was selected because it effectively assesses the initial state of participants before any intervention, providing a baseline for measuring changes after the treatment. The quasi-experimental design was particularly suitable in this context, as random sampling was not feasible due to limited access to qualified participants (Harris et al., 2006), specifically Iranian elementary EFL learners. The treatment involved an instructional program aimed at enhancing reading comprehension skills, with two different treatments (i.e., DDLL vs. PBLL) applied to the two experimental groups. A post-test was administered following four treatment sessions over an 8-day period to evaluate the effects of these interventions.

### Participants

Initially, the study aimed to include 'pre-intermediate' EFL learners. Undergraduate students of English translation at Chabahar Maritime University (CMU) in Chabahar, Iran, were invited to

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participate through convenience sampling. A total of 56 participants took the placement test, comprising 35 females and 21 males. Based on the results of the placement test, the proficiency levels of the participants were distributed as follows: 1 participant at the upper-intermediate level, 8 at the intermediate level, 8 at the pre-intermediate level, 35 at the elementary level, and 4 at the beginner level. Due to the insufficient number of pre-intermediate participants to form two experimental groups, the study shifted its focus to the elementary level, which had a sufficient number of participants. The target group for the study thus became the elementary level, consisting of 35 participants (19 females and 16 males). To ensure an equal number of male and female participants, 3 female elementary learners were randomly selected using random numbers generated by the Google search engine, resulting in 16 males and 16 females being included in the study. These 32 participants were then randomly assigned to two experimental groups, each containing 8 males and 8 females. The random assignment was achieved by alphabetically listing the participants and alternating their placement into the groups. Despite the participants' diverse linguistic backgrounds and dialects, the demographic information gathered through a questionnaire included at the beginning of the placement test indicated that they all had a native mastery of Standard Farsi, either as their first or second language.

## Instruments

### Tests

A series of tests were utilized to assess participants' proficiency and reading comprehension skills. The Macmillan General English Proficiency Test (Macmillan, 2019), was administered electronically to determine participants' proficiency levels and ensure homogeneity. An elementary (A1) reading comprehension test from The British Council website served as the pre-test (Appendix A), while a different A1 reading comprehension test from the same source was used as the post-test (Appendix B). Both tests were transformed into electronic formats and administered via laboratory software.

### Instruction Materials

Due to the limited time, the participants could allocate to the experiment, and their very low level of English proficiency, introducing an authentic large English corpus and teaching participants how to use standard corpus search engines to explore it themselves was a significant challenge in the DDLL group. Instead, the researchers utilized the corpus-based Longman Dictionary of Contemporary English, 6th edition (LDOCE). This dictionary was available as software already installed on the computers of all participants in the lab. LDOCE offers an extensive set of definitions, synonyms, antonyms, usage notes, register, part of speech, etc., for each of the 230,000 contemporary English words. It also contains over 165,000 relevant examples extracted from a vast collection of corpora to provide accurate and up-to-date information (Chi, 2016). The incorporation of various corpora ensures that this dictionary reflects authentic and current language usage, making it an invaluable data-driven resource for learners and users of English. Additionally, as a searchable dictionary, it provided a user-friendly search engine for the participants.

For the PBLL instructional instrument, based on relevant suggestions in the literature, one of the following four projects was assigned to the participants of the PBLL experimental group during each of the four treatment sessions: group discussions (session 1), translation (session 2), summarizing through T-chart concept maps (session 3), and summarizing through timeline and graphic concept maps (session 4).

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## Procedure

The study was conducted between October and November 2023. Participants were invited to participate through a convenience sampling method, which included an announcement call and personal invitations. These students were then randomly assigned to one of the two experimental groups: DDLL or PBLL. They actively participated in four treatment sessions. At the start of the first treatment session, a pre-test was administered to both groups to establish a baseline for their reading comprehension skills. Each group then participated in three additional treatment sessions, engaging in activities specific to their instructional approach. The DDLL group focused on using the LDOCE to explore linguistic data, while the PBLL group engaged in project-based activities to tackle reading comprehension tasks. After the intervention, a post-test was administered with a 2-day interval to assess the impact of the instructional treatments on the participants' reading comprehension abilities. Two of the present study researchers gave the instructions to the two groups, and they were delivered in Farsi to ensure comprehension. Both the DDLL and PBLL groups received identical reading materials and immediate post-tests in each treatment session.

### DDLL Instructional Sessions

The primary aim of the instructional approach in the DDLL group was to enhance the reading comprehension skills of participants by utilizing the LDOCE as a data source. Each session was structured into three 20-minute segments. Initially, participants received instructions on how to effectively use the LDOCE to explore reading comprehension texts. The first session introduced participants to the dictionary's functionalities, focusing on using it to understand unfamiliar words from a poster depicting an airport information board. The second session emphasized understanding English modal verbs, with participants exploring definitions and examples in the LDOCE. The third session focused on parts of speech, teaching participants to use advanced search options in the dictionary to identify specific grammatical categories. The final session directed attention to prepositions related to time and place, as well as their usage in collocations and phrasal verbs. Throughout the sessions, participants were encouraged to rely solely on the LDOCE for data exploration without using a Farsi dictionary. Each session concluded with an electronic reading comprehension test to assess the participants' understanding and retention of the material. The DDLL approach aimed to familiarize participants with practical applications of data-driven learning, enhancing their ability to independently explore linguistic data and improve their reading comprehension skills.

### PBLL Instructional Sessions

The PBLL instructional approach was also conducted over four sessions, with the goal of improving participants' reading comprehension skills through project-based activities. Each session was divided into three 20-minute segments, starting with instructions. The first session involved a group discussion project, where participants discussed a reading comprehension text about a flight information board, posing WH questions and negotiating answers. The second session introduced T-chart concept maps, where participants summarized a text about school library rules, visually organizing information into categories such as allowed and not allowed activities (Appendix C). The third session focused on translation, with participants translating dictionary entries and bold-faced words from a monolingual English dictionary excerpt into Persian. The final session involved creating timeline and graphic concept maps to summarize a narrative about a Hollywood actress's life and career (Appendix D). Participants were guided in using these visual tools to organize chronological events and daily activities. Each session concluded with an electronic test to measure the impact of the project-based activities on reading comprehension. The PBLL approach aimed to provide participants with collaborative learning experiences, encouraging them to engage with reading materials creatively and critically.

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### Data Collection and Data Analysis

Data were collected through pre- and post-tests administered electronically. Immediate post-tests ensured active participation but were not included in the main data analysis. Data analysis involved parametric (Paired Samples t-Test) and non-parametric (Kolmogorov-Smirnov, Mann-Whitney U, and Wilcoxon Related Samples) statistical tests using IBM SPSS Statistics 27.0.1 IF026.

## 4. RESULTS

### Pre-test's Results and Analyses

The pre-test results were crucial for comparing the effectiveness of DDLL vs. PBLL methods. First, descriptive statistics and normality tests, specifically Kolmogorov-Smirnov, were utilized to analyze the pre-test data, ensuring the validity of comparisons. The results of these analyses are detailed in tables 1 and 2.

**Table 1: Pre-Test Descriptive Statistics**

|  | N | Range | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|---|
| Pre-Test DDLL | 16 | 8 | 10 | 18 | 14.50 | 2.033 | 4.133 |
| Pre-Test PBLL | 16 | 7 | 11 | 18 | 15.31 | 1.852 | 3.429 |
| Valid N (listwise) | 16 |  |  |  |  |  |  |

Table 1 presents descriptive statistics for pre-test scores of the two groups DDLL and PBLL, each with 16 participants. The DDLL group scores range from 10 to 18, with a mean of 14.50, a standard deviation of 2.033, and a variance of 4.133. The PBLL group scores range from 11 to 18, with a slightly higher mean of 15.31, a standard deviation of 1.852, and a variance of 3.429. These statistics indicate that the PBLL group had a slightly higher average score and less variability in scores compared to the DDLL group.

**Table 2: Results of the One-Sample Kolmogorov-Smirnov Test for Normality in Pre-Test DDLL and PBL Groups**

|  |  |  | Pre-Test DDLL | Pre-Test PBLL |
|---|---|---|---|---|
| N |  |  | 16 | 16 |
| Normal Parameters[a,b] | Mean |  | 14.50 | 15.31 |
|  | Std. Deviation |  | 2.033 | 1.852 |
| Most Extreme Differences | Absolute |  | .278 | .207 |
|  | Positive |  | .168 | .168 |
|  | Negative |  | -.278 | -.207 |
| Test Statistic |  |  | .278 | .207 |
| Asymp. Sig. (2-tailed)[c] |  |  | .002 | .065 |
| Monte Carlo Sig. (2-tailed)[d] | Sig. |  | .002 | .065 |
|  | 99% Confidence Interval | Lower Bound | .001 | .059 |
|  |  | Upper Bound | .003 | .072 |

As illustrated in Table 2, the Pre-Test DDLL group showed a test statistic of 0.278 with a p-value of 0.002, indicating a non-normal distribution. In contrast, the Pre-Test PBLL group had a test statistic of 0.207 and a p-value of 0.065, suggesting a normal distribution. These results indicate that only the Pre-Test PBLL group meets the normality assumption. The simple histograms in Figure 1 also confirm the non-normal distribution of the pre-test scores in the DDLL group.

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Given the non-normal distribution of the pre-test data (in the DDLL group), a non-parametric test was conducted to ensure the homogeneity of the pre-test results between the two experimental groups. Specifically, the Mann-Whitney test was used to compare the results of Group 1 (DDLL) and Group 2 (PBLL). The outcomes of this test are detailed in Tables 3 and 4.
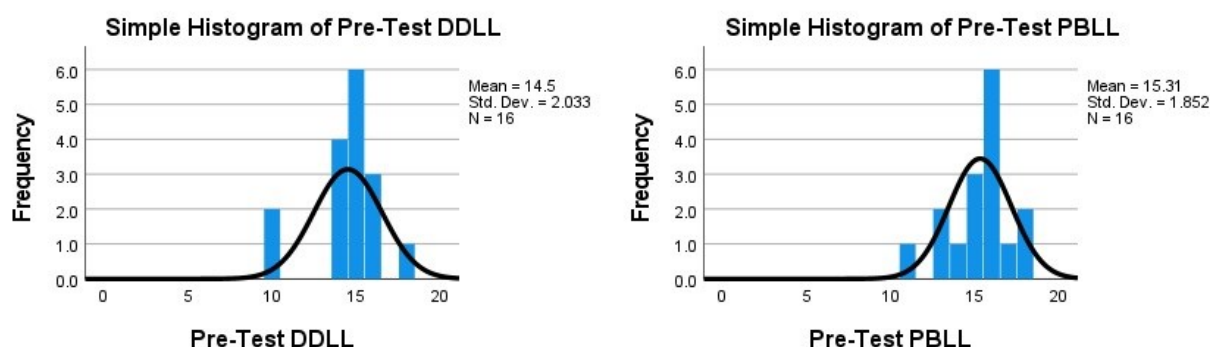


**Figure 1: Simple Histograms of the DDLL & PBLL Pre-Test Scores**

**Table 3: Ranks of Pre-Test Scores for DDLL and PBLL Groups**

| | DDLL vs. PBLL | Ranks N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Pre-Test | DDLL | 16 | 14.25 | 228.00 |
| | PBLL | 16 | 18.75 | 300.00 |
| | Total | 32 | | |

**Table 1: Mann-Whitney U Test Statistics for Pre-Test Comparison Between DDLL and PBLL Groups**

| Test Statistics | Pre-Test |
|---|---|
| Mann-Whitney U | 92.000 |
| Wilcoxon W | 228.000 |
| Z | -1.391 |
| Asymp. Sig. (2-tailed) | .164 |
| Exact Sig. [2*(1-tailed Sig.)] | .184b |
| a. Grouping Variable: DDLL vs. PBLL | |
| b. Not corrected for ties. | |

The Mann-Whitney U test results in Tables 3 and 4 indicate that there is no statistically significant difference between the pre-test scores of the DDLL and PBLL groups. Table 3 shows that the mean rank for the PBLL group (18.75) is higher than that of the DDLL group (14.25), suggesting a slight difference in central tendency. However, Table 4 reveals that the Mann-Whitney U value is 92.000, with a Z score of -1.391 and an asymptotic significance (2-tailed) of 0.164, which is above the conventional threshold of 0.05 for statistical significance. This suggests that any observed differences in ranks are not statistically significant, implying that the pre-test results are homogeneous between the two groups.

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### Post-test's Results and Analyses

To address the first two research questions, "RQ1: Does DDLL significantly enhance the reading comprehension skills of Iranian Elementary EFL learners?" and "RQ2: Does PBLL significantly improve the reading comprehension skills of Iranian Elementary EFL learners?", null hypotheses were formulated for each. The first null hypothesis posited that DDLL does not significantly enhance reading comprehension skills, while the second suggested that PBLL does not significantly improve these skills. To test these hypotheses, post-tests were administered following the respective treatment sessions for each group. The pre-test and post-test results for Group 1 (DDLL) and Group 2 (PBLL) were compared to evaluate the hypotheses. Before conducting these comparisons, normality tests were performed on the post-test data to ensure the validity of the statistical analyses, with the results detailed in Tables 5 and 6.

**Table 5: Descriptive Statistics of Post-Test Scores for DDLL and PBLL Groups**

| Descriptive Statistics | N | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Post-Test DDLL | 16 | 18.56 | 1.263 | 15 | 20 |
| Post-Test PBLL | 16 | 16.13 | 2.680 | 10 | 20 |

**Table 6: Normality Assessment Using One-Sample Kolmogorov-Smirnov Test for DDLL and PBLL Groups**

| One-Sample Kolmogorov-Smirnov Test | | | Post-Test DDLL | Post-Test PBLL |
|---|---|---|---|---|
| N | | | 16 | 16 |
| Normal Parameters[a,b] | Mean | | 18.56 | 16.13 |
| | Std. Deviation | | 1.263 | 2.680 |
| Most Extreme Differences | Absolute | | .260 | .190 |
| | Positive | | .177 | .100 |
| | Negative | | -.260 | -.190 |
| Test Statistic | | | .260 | .190 |
| Asymp. Sig. (2-tailed)[c] | | | .005 | .124 |
| Monte Carlo Sig. (2-tailed)[d] | Sig. | | .006 | .122 |
| | 99% Confidence Interval | Lower Bound | .004 | .114 |
| | | Upper Bound | .008 | .131 |

Table 5 presents descriptive statistics for the post-test scores of two groups: DDLL and PBLL. The DDLL group achieved a higher mean score of 18.56 with a standard deviation of 1.263, indicating relatively consistent performance among participants, with scores ranging from 15 to 20. In contrast, the PBLL group had a lower mean score of 16.13 and a higher standard deviation of 2.680, suggesting more variability in performance, with scores spanning from 10 to 20. This data suggests that the DDLL group generally performed better and more consistently on the post-test compared to the PBLL group.

Table 6 presents the results of a One-Sample Kolmogorov-Smirnov Test conducted to evaluate the normality of the post-test scores for the DDLL and PBLL groups. For the DDLL group, the test statistic is 0.260, and the asymptotic significance (2-tailed) is 0.005, indicating a significant deviation from normality. The Monte Carlo significance corroborates this with a value of 0.006, within a 99% confidence interval of 0.004 to 0.008. Conversely, the PBLL group has a test statistic of 0.190 and an asymptotic significance of 0.124, suggesting the data does not significantly deviate from normality. The Monte Carlo significance of 0.122, with a 99% confidence interval from 0.114

to 0.131, supports this finding. Overall, similar to the results obtained for the pre-test scores, the DDLL group's scores deviate significantly from a normal distribution, while the PBLL group's scores do not. Histograms in Figure 2 also confirm these results.
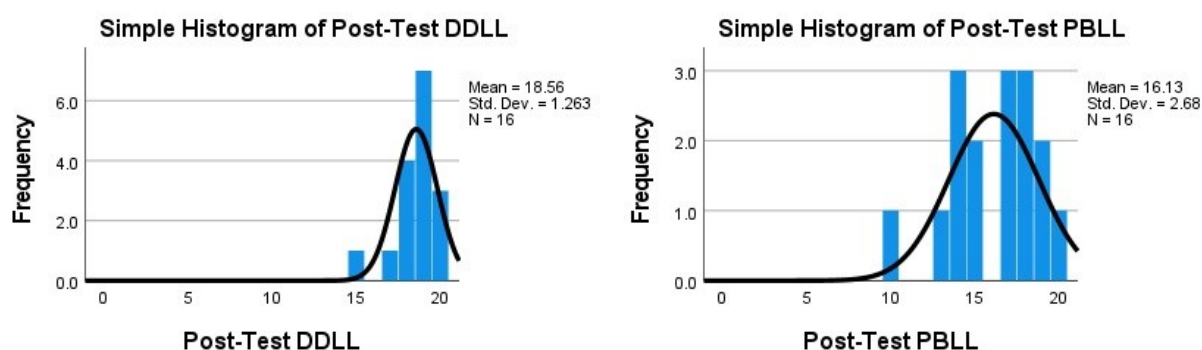


**Figure 2: Simple Histograms of the DDLL & PBLL Post-Test Scores**

## Testing the First and Second Hypotheses

Since both the pre-test and post-test scores of the DDLL group deviated from a normal distribution, a non-parametric paired samples test, specifically the Wilcoxon Signed-Rank Test, was conducted to assess the first null hypothesis regarding the effectiveness of DDLL on the reading comprehension of Iranian elementary learners. On the other hand, since the data obtained from the PBLL group were normally distributed for both the pre-test and post-test, a parametric test, specifically the Paired Samples t-Test, was conducted.

**Table 7: Wilcoxon Related Samples Test Results Comparing Pre-Test and Post-Test Scores in DDLL**

| | |
|---|---|
| Total N | 16 |
| Test Statistic | 136.000 |
| Standard Error | 19.258 |
| Standardized Test Statistic | 3.531 |
| Asymptotic Sig. (2-sided test) | .000 |

**Table 8: Descriptive Statistics for PBLL Pre-Test and Post-Test Scores**

| Paired Samples Statistics | | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Pair 1 | Post-Test PBLL | 16.13 | 16 | 2.680 | .670 |
| | Pre-Test PBLL | 15.31 | 16 | 1.852 | .463 |

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**Table 9: Paired Samples Test Results for PBLL Group (Pre-test and Post-test)**

| Paired Samples Test | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | Post-Test PBLL - Pre-Test PBLL | .813 | 1.559 | .390 | -.018 | 1.643 | 2.085 | 15 | .055 |

The results of the Related-Samples Wilcoxon Signed-Rank Test (Table 7) indicate a significant enhancement in the reading comprehension skills of Iranian Elementary EFL learners following the DDLL intervention. With a total sample size of 16, the test statistic is 136.000, and the standardized test statistic is 3.531. The asymptotic significance (2-sided) is .000, which is below the conventional alpha level of 0.05, suggesting that the improvement in reading comprehension skills is statistically significant. Therefore, the null hypothesis is rejected to conclude that DDLL significantly enhances the reading comprehension skills of the learners in this study.

The results of the Paired Samples Test for the PBLL group (Tables 8 and 9) indicate a mean increase of 0.813 in reading comprehension scores from the pre-test to the post-test, with a standard deviation of 1.559 and a standard error mean of 0.390. The 95% confidence interval for the difference ranges from -0.018 to 1.643, and the t-value is 2.085 with 15 degrees of freedom. The significance level (2-tailed) is 0.055, which is slightly above the conventional alpha level of 0.05. Therefore, the null hypothesis is confirmed, and the answer to Research Question 2 (RQ2) is negative, as there is insufficient statistical evidence to conclude that PBLL significantly improves the reading comprehension skills of Iranian Elementary EFL learners. However, the proximity of the p-value to the threshold suggests a potential trend towards significance, warranting further research with a larger sample size or different conditions.

## Testing the Third Hypothesis

To address the third research question, "RQ3: Is there a significant difference in post-test reading comprehension scores between the DDLL and PBLL groups among Iranian Elementary EFL learners?" a relevant null hypothesis was formulated. In this case, the null hypothesis posited that there is no significant difference in post-test reading comprehension scores between the two groups. A non-parametric inferential statistical test, specifically the Mann-Whitney U Test, was employed to assess this hypothesis. This test was chosen because it is well-suited for comparing two independent groups when their data does not adhere to the assumptions of normality, as observed in the post-test scores for the DDLL group. Thus, the Mann-Whitney U Test provided an appropriate method for evaluating the potential differences between groups under these conditions.

**Table 10: Ranks of Post-Test Scores for DDLL and PBLL Groups**

| Ranks | | | | |
|---|---|---|---|---|
| | DDLL vs. PBLL | N | Mean Rank | Sum of Ranks |
| Post-Test | DDLL | 16 | 21.31 | 341.00 |
| | PBLL | 16 | 11.69 | 187.00 |
| | Total | 32 | | |

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**Table 11: Mann-Whitney U Test Statistics for Post-Test Scores Comparison Between DDLL and PBLL Groups**

| Test statistics | |
| --- | --- |
| | **Post-Test** |
| Mann-Whitney U | 51.000 |
| Wilcoxon W | 187.000 |
| Z | -2.958 |
| Asymp. Sig. (2-tailed) | .003 |
| Exact Sig. [2*(1-tailed Sig.)] | .003b |

a. Grouping Variable: DDLL vs. PBLL

b. Not corrected for ties.

The analysis of the post-test scores for the DDLL and PBLL groups, as detailed in Tables 10 and 11, provides a definitive answer to the third research question. The results of the Mann-Whitney U Test demonstrate a significant difference between the two groups. Specifically, the DDLL group achieved a higher mean rank of 21.31 compared to the 11.69 mean rank of the PBLL group. The test yielded a Mann-Whitney U value of 51.000 and a Z-score of -2.958. The asymptotic significance (2-tailed) was calculated to be 0.003, which is notably below the conventional alpha threshold of 0.05, indicating a statistically significant difference in reading comprehension scores favoring the DDLL group. Consequently, the null hypothesis, which posited no significant difference in post-test reading comprehension scores between the groups, is rejected. This outcome suggests that the DDLL approach significantly outperformed the PBLL approach, effectively enhancing the reading comprehension skills of Iranian Elementary EFL learners.

## 5. DISCUSSION AND CONCLUSION

The findings of this study reveal a significant impact of the DDLL method on enhancing reading comprehension skills among Iranian elementary EFL learners, while the PBLL method did not show a statistically significant effect. This outcome suggests that DDLL may be more effective in this context, but the unexpected lack of significant results for PBLL warrants further exploration.

The literature review highlighted the effectiveness of both PBLL and DDLL in enhancing reading comprehension among EFL learners. Studies such as those by Alan and Stoller (2005) and Beckett (2002) have demonstrated the efficacy of PBLL in promoting active engagement and improving language skills through real-world tasks. Similarly, research by Lenko-Szymanska and Boulton (2015) and Corino and Onesti (2019) has shown that DDLL can significantly enhance language acquisition by allowing learners to interact with authentic linguistic data. However, the current study's findings diverge from these established results, particularly concerning PBLL. The neutral effect observed with the PBLL approach, despite using the same materials and time span as the DDLL group, is counterintuitive. This discrepancy challenges the findings of previous studies that have demonstrated the effectiveness of PBLL in language learning (Alan & Stoller, 2005; Beckett, 2002; Fang & Warschauer, 2004; Laverick, 2018; Lessard-Clouston, 2016).

Several factors could explain this anomaly, including the small sample size, which may have limited the statistical power of the study, and more specifically, the short duration of the intervention, which might not have been sufficient for participants to fully develop the skills targeted by PBLL. Additionally, the quality of instruction and the instructors' professionality in PBLL could have influenced the outcomes, suggesting a need for further investigation into these variables. Moreover, this result aligns with Cao (2024), who emphasized that PBLL might significantly enhance self-regulated learning rather than immediate reading comprehension, indicating the possibility that the benefits of PBLL manifest through longer-term skills development rather than immediate performance.

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The significant improvement in reading comprehension skills observed in the DDLL group not only aligns with previous studies (Barabadi & Khajavi, 2017; Corino & Onesti, 2019; Crosthwaite & Baisa, 2023; Johns, 1991; Lenko-Szymanska & Boulton, 2015) but also resonates with the findings of Boulton . Boulton's investigation demonstrated that lower-intermediate English learners could benefit from DDLL. In agreement with Boulton's (2008) findings, this study supports the notion that DDLL's emphasis on linguistic data and pattern recognition can lead to significant gains in language proficiency, even among learners with lower levels of proficiency. However, acknowledging the limitations of this study, such as the small sample size and the brief duration of the intervention, these promising results should be considered preliminary. Future research should aim to replicate these findings using larger sample sizes and extended intervention periods to further substantiate the efficacy of DDLL in enhancing reading comprehension.

While the literature broadly supports both PBLL and DDLL as effective methodologies, this study highlights a nuanced perspective on their impacts. The lack of significant improvement in the PBLL group might suggest, in line with aligns with Cao's (2024) findings, that the method's success largely depends on specific contextual factors, including the duration of the intervention, the nature of tasks, and learners' previous exposure to project-based learning. Moreover, the participants' low proficiency level, being elementary learners, might have affected their engagement and performance in PBLL activities, leading to divergent outcomes from DDLL. These speculations warrant further investigation in future studies to deepen our understanding of the complex interplay between these factors.

Conversely, the success of DDLL observed in this study underscores its adaptability and immediate applicability. As supported by Flowerdew (2024), integrating DDLL with contemporary language analysis tools can enhance educational benefits by equipping learners with the ability to effectively dissect and apply language patterns. This study contributes to the broader discourse on language learning methodologies by showcasing DDLL's potential in EFL contexts and prompting an examination of the conditions that optimize PBLL's effectiveness. Continued research is essential to explore these dynamics and establish the ideal parameters for the successful implementation of each approach, ensuring that both DDLL and PBLL can be leveraged effectively to support EFL learners.

## Conclusive Implications and Suggestions for Further Studies

The study encountered several limitations, such as a small sample size and time constraints, which limited the study's duration and prevented random sampling. Many participants were students with part-time jobs, reducing their availability and necessitating a shorter intervention period, potentially affecting the outcomes. Despite these challenges, the study highlights the practical utility of the LDOCE as a user-friendly, data-driven tool in EFL settings. The findings indicate that even lower-level EFL learners can benefit from DDLL approaches.

However, to draw more robust conclusions, future research should replicate this study with larger sample sizes and extended intervention periods to enhance the reliability of the findings. Additionally, exploring the effects of DDLL and PBLL on learners with higher proficiency levels could provide valuable insights. Investigating the immediate impacts of individual projects or data-driven exploration strategies could also be a fruitful area for future research. Moreover, incorporating findings from Crosthwaite and Baisa (2023) and Flowerdew (2024), future explorations into integrating DDLL with AI technologies could offer a pathway to further refine and enhance educational practices within EFL programs, effectively blending traditional and modern methodologies for optimal learning outcomes.

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## Appendices

### *Appendix A: Pre-test*

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*Appendix B: Post-test*



*Appendix C: Examples of the T-Chart concept map*

## T-chart 1

| Days with the same opening and closing time | Day with different opening and closing time |
|---|---|
| **Example**: Monday 9:00 to 17:00 Tuesday 9:00 to 17:00 | Sunday: CLOSED |

## T-Chart 2

| Allowed (✓) | Not Allowed (X) |
|---|---|
| **Example**: Borrowing 3 books | Talking on the phone |

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*Appendix D: Examples of timeline and graphic concept map*

**Timeline**

| 2006 | She moved to Los Angeles. |
|------|---------------------------|
| 2007 | ……………?………….. |
| ……?…. | ……………?………….. |

**Graphic concept maps**
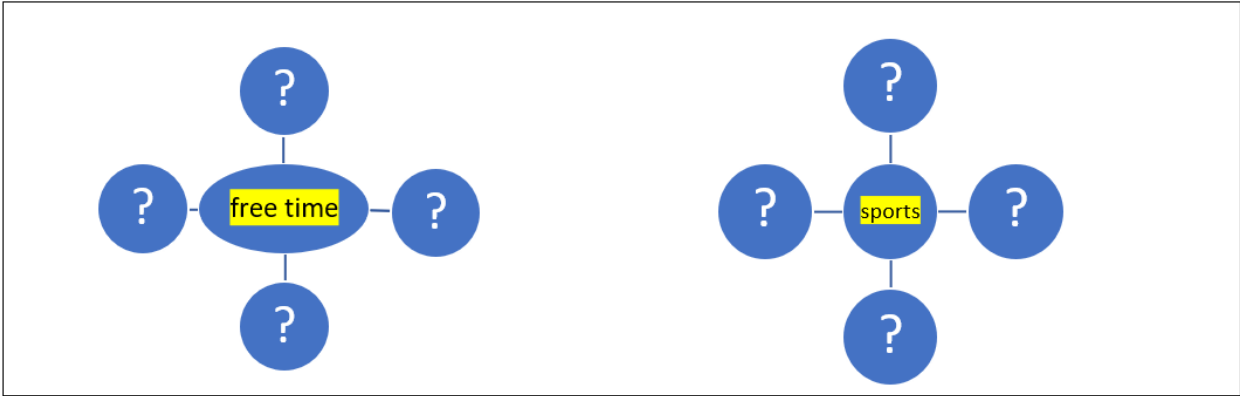
# Translanguaging and Emotional Landscape in EFL Classrooms: A Loving Pedagogy Perspective

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**Abstract**

Translanguaging pedagogy permits the utilization of all linguistic repertoire within the language classroom. However, to date, language teachers have less explored the psycho-emotional consequences of Translanguaging. Thus, the present study looked upon translanguaging from an emotionally-driven perspective to provide evidence on possible constructive roles of the concept and theorize its inclusion within the Loving Pedagogy (LP) framework, which advocates peace, flourishing, and well-being of the teachers and learners. The study aimed to explore how Translanguaging contributes to creating emotionally enriching classroom experiences for educators and students. In this vein, the qualitative data was obtained from 15 Iranian EFL teachers through semi-structured interviews in a multilingual context. Thematic analysis revealed that language teachers who rely on Translanguaging are more prone to benefit from an emotionally supportive classroom environment, a boosted sense of self-efficacy, and a self-decentralized teaching context. The study suggests that by incorporating translanguaging practices, educators foster inclusivity and emotional safety, which ultimately improves the overall learning experience. Theoretical and pedagogical implications for teachers were also discussed, along with directions for future research, emphasizing the need for further exploration of the connections between Translanguaging, emotional resilience, and pedagogical practices in diverse educational settings.

## 1. INTRODUCTION

Language teaching is among the most stressful and emotionally demanding professions, often leading to high turnover rates. For instance, Horwitz et al. (2010) and Imran et al. (2017) highlighted how stress affects language teachers' career trajectories, while MacIntyre et al. (2019) and Mercer et al. (2018) emphasized the emotional challenges associated with teaching. Similarly, Esmaeilee and Hassaskhah (2023) and Mearns and Cain (2003) have explored the impact of psychological distress and burnout on language teachers, with Wang et al. (2021) focusing specifically on anxiety in educational contexts.

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To address these challenges, Positive Psychology (PP) has emerged as a promising framework that examines the psychological strengths and well-being of individuals, offering insights into how language teachers can nurture motivation, hope, and other positive emotions (Dewaele et al., 2019; Seligman & Csikszentmihalyi, 2000). One extension of this framework is Loving Pedagogy (LP), which advocates for teaching practices grounded in empathy, kindness, and emotional support, aiming to improve both teacher and student well-being (Loreman, 2011; Wang et al., 2022; Yin et al., 2019). Despite its potential, the implementation of LP remains underexplored, particularly in applied linguistics.

As a pedagogical strategy, Translanguaging allows teachers and students to fluidly draw upon their full linguistic repertoires, fostering flexibility and inclusivity in the classroom (Li, 2018; Otheguy et al., 2015). Research has demonstrated that Translanguaging can alleviate students' anxiety (Song et al., 2022), enhance their willingness to communicate, and increase classroom engagement (Ahn et al., 2018; Omidire & Ayob, 2020). However, its implications for teachers' emotional well-being have received limited attention. Integrating Translanguaging within the Loving Pedagogy framework may offer teachers a means to cope with the emotional labor of language teaching while fostering a more supportive and caring classroom environment.

In the Iranian context, where rigid "English-only" policies often prevail (Mayni & Paramasivam, 2021), teachers may experience additional stressors tied to such constraints. Translanguaging by breaking these boundaries offers a practical approach to mitigate these challenges (Bozorgian & Fallahpour, 2015; Hopkins & Dovchin, 2024). This study explores the psycho-emotional outcomes of translanguaging in English as a Foreign Language classroom, theorizing its inclusion within the Loving Pedagogy framework as a tool for fostering teacher and student well-being. The research seeks to address gaps in the literature, particularly regarding the intersection of Translanguaging, Positive Psychology, and Loving Pedagogy and their implications for the emotional landscape of EFL teaching.

## 2. LITERATURE REVIEW

### Translanguaging

Multilingualism and translanguaging have recently been extensively discussed among applied linguists. The term translanguaging was first used by Williams (1994) to describe a pedagogical practice in Wales that involved teachers and students systematically switching between English and Welsh. Likewise, in the learning process, the learners' identities may be reflected positively through the simultaneous use of two languages. This could encourage them to take ownership and engage consciously, resulting in a more in-depth understanding (Desmond & Makalela, 2013). In a broader view, a translanguaging approach implies that bilingualism and multilingualism are not separate linguistic systems but manifestations of the use or avoidance of language features (i.e., words, sounds, rules) assigned by society to one or more languages (Otheguy et al., 2015). According to Wei (2018), learners' primary goal when learning a new language is to become bilingual and multilingual, not to replace their native language with another monolingual. This needs to be noticed in educational curricula. In this vein, knowledge of a previous language(s) is important in mediating processes and outcomes when learning multiple languages (Aronin & Hufeisen, 2009). Thus, multilingual and bilingual learners might benefit from classroom activities that involve translation, code-switching, and the synthesis of multilingual aspects (Song et al., 2022). Importantly, translanguaging is both a practice and a process, encompassing the dynamic integration of different languages, ultimately facilitating knowledge construction beyond linguistic boundaries (Wei, 2018).

A growing body of research emphasizes the benefits of translanguaging and the need for translanguaging pedagogy in various settings. Recent translanguaging studies, for instance, have

examined that pedagogical translanguaging can be used in language and in content classes to improve English academic vocabulary and reading comprehension skills (Arteagoitia &Howard, 2015; Namrullah & Nasrullah, 2020; Cenoz & Gorter, 2020; Lin, 2019), the clarification of some linguistic points (Cenoz & Santos, 2020), and offering an engaging environment that enables students to use all available linguistic resources for meaning-making and negotiations (Yasar Yuzlu et al., 2022). A translanguaging space also provides a supportive environment for integrating new languages into a dynamic linguistic repertoire, allowing bilinguals to develop new ideas, values, identities, and practices (García & Li, 2014; Li, 2020). However, Omidire and Ayob (2020) explored the enablers and constraints of supporting multilingual learning through learners' home languages, highlighting that a non-threatening environment, teachers' positive attitudes, and accessibility to translated materials facilitate translanguaging. On the other hand, factors like inadequate resources, limited lesson time, complex home languages, and socio-economic challenges can constrain it.

Regarding emotions for development in L2 classrooms, researchers (Back et al., 2020; Song et al., 2022) have frequently sought to explore teachers' strategies that enable students to recognize their emotions and utilize them to engage in classroom activities and meet their learning objectives. For instance, Back et al. (2020) emphasized the effectiveness of translanguaging strategies as scaffolds for learners' emotional well-being, demonstrating how they contributed to reducing anxiety and behavioral issues and improving academic performance. Using a translanguaging strategy also makes students feel happier and more valued. Moreover, teachers' emotional skills have been emphasized in reducing language learners' negative emotions and boosting positive emotions (Dewaele & MacIntyre, 2014). By employing students' entire linguistic repertoire, teachers can create an intimate atmosphere conducive to scaffolding less-proficient students (Burton & Rajendram, 2019; Schissel et al., 2021).

In the L2 teaching context, however, translanguaging and emotionality have received less attention. Nazari and Karimpour (2023) explored Iranian English teachers' emotional labor about their translanguaging practices, revealing positive and negative perceptions of its application. Their findings suggested that teachers' awareness of translanguaging pedagogy influenced their emotions in three ways: 1) as proficiency-inflected emotion work, 2) as a face-saving emotional undertaking, and 3) as a multifaceted emotion-bearing policy. Similarly, Hopkyns and Dovchin (2024) identified the conflicting and complex emotional outcomes of translanguaging practices in their study of six university teachers, where emotions such as comfort, pride, shame, frustration, and guilt emerged.

The present study follows the aforementioned ones and focuses on unravelling the psycho-emotional outcomes that translanguaging practices entail. Moreover, it tries to contribute to the literature by providing evidence and justifying translanguaging in the LP framework.

## Loving Pedagogy

There has been a plethora of research on psychological factors demonstrating their positive influence on teaching and learning processes and outcomes; however, love as one dimension of positive psychology remains underexplored in applied linguistics and the theoretical domain (Barcelos & Coelho, 2016; Grimmer, 2021; Wang et al., 2022). Throughout his work, Freire (2005) stressed the centrality of love for teaching, emphasizing "...being a teacher cannot be without loving one's students, even realizing that love alone cannot suffice."

Expressing love in education can be challenging due to cultural interpretations and religious sensitivity (Wang et al., 2022). As a result, many educators use terms like passion, care, bond, and affect instead of love. However, these terms do not fully capture the powerful impact that love can have on education and learning. Love in language teaching now encompasses teachers' kindness, affection, empathy, and care for their students' feelings, needs, learning, and achievement (Zhao

& Li, 2021). In this vein, the ultimate aim of education should go beyond academic outcomes. A positive learning experience for practitioners includes psycho-emotional constructs such as passion, kindness, empathy, and similar notions (Loreman, 2011). Sternberg's (1986) triangular theory of love emphasizes creating an intimate learning environment through intimacy, passion, and decision/commitment. Likewise, this love-oriented approach to teaching improves teachers' engagement, creativity, motivation, and other psychological factors affecting language teachers' well-being (Wang et al., 2022; Yin et al., 2019). It also serves as an essential motivator for learning, improves the quality of education, and forms the basis for classroom interactions (Loreman, 2011).

Regardless of its potential to influence teachers' professionalism in education, establishing a practical framework to apply a loving pedagogy has yet to be explored. Page's (2018) research is one of the first to focus on professional love, introducing a model with four steps: 1) be emotionally resilient and intellectually capable of developing self-awareness among practitioners, 2) To de-center or to shift the focus from one's self and needs to consider the needs of the other, 3) To fully immerse oneself in the demands of the 'other' by incorporating emotional intimacy into the relationship, 4) Establish a long-term and authentic relationship with the child and parent. To make the model of Page (2018) appropriate in applied linguistics and SLA studies, Wang et al. (2022) designed a model that considers variables such as teacher, learner, context, and cultural-related variables. To the best of our knowledge, there has been no attempt in the language education domain to situate and integrate the role of translanguaging into the LP framework. Such an attempt would highlight the practical ways love can be infused into language learning contexts. Considering these gaps, the authors would seek to pose the following research question:

Research Question: What are the psycho-emotional outcomes of translanguaging in ELT classrooms?

## 3. METHPDOLOGY

### Design

This qualitative study aims to provide evidence on the psycho-emotional outcomes of translanguaging among EFL teachers and theorize its use within the framework of Loving Pedagogy (LP). The exploratory design adopted an inductive approach to derive themes directly from the participants' responses (Stebbins, 2001). Special attention was given to variability among the participants, such as their academic qualifications and teaching experiences, to understand how these differences might influence the study's findings.

### Context

Iranian educational system rests on two channels of instruction. The majority of the students benefit from state schools where the curriculum is organized around honing the students' knowledge and skills in various fields of study, and English is taught as a foreign language alongside Arabic. The private sector also follows the determined curriculum of the Iranian Ministry of Education, but as far as the English language is concerned, the context of such schools provides more flexibility since the density of students in each class is far less than that of state schools and teachers have more agency to infuse creativity to their classroom environment. English is also more authentic in private schools in Iran (Gholami et al., 2016). In the present study, we relied on five state and two private schools located in a city in the North of Iran. The city was selected due to its multicultural, multilingual context wherein teachers and students are exposed to Persian as their national language alongside Arabic and English as the two foreign languages. Moreover, the heterogeneity of the classrooms in these schools resulted from combining students with Persian, Turkish, Turkmen, and Mazandarani dialects. This situation provided a proper vantage point to look upon the psycho-emotional fluctuations of EFL teachers who relied on translanguaging as a means of responding to the diverse linguistic needs of their students.

## Participants

Fifteen EFL teachers (male=9; female=6) were contacted and asked to participate in this study through purposeful sampling in which the selection of respondents aligns with the purposes of the study (Ary et al., 2019). In this vein, EFL teachers who (1) were consciously aware of the nature of translanguaging and (2) had positive attitudes towards using L1 in their classrooms were selected for the interview. The participants varied in academic qualifications (B.A., M.A., and Ph.D.) and teaching experience (3–19 years). While this variability enriches the dataset by providing diverse perspectives, it is acknowledged that differences in qualifications and experience may influence teachers' perceptions and practices regarding translanguaging. These factors were carefully considered during data analysis to account for their potential impact on the findings. Specifically, responses were analyzed with demographic information to identify possible trends or variations based on academic background and teaching experience. To fulfill the criteria, we initially conducted a pre-interview phase and asked 3 questions (Appendix A) of 25 teachers who announced their willingness to participate. This phase helped us to consider 15 of them for the main data collection phase since they were familiar with the nature of translanguaging, had several instances of translanguaging, and were aware of challenges and criticism that one might pose to their translanguaging-driven teaching practices. The respondents were English language teachers in Iranian junior and senior high schools where English is taught as a foreign language. All the respondents were informed about the nature of the study, expectations, ethical considerations, and additional information, as suggested by BERA (2011). Table 1 provides a summary of the participants' demographics:

**Table 1: Participants' demographic information**

|  | **Range/type** | **Number** |
|---|---|---|
| **Gender** | Male | 9 (60%) |
|  | Female | 6 (40%) |
| **Age** | 26-30 | 5 |
|  | 31-34 | 6 |
|  | 35-40 | 4 |
| **Years of teaching experience** | 3-5 | 6 |
|  | 5-10 | 3 |
|  | 11-14 | 4 |
|  | 15-19 | 2 |
| **Major** | English language teaching | 10 |
|  | English literature | 2 |
|  | English translation | 3 |
| **Academic degree** | B.A. | 4 |
|  | M.A. | 8 |
|  | Ph.D. | 3 |
| **Workplace** | Public schools | 9 |
|  | Private schools | 6 |
|  | Both | 11 |

## Instrument

After an in-depth literature review, interview questions were designed consisting of three open questions and some sub-questions regarding translanguaging pedagogy outcomes in their EFL classrooms (Appendix B). To ensure content validity, two qualitative study specialists provided feedback to ensure linguistic transparency and relevance of the questions. After revising the

content and clarifying ambiguities to ensure trustworthiness, the interview questions were piloted among nine non-participants with similar characteristics to the study respondents (Nassaji, 2020).

## Procedure

Data collection involved teachers participating in individual semi-structured interviews. To brief the respondents about the study and for ease of access, the researchers created a Telegram group. Being ensured of confidentiality and anonymity issues, participants agreed to partake in the interviews. Interviews continued until no new information was obtained and data saturation was reached (O'Reilly & Parker, 2013). Participants were free to add any further points at the end of the interview. Interviews were primarily conducted in Persian to ensure participants could express themselves clearly and comfortably, given the variability in their English proficiency levels and academic backgrounds. Responses provided in English were included as-is, and any potential inconsistencies were addressed during the member-checking process and discussions with participants, as described in the methodological rigor section. This approach ensured the accuracy and consistency of the data while accommodating participants' linguistic preferences. Interviews were conducted privately and lasted around 30 minutes for each of the individuals. The interviews were held in February and March 2023, and the participants were free to provide their answers in audio or text in either English or Persian; however, for conducting the analyses, all the responses were translated into English.

The answers were thematically analyzed through open, axial, and selective stages, as outlined by Boyatzis (1998). The codification and analysis process were conducted simultaneously by having a satisfactory saturation point in mind (O'Reilly & Parker, 2013). Moreover, an inductive approach was undertaken while reading answers multiple times to become familiar with the answers. The initial themes were elicited and coded in the open coding stage. In the axial coding stage, the elicited themes were refined, and preliminary links between them were generated. Finally, in the selective stage, major themes were identified and labeled. The member-checking process by which the extracted themes are discussed with the participants was utilized to address the credibility of the findings (Lincoln & Guba, 1985). The transferability of the findings was evaluated by cross-case participants to see how individuals with different perspectives would assess the findings (Nassaji, 2020). The disagreement and mismatches that emerged in the transferability check stage were resolved by some rounds of negotiations between the authors and the auditor. Finally, a cross-source comparison process was used to check the inter-coder agreement, which was estimated to be 94%. For this stage, 30% of the codes were analyzed by an independent qualitative research expert.

## 4. RESULT

An analysis and evaluation of forty-three semi-structured interviews were conducted using a grounded theory approach to examine whether translanguaging has a beneficial impact on implementing the pedagogy of love and alleviating the stressor factors among teachers. In response to the interview questions and as depicted in Figure 1, three major themes emerged as the most salient outcomes of translanguaging pedagogy, as asserted by the EFL teachers, including 1) Intimacy, 2) Self-efficacy, and 3) Self-decentralization.
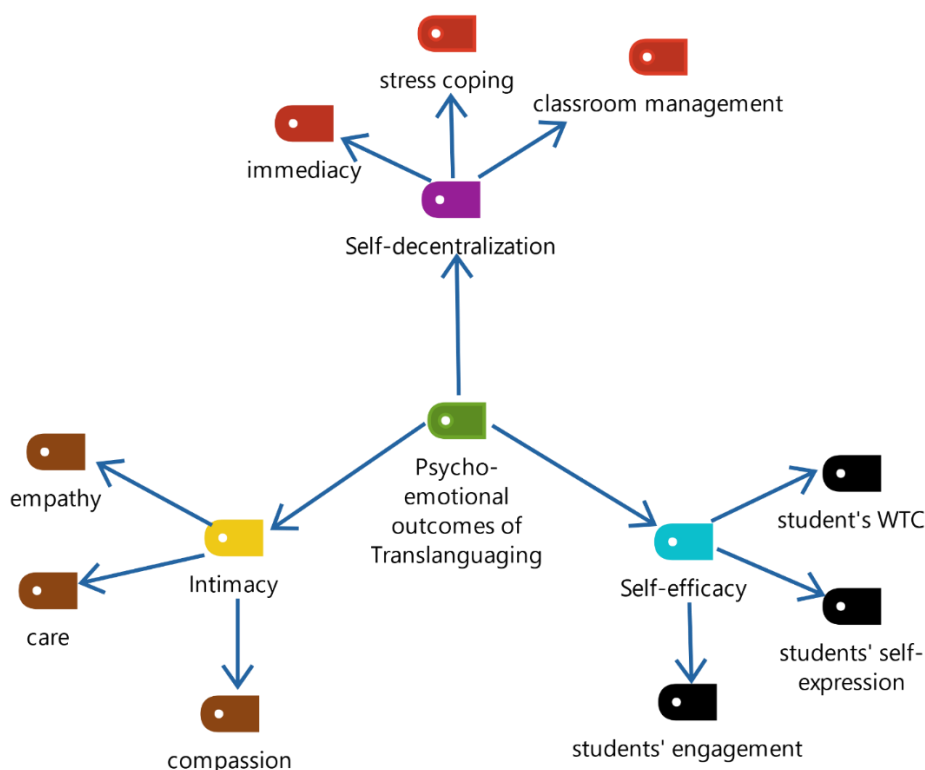
**Figure 1: Psycho-emotional outcomes of translanguaging in L2 class**

Accordingly, establishing an intimate classroom climate emerged as the most frequent outcome. The teachers' major argument was that to provide a mutually supportive climate and the influential impact of love on academic knowledge; they try to moderate the level of using other codes to improve the learners' learning process in an instructional setting. The following extract signals a teacher whose translanguaging-oriented approach serves as a strong tool in creating a mutually supportive environment towards a situation in which she sees the learners as incapable of doing anything:

> First, I adopt this class, a silent classroom was there. Students' concerns with personal evaluations of their language performances make them frustrated of being engaged. When I tried translanguaging, my students emerge to become more active and more engaged in their learning process. This provides the students to learn in collaborative way, resulting in establishing a mutually supportive environment, growing knowledge, and growing in confidence. [p. 7]

Most of the respondents claimed a similar point in relation to the nature of exposure of students to their whole linguistic repertoire for developing their interconnectedness and the sense of care among teachers and students. Moreover, they noted that the freedom of choice to switch in-between languages makes them feel more compassionate towards themselves and others. The teachers also made an interesting case regarding the important role of knowing emotions, perceptions, and the awareness of their feelings before knowing others. Specifically, the teachers argued that self-regard is essential to creating an emphatic environment in an instructional setting. One teacher, for example, argued that:

> Establishing understanding between myself and my students plays an essential role in my classes. However, this requires an awareness of my own feeling. If a teacher has not engaged in self-understanding, she may face problems understanding others' feelings and perceptions. [p. 9]

The other mentioned that:

> In my opinion, a new linguistic environment puts the learners under pressure. I have had students from whose eyes I could read that my English language bothered them. Thus, sometime using L1 is very helpful to minimize the sense of being neglected, resulting in an increase in their willingness to engage and communicate with other students and me. [p. 11]

Self-efficacy was the second salient outcome that emerged from the responses and referred to teachers' perception in viewing themselves to hone their language teaching skills. Four teachers reasoned that their awareness of the importance of translanguaging pedagogy interacted with their self-efficacy. They regarded the application of the learners' whole linguistic repertoire as providing them with an opportunity for better self-expression, resulting in highly self-efficacious teachers. This was especially true for less experienced teachers, who found translanguaging to be a practical tool for building rapport and encouraging self-expression.

> My students felt at ease to express themselves when I let them synergize Translanguaging pedagogy. By using sources other than English, especially with references to their mother tongue, the students feel more courageous and excited in expressing their ideas. This makes me feel more efficient and happier. [p. 2]

The third foremost emerged theme pertained to the extent to which the teachers self-decentralize themselves to be aware and act for the good of the student's needs, thoughts, and feelings. The teachers argued that incorporating the theoretical lens of Translanguaging improves accountability and responsiveness to students' needs and plays a significant role in nurturing a classroom environment where teachers' primary focus is more on developing a sense of empathy and community among all students, resulting in students' welfare. The following extracts represent the answers of two teachers' use of Translanguaging pedagogy in improving a positive interaction with students:

> As educators, we typically center our teaching on what we want our students to know and be able to do. Teachers are responsible for allowing students to cultivate empathy and community in practice and activate this personality disposition within themselves. Using students' local dialects within English classes provides helpful guidelines for better understanding the students' feelings and seeing education from their perspectives nonjudgmentally. [p. 12]

The findings suggest that translanguaging fosters an emotionally supportive environment by encouraging empathy, reducing stress, and enhancing teacher-student relationships. However, teachers from state schools with larger class sizes noted challenges in implementing translanguaging consistently due to time constraints and curriculum pressures.

## 4. DISCUSSION

Relying on the qualitative data obtained through interviews, researchers of the present study sought to shed light on translanguaging practices and teachers' emotional status to theorize translanguaging within LP framework. Accordingly, we postulated that switching in-between different languages instead of limiting oneself to one language would help the teachers feel more relieved in their classroom and bear the emotional labor that might be imposed on them through English-only policies. The variability in participants' qualifications and teaching context not only highlighted the adaptability of translanguaging but also revealed potential challenges.

The qualitative analyses suggest that teachers who rely on translanguaging are more prone to benefit from an emotionally supportive classroom environment. In other words, the findings indicate that the utilization of translanguaging would possibly add to the intimacy of teachers and learners and decentralize the teachers from being the authority of the class, hence, infusing more flexibility into the classroom environment. As induced from the findings, the most salient outcome of translanguaging is the freedom that it provides to language teachers and learners and permits them to switch in-between different codes that are comprehendible in the classroom context. As a result, the interpersonal relatedness of teachers and learners would be honed through enhanced engagement and intimacy. This finding aligns with previous ones suggesting that the application of translanguaging would enhance the intimate atmosphere of the language classes (Burton & Rajendram, 2019; Schissel et al., 2021; Yuvayapan, 2019). Moreover, translanguaging would possibly leave space for students to bring their voices to the language class. Based on teachers' opinions, translanguaging would refuel the disengaged students and increase their willingness to be involved in classroom activities and tasks by giving them the opportunity to express themselves through their own linguistic codes. The idea which is supported by García and Li (2014) and Li (2020), who asserted that translanguaging would help students to shape new ideas, identities, and practices. As a result, it can be argued that the self-expression of the students would possibly grant the teachers a sense of efficacy and gives them cues about their effectiveness. In line with the previous studies, we would further argue that the enhanced involvement and engagement of the students through the application of translanguaging not only improves the students' content learning and proficiency (Arteagoitia & Howard, 2015; Cenoz & Gorter, 2020; Lin, 2019; Park, 2014; Yasar Yuzlu et al., 2022) but might also positively lead the teachers to perceive more efficacy, and more intimate environment between students and teachers. However, some participants noted that managing this inclusivity in large state school classrooms with rigid curricula posed challenges. This suggests that while translanguaging can enhance intimacy, its practical implementation may require adjustments to teaching practices and institutional policies.

As confirmed by the respondents, teachers' reliance on translanguaging decentralized them in the classroom and helped them switch the focus from themselves to their students. In doing so, teachers mentioned that self-decentralization through translanguaging functioned as a means of coping with stressful situations. To justify the stress-coping potentialities of translanguaging and its self-decentralization effect on the teachers, we argue in line with Nazari and Karimpour (2023), who noted that translanguaging functions as a proficiency-inflected emotion work and gives the teachers a face-saving channel through which emotional labor caused by teaching context is handled more efficiently. Moreover, the present study signals the idea that translanguaging can be acknowledged by the teachers as an approach utilized by the students to elevate their wellbeing (Back et al., 2020), but also a coping strategy that would help the teachers feel less stressed and limited in their class. Findings also support Hopkyns and Dovchin's (2024) findings, where they reported that translanguaging would trigger the senses of pride and comfort.

As noted earlier, the boosted language skills and positive emotions caused by translanguaging make the students feel happy and more valued (Back et al., 2020; Dewaele & MacIntyre, 2014;

Gregersen et al., 2014; Park, 2014; Song et al., 2022). In line with the positive emotions of the students caused by translanguaging, the sense of efficacy and decreased anxiety of the teachers, which were mentioned by the respondents, might be due to the contagious effect of emotions (Moskowitz & Dewaele, 2021). In other words, when teachers perceive that their students are happy through translanguaging, they themselves would also feel the same. Since increased self-efficacy and happiness, along with decreased anxiety and stress, are beneficial for the well-being of individuals (Mercer, 2020; Omidire & Ayob, 2020; Xing, 2022), we would suggest that teaching L2 through translanguaging would help the teachers feel less stressed and gives them options to handle tense situations by giving them a sense of efficacy, making their students happier, and increasing the intimate atmosphere of the class. The senses of increased bonding, community, and intimacy, as emerged in the study, are in line with Loreman's (2011) framework of Loving Pedagogy. As induced from the findings, translanguaging would possibly lead to more engagement by providing a basis for students' self-expression and shifting the focus from the teacher to each student. This might probably increase the bonds in-between all individuals in the class and give a sense of community and care to them. Such an emotionally supportive classroom climate would pave the way for more positive psycho-emotional such as creativity, motivation, care, and love to flourish (Esmaeilee & Hassaskhah, 2023; Loreman, 2011; Wang et al., 2022; Yin et al., 2019).

Moreover, the self-decentralization effect of translanguaging and its potential to increase the intimate atmosphere of the classroom, as mentioned by the respondents, are in line with Page's (2018) four steps model of Loving Pedagogy according to which a pedagogy that revolves around love and empathy, requires a basis which helps the individuals remain emotionally resilient and self-aware to the needs of others. As we noted earlier, translanguaging would help the teachers to allay their negative feelings, which in turn might have a positive influence on their resilience. Moreover, a sense of shared awareness caused by the intimate and emotionally supportive atmosphere would make classrooms more welcoming places wherein self-decentralization makes the teachers and students more aware of others' needs and establishes an environment in which teachers and students enjoy a long-term authentic relationship (Page, 2018; Wang, 2022). By integrating translanguaging into the LP framework, this study supports the idea that language teaching can extend beyond academic outcomes to foster meaningful interpersonal connections. However, the variability in participants' experiences suggests that institutional support and teacher training are crucial for implementing this approach effectively. For instance, private school teachers with smaller class sizes reported fewer challenges compared to their counterparts in larger state schools, highlighting the need for context-sensitive strategies.

## 5. CONCLUSION

Following the emotional intensity of language teaching, the present study explored the presence of positive psycho-emotional outcomes of translanguaging. In essence, the results of the current study revealed that teaching L2 through translanguaging would help the teachers buffer distressful impacts in tense situations by giving them a sense of efficacy, shifting the focus from the teacher to each student, and providing an emotionally supportive classroom climate.

Several theoretical and pedagogical implications can be induced from the present findings. First of all, the study signals the idea that translanguaging gives language teachers the freedom to switch in-between various linguistic codes that coexist within the English class. In other words, many EFL teachers, especially in the Iranian context, might blame themselves for code-switching while in class. However, the present study and similar ones suggest that the use of languages other than English yields several psycho-emotional and educational benefits, such as reduced teaching stress, increased self-efficacy, and learner engagement. Secondly, translanguaging would be beneficial for EFL teachers since it gives them a sense of efficacy because, through translanguaging, students are more prone to engage with L2 practices and are more open to expressing themselves.

Moreover, the present study implies that translanguaging can be considered a practical way through which a pedagogy of love is applied and sought. Finally, we theorize that as a practice that promotes teachers' self-efficacy and teacher-student rapport and intimacy, translanguaging can properly fit into the pedagogical aspects of the LP. As implied by the results, the concept would possibly yield several constructive outcomes for both teachers and learners; however, contrasting to Hopkyns and Dovchin (2024), our analyses did not reveal traces of shame, frustration, and guilt as experienced and mentioned by the teachers in that study.

Future studies might consider the effects of translanguaging on teachers' psycho-emotional factors through more robust designs, such as longitudinal and experimental ones, by considering more influential factors such as teachers' gender, experience, race, culture, etc. Translanguaging might have more positive outcomes, and the limited number of participants in this study might give an underestimated picture of reality.

## Declarations

### Ethical Approval

All respondents were briefed about the study, and ethical considerations outlined by BERA (2011) were followed and applied throughout the study.

### Publication Consent

The following statement was approved by all participants prior to data collection stage:

> *I hereby declare that I voluntarily participated in this study. I let the researchers use my responses as data as far as my identity remains anonymous and I hereby declare that I granted permission for publicizing my anonymized responses. In addition, the researchers guarantee that all information I provide for this study will be treated confidentially.*

### Availability of Data

The raw data for the current study is sharable on reasonable request.

### Conflicting interests

The authors declare that they have no conflict of interest.

### Funding

No third-party individual or organization funded the present study.

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## Appendices

### *Appendix A: Sampling questions*

1. How would you define translanguaging in the context of language teaching?
2. Can you provide an example of how you have incorporated translanguaging in your classes?
3. How do you respond to any potential criticisms or challenges that may arise when employing translanguaging in your classes?

### *Appendix B: Interview questions*

This interview aims at understanding the psycho-emotional outcomes of translanguaging approach in your professional life as an English language teacher. There are no right or wrong answers as it concerns your subjective understanding, and experiences. We ask you three main questions, and based on your answers, we might ask additional questions. Feel free to add whatever you think describes you as an individual who works as an English teacher:

1. What motivates you to utilize translanguaging approach to language teaching in your EFL classrooms? What have been your reasons for utilizing such an approach?
2. How did your students react to using multiple languages in English classes? Where they more supportive and engaged?
3. To what extent, has translanguaging influenced your professional performance in your classes? Elaborate on whether it has had any influence on your mindset as a teacher. Has it been effective in controlling your work tensions?

# Contributions of Mobile-mediated Audio- vs. Text-based Metalinguistic Corrective Feedback on L2 Writing Development: A Mixed-methods Study

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**Abstract**
The current study scrutinizes the effects of mobile-mediated audio-based and text-based metalinguistic corrective feedback (MCF) on the development of unreal conditional by Iranian EFL learners via a pretest-posttest design. Furthermore, semi-structured interviews explore the 5 learners' perceptions of the efficacy of mobile-mediated audio-based and text-based MCF. On this ground, 60 intermediate-level Iranian EFL learners were assigned to two groups: audio-based and text-based. The participants in both groups completed various written production tasks during their 3 treatment sessions and were given either text-based or audio-based MCF for their errors, depending on their specific treatment condition. The implementation of these feedback types was monitored throughout the study period to ensure consistency and adherence to the research protocols. The statistical test using ANCOVA was conducted to measure the comparative effectiveness of both feedback types. The results suggest that second language (L2) writing development can be achieved through both text-based and audio-based MCF, but the latter is more effective. The results of the content analysis showed that students who received audio-based feedback had better perception and found it more beneficial in improving L2 writing development compared to those who received text-based feedback. These findings have implications for language teaching methodology and the integration of mobile technology in language learning environments.

## 1. INTRODUCTION

For over twenty-five years, research has explored mobile-assisted language learning (MALL), with a focus on the significance of technology, particularly mobile devices, in our daily lives (Burston, 2014). Ally (2013) contends that we are now in the era of mobile technology, which will revolutionize work, business practices, social interactions, and learning methods as mobile technology continues to expand. Despite the positive impacts of technological changes in education, the use of mobile technologies in MALL has not fully harnessed their advantages, such

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as portability, easy access, authenticity, and situated learning (Stockwell & Hubbard, 2013). This lack of pedagogical innovations in MALL is particularly evident (Burston, 2014). Despite the advantages of mobile technology in language learning and skill enhancement, there is a limited understanding of its effectiveness in providing corrective feedback (CF) on language learners' output. Researchers have shown increasing interest in using technology, including mobile devices, for CF delivery (Bahari, 2021). One type of CF is metalinguistic, which involves providing explicit comments on learners' errors (Suzuki et al., 2019).

Mobile devices have the potential to create favorable conditions for language learning, both within and beyond traditional language classrooms. They offer various advantages, such as the provision of CF. Extensive research on MALL supports its beneficial role in multiple aspects, including increased exposure to the target language, customization according to learners' preferences and habits, and improved performance in various L2 skills. Additionally, MALL can serve as a valuable tool to encourage learners' active involvement with written and spoken feedback, thereby fostering a deeper understanding and mastery of these areas (Nassaji & Kartchava, 2021). Mobile-mediated feedback (MMF) can be delivered in various modes, including text-based, audio-based, and video-based, using both synchronous and asynchronous communication. While text-based CF has been extensively studied in second language (L2) development (Gurzynski-Weiss and Baralt, 2015; Sauro, 2009; Shintani, 2016; Yilmaz, 2012), little is known about the impact of other modes, such as asynchronous audio-based CF (Rassaei, 2019). Further research is necessary to determine how MALL can be incorporated into classroom practices as an instructional tool that aligns with the teacher's curriculum and lesson plans. While there is abundant research on the utilization of MALL in L2 teaching, and learners generally have a positive perception of portable devices and use them regularly, the role of MALL in providing CF is a relatively recent and unexplored area. Consequently, our understanding of how MALL facilitates L2 learning is limited. Additionally, there is a significant amount of work yet to be done in investigating how MALL can be utilized for delivering and assessing the effectiveness of feedback in both classroom and non-classroom settings, as well as examining the impact of MALL on feedback provision by teachers, experts, and learners (either peers or self) and the challenges they encounter during this process. Nevertheless, it is evident that MALL is a permanent and expanding aspect of education. This emphasizes the pressing need for research in this field and the importance for educators to embrace the use of mobile technology for learner-centered education that is accessible anytime and anywhere (Ally, 2013). Furthermore, there is a gap in research regarding the impact of mobile-mediated text-based and audio-based CF on L2 writing development and the perceptions of L2 writers (to the researchers' knowledge). L2 learners' errors are prevalently dealt with by L2 writing language teachers (Nushi, et al, 2023). Rassaei (2019) highlights that "asynchronous audio-based and text-based interaction possess distinct instructional values" (p. 98). Nevertheless, there is limited knowledge about how these different feedback forms influence L2 learning, particularly in terms of CF. Although previous studies on CF (Cheng and Yan, 2022; Cheng and Zhang, 2022; Nassaji and Kartchava, 2021) indicated the rewarding role of CF, some others asserted its ineffectiveness owing to individual differences (Li, 2010; Nassaji et al., 2023). Moreover, previous studies mainly focused on simple linguistic features such as articles, third person singular, simple past tense, and English prepositions (Bitchener and Storch, 2016; Mujtaba et al., 2022; Rassaei, 2019. In this particular context, there is another factor that could potentially influence a learner's ability to recognize the distinction, and that is the specific linguistic form or structure being focused on. Complex structures, such as the hypothetical conditional and the passive voice, which consist of multiple linguistic elements or components, may benefit from targeted attention if metalinguistic feedback is given. This feedback can be provided alongside or without direct error correction, coupled with an explanation of the form, as suggested by Bitchener

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and Storch (2016) and (Li, 2010). Therefore, this study investigates the impact of mobile-mediated asynchronous text-based and audio-based CF on L2 writing development concerning the more complex grammatical structure of the unreal conditional and L2 writers' perceptions towards the type of CF they received.

## 2. LITERATURE REVIEW

### CF and L2 Development

Drawing on cognitive-interactionist perspectives, this study attempted to direct the attention of L2 learners to linguistic features during meaningful interactions that support the development of interlanguage (Long, 1996). An interactionist approach to CF, known as the focus on form technique, argues that feedback contributes to interlanguage development by helping learners notice the connections between form and meaning and make adjustments to their incorrect utterances (Gass & Mackey, 2015). CF has gained significant attention from L2 writing teachers and SLA researchers in recent decades. Lyster and Ranta (1997) identified six types of CF, including explicit feedback, recast, clarification, metalinguistic, elicitation, and repetition. Schmidt (2001) noticing hypothesis is a prominent framework often discussed in relation to CF effectiveness. According to Schmidt (2001), noticing and attending to the linguistic forms and structures presented in the input is essential for acquiring those forms, thereby facilitating L2 acquisition. When learners receive CF, it allows them to recognize the disparity between erroneous and correct forms and structures (Gass & Lewis, 2007). CF is considered highly effective in promoting L2 development by providing EFL learners with the correct form of their grammatically incorrect and unacceptable structures (Swain & Suzuki, 2008). Additionally, it plays a significant role in enhancing motivation to write (Ferris (2010); Ferris et al. (2013). Positive evidence, on the other hand, refers to grammatically correct and appropriate forms that indicate what is considered linguistically accurate. Additionally, adherents of the cognitivist theory maintain that intentional learning, including instruction and CF, is crucial for automating controlled processing (McLaughlin, 1987). Shintani (2016) discusses the concepts of automatization and proceduralization in skill-learning theory. According to this theory, proceduralizing happens as learners utilize declarative knowledge of a grammatical structure while practicing it receptively or productively. Automatization, on the other hand, occurs later when learners extensively practice the structure in real operating conditions (DeKeyser, 2015). This theory aligns with the widely used L2 teaching approach known as 'presentation, practice, and production (PPP)', where metalinguistic information is presented, learners engage in controlled exercises to produce the target language feature, and finally, they have the opportunity to use the target form in meaningful activities.

Numerous prior studies (Han and Hyland, 2019; Rassaei, 2013) have demonstrated the effectiveness of various CF types in L2 development, particularly in addressing linguistic errors among EFL/ESL learners. Nonetheless, further research is necessary to investigate the impact of different technology forms, specifically mobile devices, on L2 writing development.

### Mobile-Assisted Language Learning

In the 21st century, there has been a growing interest in the study of MALL. Initiatives like "Bring Your Own Device" encourage students to use their mobile devices in educational settings. The high availability of mobile devices among learners has proven effective in bridging the gap between social and educational activities (O'Bannon & Thomas, 2014). MALL represents a progressive technological advancement focusing on mobile devices and offering diverse learning opportunities (McQuiggan et al., 2015). Cell phones have become smaller in size while their capabilities have increased over time. Nowadays, these devices commonly offer features such as

Internet connectivity, voice messaging, SMS text messaging, cameras, and even video recording (Chinnery, 2006). The current study utilized text- and voice messaging via Internet access on WhatsApp applications.

According to Hsu (2016), MALL involves the use of various technologies like mobile phones, tablets, and similar advancements. Zarei et al. (2017) highlight the ubiquitous nature of such technologies and social media accessible to everyone. Researchers suggest that integrating these technologies into language courses, alongside traditional teaching methods, can enhance learner motivation and overall learning progress (p. 1-2). Several platforms and modes in the CALL and MALL environment have investigated the role of CF. Previous research has examined the impact of oral feedback provided during interaction through mobile applications or video conferencing. These studies have shown positive effects on various aspects of language development. For instance, speaking ability (Xu & Peng, 2017), noticing and learning grammatical features (Monteiro, 2014; Rassaei, 2022) pronunciation (Dai & Wu, 2021), learning of Mandarin tones (Bryfonski & Ma, 2020), as well as opportunities for peer interaction, increased motivation, engagement, and active learning (Chun, 1994; Dao et al., 2021). Yet, the area of written corrective feedback (WCF) using MALL to provide and assess the effectiveness of CF is a relatively recent field. Additionally, limited time constraints in traditional classrooms prevent teachers from providing individualized CF to students; instead, feedback is given to the entire class (Li, 2010). Mobile devices provide learners with innovative opportunities for language learning, unrestricted by limitations of time and space. Also, MALL stands in contrast to traditional learning approaches, as it empowers learners to take control and participate in activities that cater to their specific requirements (Pettit and Kukulska-Hulme (2007). The primary goal of CF is to enhance learners' writing accuracy. Different techniques can be employed, ranging from indirect to direct corrections (Ellis, 2006). Alternatively, feedback can be given by signaling the error without immediately providing the correction. Previous studies have indicated the beneficial impact of technology in delivering different types of CF (Nassaji & Kartchava, 2017). While there is limited research on MMF, there is evidence suggesting its potential to improve L2 writing development (Pourdana et al., 2021; Rodríguez, 2022).

Sheen (2007) found that learners struggle to process teacher feedback in such settings. Moreover, modern learners are increasingly focused on mobile phones and learning through mobile applications, potentially reducing their interest in classroom CF and preferring CF through mobile devices. Mobile devices offer convenience by overcoming time and space limitations, and the availability of new applications enables learners to interact through voice, text, and video chats, facilitating various communication opportunities. MALL has several benefits related to learners' perceptions (Hsu, 2013), assessment purposes (García Laborda et al. (2014); Tarighat and Khodabakhsh, 2016), learning strategies (Qian et al., 2018), and feedback. Recent studies have explored MALL's effectiveness in language education (Ebrahimpour et al., 2016; Ghorbani and Ebadi, 2020; Xodabande, 2017; Xu and Peng, 2017; Zarei et al., 2017). However, these studies have not addressed CF in MALL considering language learners' perceptions.

## L2 Learners' Perception of Feedback

Understanding the impact of feedback on learning involves recognizing how learners allocate their attention and resources when receiving feedback. Noticing plays a fundamental role in language acquisition, with all learning requiring some level of attention, even if not deliberate (Schmidt, 1995). The connection between feedback and learning hinges on whether learners notice the feedback. For feedback to be effective, learners must not only perceive it as corrective but also recognize the specific aspect of their output that needs correction and understand how to address it. The explicitness of feedback greatly influences its noticeability, with different types of feedback varying in their explicitness, leading to varying perceptions and reactions from learners. Implicit

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feedback may be harder to identify, making explicit CF, such as mobile-mediated feedback (MCF) (Suzuki et al., 2019), more accessible to learners.

Learners' metalinguistic skills can influence their ability to comprehend and interpret feedback accurately. (Carroll, 2001) suggests that perceiving feedback as corrective requires a certain level of language knowledge, involving thinking about language as an object. An essential area of feedback perception study investigates the connection between how learners perceive and interpret feedback and their L2 learning. Although it is commonly assumed that learners who perceive feedback better are more likely to benefit from it, there is limited empirical evidence to support this idea(Nassaji, 2015) points out that only a few recent studies have explored the relationship between feedback perception and L2 development. For instance, Mackey (2006) research investigated the impact of interactional feedback on ESL learners' noticing of target forms and whether this noticing was associated with improved learning outcomes. The study included 28 participants from two intact classes within a university-level intensive English program. One class served as the experimental group, receiving feedback, while the other class acted as the control group. The results revealed that learners who received interactional feedback exhibited a greater level of noticing for all three target forms (question forms, plurals, and past tense forms) compared to those who did not receive feedback. Moreover, participants who reported noticing the target forms demonstrated higher levels of learning, especially in the case of question forms. In another study by (Egi, 2007), the relationship between learners' interpretation of recasts and their L2 development was explored. The research involved 49 Japanese foreign language learners who engaged in task-based activities and received recasts for morphosyntactic and lexical errors. The findings indicated that learners' interpretation of recasts influenced their learning outcomes. Participants who viewed recasts as positive evidence or both positive and negative evidence demonstrated greater gains compared to those who perceived recasts as a response to content. Notably, learners who interpreted lexical recasts as positive evidence showed significantly higher learning progress than others. The study also noted that learners were more likely to interpret recasts as a response to content when the recasts differed from their production and when they were lengthy. The study underscores the significance of learners' recast interpretation and suggests that recast features may impact interpretation and subsequent learning outcomes.

Research on CF perception remains limited, and to the best of our knowledge, no study has investigated L2 writers' CF perception in the context of MALL.

## Text-Based vs. Audio-Based Corrective Feedback

In traditional language learning, teachers primarily provided written or computer-mediated feedback (CMF) in text form. However, technological advancements have introduced new modes of CF, such as audio-based and visual-based feedback, offering more personalized and motivating learning experiences (Bueno Alastuey, 2011). Each mode has distinct educational benefits. Text-based CMF allows learners to focus on spelling and grammar, while audio-based CMF aids in understanding suprasegmental aspects of language (Rassaei, 2019). The inclusion of an interlocutor's voice in audio-based CMF enhances the social element of asynchronous computer-mediated feedback (Rassaei, 2022). Scholars advocate for incorporating audio-based feedback in computer-mediated interaction to improve learners' satisfaction and learning outcomes (Ice et al., 2007). Analyzing the utilization of audio feedback dates back to the 1970s, during which educators trialed the practice of providing audio remarks to students through cassette tapes Anson, 1997; Pearce and Ackley, 1995). Based on the literature above, it can be argued that audio-based CMF offers greater media richness compared to text-based CMF, as supported by scholars (Hew and Cheung, 2012;Wise et al., 2004). Lack of media richness and social presence in text-based CMF may hinder learners' performance (Anderson et al., 2001). Using voice in audio-based computer-

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mediated communication is likely to foster a stronger sense of social presence, aiding learners in improving their language usage.

Despite the arguments mentioned earlier, prior research on L2 acquisition does not offer any evidence regarding the impact of asynchronous audio-based CF on L2 development. Therefore, the present study aims to address this gap by comparing the effects of asynchronous text-based CF and audio-based CF on L2 development. As mentioned before, the existing research on mobile-mediated instruction is limited, and considering the increasing interest in technology-based L2 instruction, further studies are required to gain a better understanding of the effectiveness of various forms of mobile-mediated CF for L2 development. Although a limited number of studies have explored the effectiveness of audio-based/text-based MMF on L2 writing development (Mujtaba et al., 2022; Rassaei, 2019), no study has investigated the efficacy of mobile-assisted audio-based versus text-based MCF. Besides, the reason why the researchers recruited a metalinguistic type of CF is the use of intermediate-level participants having a partly good command of English language proficiency and possessing relatively high cognitive processing (Ellis, 2008). Hence, the current research aims to shed light on this matter by comparing the impact of mobile-assisted text-based and audio-based CF on L2 writing development.

To investigate the present study the following questions are suggested:

1. Is there any significant difference between the effect of audio-based and text-based metalinguistic corrective feedback on Iranian EFL learners' accurate use of the unreal conditional?
2. What are the Iranian EFL learners' perceptions towards the efficacy of audio-based and text-based metalinguistic corrective feedback?

## 3. METHOD

### Participants

Initially, the research enlisted the participation of 94 EFL learners characterized by an intermediate level of proficiency, constituting a diverse group comprising both Iranian male and female participants. From this initial assemblage, the final cohort for the study was assembled on a convenience sampling basis, consisting of 60 bilingual individuals currently pursuing undergraduate studies in the Department of Foreign Language Education at Islamic Azad University. The participants had already taken grammar and writing courses in previous semesters and were acquainted with different grammatical structures, including various types of conditional forms, but they were unable to produce such a structure accurately in the pretest. The age range of these participants spanned from 19 to 23 years, each hailing from a Persian-speaking background and specializing in English as their major. Employing the convenience sampling technique, these candidates were selected after undergoing the Oxford Placement Test (OPT) and demonstrated compliance with the intermediate-level criteria (Hamidi et al., 2022).

### Instruments

#### *Oxford Placement Test*

To ensure uniformity in the participants' L2 proficiency, we administered the Oxford Placement Test (OPT), an adopted collaborative creation of Oxford University Press and Cambridge ESOL. The OPT's adaptability rendered it an ideal instrument for classifying participants into distinct proficiency levels. Facilitating a straightforward administration process, the test required approximately 30 minutes per participant, with seamless grading facilitated by an overlay. Those achieving scores between 28 and 47 were deemed to possess an intermediate level of proficiency, qualifying them as suitable candidates for inclusion in the study sample. Notably, Hamidi et al. (2022) attested to the high reliability of the test ($\alpha$ = .87) based on Cronbach's alpha, while

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Motallebzadeh and Nematizadeh (2011) and Wistner et al. (2009) concurred on its equally elevated construct validity.

## Writing Prompt

In a pretest-posttest design, data were gathered from participants through various writing prompts to assess their learning of L2 grammatical structure after using audio and text-based MCF. The researchers solely checked a series of writing tasks of some standardized tests and found some writing topics providing obligatory contexts to elicit conditional type II. Having attained unanimity, the researchers selected the most appropriate topics. Content validity was ensured by two experts in language testing and assessment. Each session involved the participants writing a composition of at least 70 words within approximately 20 minutes. The essay topics focused on unreal situations to evoke the target structure (unreal conditional).

## Target Structure

The study focused on the unreal conditional, consisting of two sentences with conditional clauses— an "if clause" and a "main clause"—each containing a verb. The correct use of tenses in these clauses is vital, as it determines the sentence's meaning. Generally, the dependent clause employs the simple past tense, while the main clause uses the present conditional tense, as shown in the following example.

> Example:
> *If I had money, I would travel around the world.*

The decision to center our attention on the unreal conditional arises from its well-established reputation as a formidable linguistic construct, characterized by intricate syntactic and semantic intricacies (Celce-Murcia & Larsen-Freeman, 1999). Mastering this structure necessitates a comprehensive grasp of the tense-aspect system, modal auxiliaries, and negation. As a result, learners often find themselves grappling with numerous errors when endeavoring to construct hypothetical conditional sentences. It is precisely this challenging nature that renders the unreal conditional an ideal focal point for our current investigation.

## Writing Task Scoring

Izumi et al. (1999) scoring method was incorporated in this study, serving as a robust framework to assess the accuracy of conditional sentences. The scoring method meticulously assigned one point for each correctly executed component feature found within both the "if clause" and "main clause" of the sentence. Moreover, if all the features were seamlessly integrated with precision, a well-deserved point was rightfully bestowed upon the learner. Notably, as expounded upon in Shintani et al. (2014) study, even an earnest attempt made by a learner to construct a sentence containing a dependent clause corresponding to one of the conditional sentences, regardless of its accuracy, was acknowledged with a point. The rationale behind opting for this scoring method lies in its capacity to engender a more refined data analysis. Doing so mitigates the risk of students focusing solely on learning and applying a single component of a conditional sentence, inadvertently overlooking the other essential elements (Rassaei, 2022).

The intra-rater and inter-rater reliability of the scores were determined. To measure intra-rater reliability, the texts were double-scored by one researcher two months after the initial marking. Pearson correlation coefficients were calculated for the scores of the four writing tasks: 0.92 (Writing 1), 0.989 (Writing 2), 0.93 (Writing 3), and 0.88 (Writing 4). For the two revision tasks, the correlation coefficients were: 0.91 (Revision 1) and 0.95 (Revision 2). Inter-rater reliability was examined by having two EFL teachers independently score the writings. Pearson correlation coefficients for the two sets of scores in the four writing tasks were: 0.91 (Writing 1), 0.90 (Writing

2), 0.94 (Writing 3), and 0.89 (Writing 4). The correlation coefficients for the two scores in the two revision tasks were: 0.90 (Revision 1) and 0.87 (Revision 2).

## *Semi-Structured Interviews*

To learn more about how the students felt about the interventions, interviews were carried out with their consent. To gain a comprehensive understanding of participants' perspectives on the effectiveness of audio- and text-based MCF in enhancing L2 writing development, researchers conducted open-ended interviews with five randomly selected participants from each group (Creswell & Creswell, 2018). Morse (2015) underlined that small sample sizes, even five participants, can be sufficient in qualitative research. The interviews were conducted in Persian, the participants' native language, to reduce misunderstandings and facilitate their ability to think about and communicate their opinions. During the interviews, a script with six items was used. In the script, there were yes/no questions as well as open-ended ones, like "Do you think that text-based/audio-based feedback had more impact on your accurate use of unreal conditional development in L2 writing?", "Do you think that audio-based/text-based feedback was helpful?", "Do you prefer text-based or audio-based feedback?", "Did text-based/audio-based feedback make you interested in addressing your errors in subsequent revisions of drafts?", and "Did text-based/audio-based feedback have any effect on your engagement in your writing Process?". It is important to note that the participants selected for the interview had already been notified about the availability of diverse feedback modes, including text-based and audio-based CF after the tutorial sessions. Once the learners gave their permission, a twenty-minute video recording was made of each interview. Following that, the authors translated the interviews into English.

Semi-structured interviews are an important research technique that combines the advantages of structured and unstructured interviews, providing flexibility in data collection while maintaining a certain level of consistency (Dornyei, 2014). This method allows researchers to obtain detailed and nuanced responses from participants, enabling a thorough investigation of their viewpoints, experiences, and attitudes (Patton, 2015).

Five participants were interviewed owing to the availability issue. During the online, individual interviews, the participants, whose native language was Farsi, received an explanation of the difference between audio and text-based MCF.

## *Data Collection Procedure*

To investigate the impact of grammatical accuracy on L2 writing development, participants underwent a practice session to familiarize themselves with the experimental design. They were informed about the writing tasks, and additional sessions were arranged to ensure their understanding. Based on the OPT results, 60 intermediate-level learners were selected from the university student population. These participants were divided into two groups: audio-based and text-based, each receiving distinct treatment (audio-text CF) as outclass practices at home. Five participants from each group were interviewed to gauge their perspectives on the effectiveness of audio and text-based MCF. Mobile-mediated text-based CF was implemented by incorporating concise written notes to the learners' highlighted incorrect expressions within a PDF document. When learners interacted with the underlined words, they were able to access a comment box containing the accurate version of the error. Regarding the content, the audio-based CF mirrored the text-based CF. For example:

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*If I have a much money, I buy Mercedes car.*
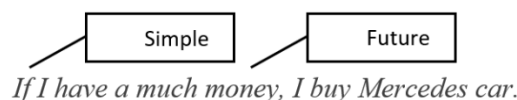
**Figure 1: The text-based CF**

Nevertheless, learners were able to listen to the correct form of their errors by playing the voice message instead of visually encountering each correct form within a comment box while clicking on underlined erroneous expressions in a PDF file.

As a pretest, learners were given a writing topic on the mobile phone that required them to use the target structure. They completed the writing tasks on a piece of paper which were sent to the teacher for correction purposes through WhatsApp application. The writing prompts provided to the students were "*What would you do if you had a lot of money? What would you do if you were a president?*". Learners (n=34) who had already mastered the structure were excluded from the study. In week 1 day 1, the students in the audio-based group received oral MCF through voice messages, while the text-based group received written MCF via texts, with feedback provided on WhatsApp. The same procedure was followed in weeks 2 and 3 along with revisions, which were checked and authenticated by the teacher. At the end of week 4, an immediate post-test was conducted. Notably, students in both groups produced new pieces of writing after each feedback and revision session. The collected data was then ready for analysis and interpretation.

### Design

In this investigation, a mixed-methods strategy was embraced, encompassing the amalgamation of quantitative and qualitative data collection techniques. For the quantitative facet, an experimental pretest and posttest design were deployed, gauging learners' prowess in acquiring the designated linguistic structure. Simultaneously, the qualitative dimension was attended to, involving the facilitation of insightful semi-structured interviews to glean profound comprehension of learners' perceptions concerning the implemented approach. Hence, the current study adopted a "sequential explanatory design," in which "first quantitative data were collected and analyzed; then to further explain the results qualitative data were collected and analyzed; finally, interpretations were based on quantitative qualitative data" (Hashemi, 2012). The researchers found a series of themes via related literature and used them as criteria to identify the existing themes in the interview contents. The new themes in the interview contents were merged with the criteria, using deductive and inductive approaches to thematic analysis (Bingham & Witkowsky, 2022). Member checking was performed on the interview contents in line with Nassaji (2020) to make sure that the data had been interpreted accurately and appropriately to ensure creditability. Every interview was transcribed verbatim and meticulously coded to unearth crucial nuances and intricacies for subsequent analysis (Rassaei, 2022).

### Data Analysis

In this investigation, a mixed methods approach was employed to delve into the influence of audio and text-based MCF in Mobile-Assisted Language Learning (MALL), specifically concerning the acquisition of a complex grammatical structure within the written accuracy of Iranian EFL learners. To quantitatively assess the impact of oral and written MCF on learners' written texts, the researchers opted for ANCOVA as the chosen analytical tool. On the qualitative front, the study entailed conducting semi-structured interviews to gain insight into the participants' perceptions and attitudes regarding the utilization of WhatsApp as a medium for language learning. These interviews were meticulously recorded, transcribed, and subjected to rigorous analysis by

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the researchers to unravel emerging themes that both substantiated and enriched the study's findings (Rassaei, 2022).

## 4. RESULTS

Table 1 displays descriptive statistics for the pretest and posttest regarding the two MCF conditions for the writing tasks.

**Table 1: Descriptive statistics for audio- and text-based CF on pretest and posttest**

|  |  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|---|
| **Audio-based** | Pretest | 30 | 7.50 | 14.50 | 11.1500 | 2.25584 |
|  | Post-test | 30 | 13.00 | 20.00 | 17.0333 | 1.72173 |
|  | Valid N (listwise) | 30 |  |  |  |  |
| **Text-Based** | Pretest | 30 | 5.50 | 13.50 | 9.3333 | 2.27556 |
|  | Post-test | 30 | 10.00 | 18.50 | 14.1500 | 1.97898 |
|  | Valid N (listwise) | 30 |  |  |  |  |

The text-based and audio-based groups were compared using the ANCOVA test. Before running ANCOVA, several presumptions, including the normal distribution of the data, the linear relation of the dependent and covariate variables, the homogeneity of the regression slopes, and the equality of the variances, were evaluated. Once these suppositions were confirmed, the major output of ANCOVA, as shown in the following table, was checked.

**Table 2: The result of ANCOVA on audio-based and text-based groups**

| Source | Type III Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 253.203[a] | 2 | 126.601 | 101.576 | .000 |
| Intercept | 212.926 | 1 | 212.926 | 170.837 | .000 |
| Pretest | 128.499 | 1 | 128.499 | 103.098 | .000 |
| Group | 36.729 | 1 | 36.729 | 29.469 | .000 |
| Error | 71.043 | 57 | 1.246 |  |  |
| Total | 14910.250 | 60 |  |  |  |
| Corrected Total | 324.246 | 59 |  |  |  |

a. R Squared = ,781 (Adjusted R Squared = ,773)

The results of the ANCOVA test revealed a significant difference between the two groups (F=29.469, P=.000). Accordingly, it can be claimed that one of the methods (text-based vs. audio-based) was more beneficial. Therefore, the estimated marginal means of the two methods were examined to determine which was more successful.

**Table 3: Estimated marginal for each group**

|  |  |  |  | 95% Confidence Interval | |
|---|---|---|---|---|---|
| Group | N | Mean | Std. Error | Lower Bound | Upper Bound |
| Audio-based | 30 | 16.437[a] | .212 | 16.012 | 16.861 |
| Text-based | 30 | 14.747[a] | .212 | 14.322 | 15.172 |

a. Covariates appearing in the model are evaluated at the following values: Pretest = 10,2417.

According to Table 3, the audio-based group's mean score was higher than that of the text-based one. Simply put, the former group outperformed the latter group.

### Perceptions Towards Audio and Text-Based Metalinguistic Corrective Feedback

The second phase of the study investigated how students perceived the effectiveness of audio-based CF and text-based MCF in developing writing skills in L2. The interview data were analyzed

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using an inductive approach, which involved identifying broad themes and generalizing based on them. The analysis of the students' responses revealed that they perceived audio-based MCF to be more effective than text-based MCF in improving their writing skills. Specifically, the effectiveness of audio-based MCF was reflected in better communication with their teacher, increased interest, and higher engagement. For example, the students reported that audio-based MCF improved their communication with their teacher, but text-based MCF did not have the same effect, as demonstrated in their interview responses.

- *Since I could hear the teacher's speech, I would be able to create a sense of communication with him. (Excerpt 1, Student 1)*
- *I could communicate with my teacher once I would be able to hear him as if he had been hailing his emotion. (Excerpt 2, Student 1)*
- *Audio-based feedback led me to make use of the comments friendly and this resulted in alleviating the anxiety. (Excerpt 3, Student 2)*
- *Voice-oriented feedback to clarify the ambiguity led to more intelligibility. (Excerpt 4, Student 3)*
- *I could not interact with my teacher due to the stark comments made up of texts. (Excerpt 2, Student 2)*
- *Because text-based feedback overshadowed the social aspect of communication, it was unable to get across the meaning. (Excerpt 3, Student 4)*
- *In text-based feedback, I felt like as if I was receiving feedback on the part of a robot. (Excerpt 4, Student 1)*
- *Since in text-based feedback, the emphasis was laid on the linguistic feature, no communication ever occurred. (Excerpt 3, Student 3)*

The participants expressed a 90% preference for audio-based MCF over text-based MCF, as it increased their interest in writing. This finding aligns with the significant difference in effectiveness between audio-based MCF and text-based MCF, as indicated by the study's quantitative analysis.

- *As I did not encounter audio type of feedback, it was interesting to me and motivated me to correct my errors. (Excerpt 3, Student 1)*
- *I had been feeling that my teacher attached significance to my learning process as I had been hearing his voice message. (Excerpt 1, Student 2)*
- *I noticed that my teacher had been following me up regarding my errors and he spent more time and energy for my learning. (Excerpt 4, Student 3)*
- *In addition to receiving comments on my errors, I received positive feedback praising my correct sentences. (Excerpt 5, Student 2)*
- *The fact that my teacher in audio-based feedback would occasionally remark on the clarity of idea sparked my interest in writing, as his feedback assisted me in improving my grammar. (Excerpt 2, Student 4)*
- *I was not motivated because no communication occurred in text type of feedback. (Excerpt 14)*
- *Due to the absence of the teacher and such a traditional type of feedback, I was exhausted in text-based feedback. (Excerpt 1, Student 4)*
- *Because of such a repetitious sort of feedback, text-based feedback made me demotivated to some extent. (Excerpt 2, Student 3)*
- *Text-based feedback did not inspire me as it appeared to be the same old teaching we had already been taught. (Excerpt 4, Student 4)*

The interviews aimed to elicit student perspectives on the engagement and the effectiveness of audio-based and text-based MCF, as well as their impact on students' confidence and orientation.

- *When using audio, I would jot down notes as I had been listening to the voice messages. This kept me involved as I had to be attentive to the mistakes I had made. (Excerpt 18)*
- *Because I was so immersed in the voice messages, the feedbacks were carved in my mind. (Excerpt 2, Student 1)*
- *I was so engaged in audio-based feedback that it made me pay attention to details. (Excerpt 3, Student 4)*
- *I got so involved that I felt like I have mastered the grammar of concern. (Excerpt 4, Student 3)*
- *Text-based feedback made me simply a passive receiver. (Excerpt 2, Student 2)*
- *Although it contributed to reduce my anxiety, text-based feedback did not engage me to internalize the grammaticality of the sentences. (Excerpt 3, Student 1)*
- *Since text-based feedback is outmoded which is commonly used in different educational settings, it did not involve me with the errors I had made. (Excerpt 4, Student 5)*
- *The audio-based feedback was more effective to me since the message can be conveyed better through audio. (Excerpt 3, Student 5)*
- *The audio-based feedback was much more beneficial in promoting not only grammar but also my pronunciation through listening to the audios while revising my previous drafts. (Excerpt 2, Student 3)*
- *Text-based feedback was impactful to some extent but it was confusing. (Excerpt 1, Student 4)*
- *I did not notice the text-based feedback since it was cumbersome to reflect on the grammar code. (Excerpt 4, Student 2)*
- *The teacher's gentle tone of speech in audio-based feedback led me to boost my confidence. (Excerpt 2, Student 5)*
- *Audio-based feedback helped me a lot because I am more audio-oriented towards any feedback I receive, be it linguistic or non-linguistic-related features. (Excerpt 3, Student 1)*
- *Although text-based feedback was effective to some extent, I am not text-oriented. (Excerpt 1, Student 3)*

The study found that audio-based MCF was more effective in enhancing participants' motivation to communicate in English, with 80% feeling more motivated compared to only 30% for text-based MCF. Students in the audio-based group showed greater interest and enthusiasm in learning and communicating in English, and the majority (85%) had a positive view toward audio-based MCF, compared to only 25% for text-based MCF. When it came to preferences, 90% of the audio-based group preferred using audio-based MCF, while only 23% of the text-based group preferred it. Additionally, most of the audio-based group (90%) expressed a desire to continue using audio-based MCF instead of traditional language instruction.

Engagement was a key factor in students' preference for audio-based MCF, with 70% in the audio-based group feeling more engaged in language learning activities compared to 30% in the text-based group. The audio-based group experienced less boredom and fatigue during activities. Additionally, 82% of students in the audio-based group expressed greater comfort with the feedback they received compared to only 27% of the text-based group.

## 5. DISCUSSION

The primary objective of this research was to compare the impact of audio-based and text-based MCF on Iranian EFL learners' acquisition of the unreal conditional and their perceptions of the effectiveness of these methodologies in L2 writing enhancement. Through rigorous statistical

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analysis, it was found that the group exposed to audio-based MCF outperformed their text-based counterparts in terms of L2 writing development scores. This finding corroborates previous studies conducted by Rassaei (2019) and Yilmaz (2012). In the current study, it can be argued that both text-based and audio-based CF methods have been successful in capturing learners' attention to their mistakes. This success can be attributed to the pre-highlighting of errors, allowing learners to visually or audibly perceive the correct forms by selecting their incorrect ones. As a result, both text-based and audio-based CF approaches offer learners both negative and positive evidence. The study's findings suggest that input-focused CF methods are effective in facilitating L2 development, especially when they are prominent enough to allow learners to deduce negative evidence. Additionally, the combination of presenting the correct form (positive evidence) alongside the learners' highlighted incorrect form appears to create an ideal situation for learners to benefit from mobile-assisted text-based and audio-based MCF.

Furthermore, the qualitative analysis of the interviews shed light on the students' attitudes towards the different approaches. Those who received audio-based MCF displayed a more positive outlook on this method as a means to improve their L2 writing skills. They reported higher levels of motivation, perceived effectiveness, preference, and engagement compared to those exposed to text-based MCF. These results underscore the potential benefits of incorporating audio-based strategies in language learning environments and align with the existing literature on the subject.

In the present investigation, the primary inquiry delved into discerning any notable distinctions between the consequences of text-based and audio-based asynchronous MMF concerning L2 writing development. Simultaneously, the study sought to pinpoint the more efficacious feedback modality for augmenting English unreal conditional accuracy among EFL learners. While both text-based and audio-based MCF exhibited effectiveness in promoting L2 writing development, the outcomes distinctly favored the audio-based MCF as significantly more potent compared to its text-based counterpart. This noteworthy discovery gains particular significance due to the prevailing emphasis in earlier research on asynchronous text-based CF (Rassaei, 2019;Yilmaz, 2012), leaving the impact of mobile-mediated audio-based MCF relatively unexplored in the realm of scholarly knowledge.

This groundbreaking revelation holds profound implications, bolstering the existing body of research that highlights the efficacy of computer-mediated asynchronous CF (Yilmaz, 2012). Linguistic authorities assert that CF plays a pivotal role in directing learners' attention toward their writing errors and linguistic input. The current investigation not only validates the positive impact of both text-based and audio-based MCF on learners' error awareness but also underscores the significance of salient input provided through MMF in bolstering grammatical accuracy. This novel approach empowers learners to deduce negative evidence, facilitating a more comprehensive understanding of language structures. Moreover, the judicious combination of error identification and highlighting the correct forms within MMF further amplifies its benefits, thereby elevating the potential for enhanced language acquisition outcomes.

The outcomes of this investigation lend robust support to the preeminence of audio-based MCF (MMF) when compared to its text-based counterpart. Schmidt's "noticing" hypothesis (2001) posits that learners must actively engage with CF for it to effectively facilitate the acquisition of grammatical rules and forms. In this context, audio-based MMF proves particularly adept at capturing learners' attention, bringing to their awareness the mismatches between their erroneous output and the provided input, which may have accounted for its superior efficacy. Furthermore, learners within L2 classes generally exhibit greater familiarity with and receptivity to oral CF, rendering audio-based modalities more appealing, congenial, and supportive (Rassaei, 2022).

Prior research has revealed learners' preference for asynchronous audio-based CF, attributable to its inherent flexibility and ease of comprehension (Rassaei, 2019). The innate nature of listening,

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as opposed to reading and writing, might underpin this predilection (Clark & Walsh, 2004). Additionally, Hew and Cheung (2012) highlight that listening to textual content can elevate motivation levels, engendering a sense of communication and social presence between the text's creator and the listener. This perception of social interaction during conversations, as underscored by Hew and Cheung (2012) and Wise et al. (2004), enhances the overall perception of feedback. The persuasive power of spoken language in attracting engagement, even from initially reticent individuals, further emphasizes the potential impact of audio-based CF (Hew & Cheung, 2012). Consequently, learners exposed to audio-based CF may experience a heightened sense of social presence, which, in turn, fosters a greater inclination to attend closely to the feedback they receive.

In the pursuit of our second research inquiry, we delved into the realm of learners' perceptions of audio and text-based MCF, aiming to ascertain which mode elicited a more favorable attitude. The outcomes gleaned from this investigation unveiled a clear preference among participants for the audio-based condition, deeming it more alluring and fulfilling compared to its text-based counterpart. The learners exposed to the audio condition exuded heightened levels of motivation and engagement, becoming notably proactive in their approach to the learning process. This enthusiastic response showcases the potential potency of audio-based MCF in cultivating a conducive and participatory learning environment (Rassaei, 2022; Wise et al., 2004).

Research suggests that learners' writing can significantly impact their motivation to write. Studies conducted by Ferris (2010)and Ferris et al. (2013) demonstrate that teacher feedback on writing can influence learners' motivation. The effectiveness of CF is also linked to learners' motivation. Thus, it is essential to consider writing motivation when studying CF dynamics. According to (Zheng & Yu, 2018), learners experience various emotions when receiving CF, including positive emotions such as satisfaction, gratitude, and positivity (Han & Hyland, 2019)as well as negative emotions like boredom, pessimism, anxiety (Han, 2017), disinterest (Han & Xu, 2019), and negativity (Zheng et al., 2020). Han and Hyland's study exemplifies a motivated student, Du, who actively corrected her mistakes due to her interest in CF and admiration for her teacher, aligning with our study's findings.

Mobile-mediated CF proved to be beneficial for investigating and enhancing learner engagement and learning outcomes in mobile-based education. Both groups of participants showed improved writing performance, with the audio-based group exhibiting a more significant improvement. The engagement of L2 learners was enhanced through audio-based CF, which involves multi-tasking, such as listening and understanding simultaneously, particularly with the complexity of the unreal conditional structure, which requires a relatively high cognitive load. The teacher's role in creating a secure and encouraging environment for the participants contributed to their willingness to try out the new complex grammatical structure in their writing tasks, indicating increased learner engagement.

## 6. CONCLUSION

In conclusion, the present study demonstrates that audio-based MMF is more effective than text-based MMF in enhancing the grammatical accuracy of the unreal conditional for L2 learners. Additionally, the study reveals themes of motivation and engagement that emerged from semi-structured interviews with the participants. To improve L2 learners' writing, teachers should incorporate both asynchronous audio-based and text-based MCF, not only in class but also in out-of-class assignments, as they offer flexible learning opportunities. Students' desire for recognition from instructors for their writing efforts should not be overlooked, as adult learners require encouragement to stay engaged and confident in their abilities. It is important to recognize that progress in language learning and writing skills involves both effective teaching and active participation and responsibility from the learners, which ultimately fosters motivation and receptivity to new ideas. The findings of the present study implicate that teachers should

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acknowledge that L2 language learners may experience varying advantages from different forms of MMF.

The present study has several limitations. Firstly, a delayed post-test was not conducted due to logistical constraints, preventing an investigation of long-term CF impact on L2 writing accuracy. Secondly, the study did not consider gender variations of participants as a potential confounding variable. Thirdly, other qualitative data collection methods such as questionnaires and focus groups were not utilized. Future research could focus on multiple target structures, as suggested by Shintani et al., (2014), although this study specifically targeted a complex grammatical structure. Finally, future studies may consider adopting a sociocultural view and explore both random and negotiated help in different contexts.

## Declaration of Interest

The author declares no conflict of interest regarding the publication of this research paper.

## Funding

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# Dialogic instruction of formulaic sequences through online collaborative tasks: Self-efficacy and self-regulation in academic writing among Iranian intermediate TEFL students

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**Abstract**
Previous studies have highlighted the possible effectiveness of instructing formulaic sequences in enhancing writing self-efficacy and self-regulation behaviors among EFL learners. However, few studies have probed into the nature of dialogic interaction within online task-based collaborative writing instruction, especially among university students. Therefore, the present study investigated the effect of dialogic instruction of formulaic sequences through online collaborative task-based academic writing instruction on the writing task performance, as well as self-efficacy and self-regulation behaviors of Iranian intermediate TEFL students. To this end, 60 Iranian intermediate TEFL students from two branches of Islamic Azad University were identified through Oxford Placement Tests. They were further assigned to two groups: experimental (n = 30) and control (n = 30). The experimental group received online collaborative task-based academic writing instruction, while the control group followed the conventional writing instruction in place at their universities. The results showed the impact of online collaborative task-based instruction with a focus on formulaic sequence on the Iranian intermediate TEFL students in terms of their writing task performance, self-efficacy, and self-regulation. Overall, results revealed the effectiveness of the proposed writing instruction in terms of improving the writing task performance, and self-efficacy and self-regulation measures. Findings bear pedagogical implications and provide fresh insights and new avenues for future research in this same domain.

## 1. INTRODUCTION

Acquisition of proficient writing skills is imperative for students across all academic fields to establish a distinct authorial voice within the scholarly community. (Newfields, 2003)as a fundamental attribute of higher education. Nevertheless, existing literature has indicated that Asian students, for instance, frequently encounter challenges in cultivating and mastering the practical competencies required for effective writing (Fujioka, 2001). A plausible explanation for this

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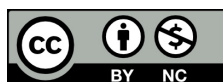
phenomenon may reside in the observation that learners of English as a Foreign Language (EFL) often lack awareness of self-regulated learning strategies pertinent to writing. A proficient writer must adeptly manage cognitive, metacognitive, motivational, and linguistic processes while generating extended texts (Boscolo & Hidi, 2007).

Zimmerman (2000) articulated self-regulation in writing as the "self-initiated thoughts, feelings and actions that writers employ to achieve various literary objectives, including the enhancement of their writing abilities and the improvement of the quality of the texts they produce" (p. 76). Writers are required to "navigate rules and mechanics while simultaneously maintaining a focus on the overall organization, form and features, purposes and goals, as well as the needs and perspectives of the audience" (Harris et al., 2002). Given the demanding and labor-intensive nature of this task, professional writers are inclined to utilize a variety of self-regulatory strategies to effectively manage and navigate the intricate dynamics of the writing process (Zimmerman, 2000).

That being said, numerous studies have substantiated the affirmative impact of self-efficacy and self-regulation on writing achievement (e.g., Abadikhah et al., 2018; Bakry and Alsamadani, 2015; Hammann, 2005; Magno, 2009; Zimmerman and Bandura, 1994). Contemporary research has further explored its interrelation with other psychological constructs, such as motivation, anxiety, and metacognition (Cetin, 2015; Csizer and Tanko, 2015; Ning and Downing, 2012; Vrieling et al., 2012), as well as feedback and portfolio assessment (Lam, 2014, 2015). However, there appears to be a dearth of research examining the application of self-efficacy and self-regulated learning strategies within the context of academic EFL writing.

In this regard, dialogic instruction of formulaic sequences can potentially improve EFL learners' self-efficacy in academic writing by providing structured language tools and fostering a supportive learning environment. Formulaic sequences, which are pre-constructed phrases or expressions, can help learners feel more confident in their writing by offering ready-made language structures that can be adapted to various contexts. This approach aligns with the principles of self-efficacy, which emphasize the importance of mastery experiences and social modeling in building confidence. In fact, dialogic instruction of formulaic sequences can significantly enhance the writing proficiency of EFL learners by fostering self-efficacy and self-regulation. This approach encourages collaboration and encourages the students to engage in discussions and negotiations, ultimately leading to improved writing skills and confidence in their abilities.

Conversely, while dialogic instruction can enhance writing proficiency, some learners may struggle with self-regulation and self-efficacy due to individual differences in motivation and prior experiences, indicating that a one-size-fits-all approach may not be effective for all EFL learners. In this regard, studies showed that teacher-led collaborative modeling enhances writing abilities by allowing students to compose and edit texts together, leading to better performance in writing assessments (Tahmasebi & Khodabakhshzadeh, 2017). Collaborative instruction not only improves writing skills but also fosters positive attitudes towards writing, which can further boost self-efficacy (Talebi et al., 2024). Thus, the present study attempts to investigate the effect of dialogic instruction of formulaic sequences through online collaborative task-based academic writing instruction on the self-efficacy and self-regulation of intermediate Iranian TEFL students.

## 2. REVIEW OF LITERATURE

An important set goal for almost all second or foreign-language learners is to attain native-like proficiency in all four language skills, including writing. This aspiration is particularly evident in their desire to write like native speakers in terms of both accuracy and fluency (Derakhshan et al., 2016). In fact, this desire has prompted the development of various approaches, methods, and techniques that promise to assist learners in achieving their goals or dreams (Richards & Rodgers, 2014). Mastering writing, considered as one of the most important and challenging skills in

learning English as a Foreign Language (EFL), can contribute to two significant theoretical constructs in the field, namely self-efficacy and self-regulation.

The sense of accomplishment that comes with mastering this daunting skill can enhance learners' beliefs in their ability to successfully perform tasks, which in turn plays a crucial role in their overall success in learning different components of the language. According to Bandura (2000), self-efficacy can have greater predictive power than learners' actual performance or aptitude. Besides, self-efficacy has been shown to have a positive influence on learners' self-regulation, regarded as an integral part of social cognitive theory (Bandura, 2000). In this theory, the interdependent relationship among the environment, behavior, and personal factors, encompassing physiological, cognitive, and affective aspects, operate in concert to ascertain the varying degree of an individual's achievement in executing a task. According to this notion, human beings possess the capability to exert influence over their surroundings rather than assuming the role of a passive entity devoid of agency. This capacity is predominantly manifested through their perception of self-efficacy (Schunk, 2003).

In this regard, it has been postulated that enhancing the proficiency of EFL learners by facilitating the acquisition of formulaic expressions, as a pivotal component of natural language, can augment their sense of self-efficacy and self-regulation (Wray, 2013). This is evidenced in the literature, wherein it is demonstrated that these expressions enable more efficient communication in both speaking and writing (Thoai, 2020). Consequently, learners can experience a sense of accomplishment in effectively conveying their intended message with decreasing reliance on assistance from teachers or more proficient peers (Wray, 2013). Thus, an influential factor in this regard is the teaching of formulaic language whose frequent use by EFL learners can significantly improve their linguistic, psycholinguistic, and communicative competency, leading to a more native-like fluency and proficiency. As learners become more proficient in using these fixed expressions, their confidence in their language abilities grows, thereby boosting their self-efficacy.

## Formulaic Sequences

Formulaic sequences, also known as multiword chunks or lexical bundles, are groups of words that are commonly used together and possess a specific meaning that is often challenging to deduce from the individual component words alone (Wray, 2013). Due to their widespread prevalence and practicality in conveying meaning efficiently, formulaic sequences can be found in all aspects of language, including conversation, writing, and even specialized domains such as academic and technical language (Conklin & Schmitt, 2012). Therefore, they are a fundamental component of English as foreign language learning (EFL) and are frequently used by native speakers in natural conversation in the form of pre-constructed phrases or sequences. Their significance extends to various aspects of language learning, making it an essential focus for effective language acquisition. For instance, the ability to decode spoken and written production relies heavily on recognizing and understanding formulaic language, as native speakers employ these sequences extensively in their everyday speech patterns Yeldham (2018) and written compositions.

Furthermore, formulaic language serves as an indicator of language competency and proficiency levels. Proficient language users tend to employ a wide range of formulaic sequences effortlessly, demonstrating their advanced language skills (Rafieyan, 2018). On the other hand, less proficient learners may struggle to incorporate such expressions into their speech or written production. Therefore, the acquisition and utilization of formulaic language provide learners with a valuable tool to showcase their language abilities (Thoai, 2020), particularly in writing skill. Formulaic sequences provide learners with a repertoire of language tools that can be used to construct academic texts, thereby reducing the cognitive load associated with writing and increasing confidence (Davis & Morley, 2018). The use of formulaic sequences can empower

students by enabling them to participate more confidently in academic discourse, as they have access to language that is recognized and valued in academic settings (Davis & Morley, 2018).

Corpus linguistic research revealed that language itself is formulaic, with native English speakers frequently using formulaic sequences for communication. Consequently, research in second language acquisition (SLA) has taken note of this observation and extensively examined the role of formulaic sequences in enhancing English language learners' writing proficiency. In recent years, research on the specifications, functions, and application of formulaic language in various aspects of learning English as a foreign language has flourished, making it an integral and effective component of applied linguistics and second/foreign language learning and teaching (Wood, 2015). One strand of studies has speculated the possible effectiveness of dialogic instruction of formulaic sequences through collaborative writing instruction on the EFL learners' self-efficacy and self-regulation behaviors. Thus, in what follows, they will be described in more length.

### Dialogic Instruction, Self-Efficacy, and Self-regulation

Dialogic instruction, which involves interactive and collaborative learning, can create a low-stress environment where learners feel comfortable experimenting with language. This can lead to increased self-efficacy and self-regulation as learners gain mastery over language use through practice and feedback (Gheitasi Azami, 2024). Collaborative writing activities, such as those facilitated by online platforms, have been shown to improve writing self-efficacy and self-regulation by providing opportunities for peer feedback and shared learning experiences (Li, 2023).

The impact of self-regulation strategies on the quality of academic writing among EFL learners is significant, as evidenced by various studies (e.g.,Anggraeni et al. (2024); Al-Jiboury (2024); Fan and Wang, 2024; Nikcevic-Milkovic et al., 2022). Self-regulated learning (SRL) enhances students' writing skills by fostering autonomy, self-monitoring, and strategic planning. This multifaceted approach not only improves writing performance but also addresses individual learner characteristics, such as anxiety and perceived difficulty. Previous studies showed that SRL-based instruction can significantly improve academic writing skills, including contextualizing and summarizing, across different self-efficacy levels (Anggraeni et al., 2024). The Self-Regulated Strategy Development (SRSD) model provides a systematic approach that teaches students specific strategies for managing writing tasks (Al-Jiboury, 2024).

Research indicated that the use of self-regulated strategies can mitigate writing anxiety, leading to improved performance. Configurations of cognitive, metacognitive, and motivational strategies are particularly effective (C. Fan & J. Wang, 2024). Besides, longitudinal studies revealed that regular exposure to SRL processes correlates with improved writing quality, particularly among higher proficiency writers (Nikcevic-Milkovic et al., 2022). In general, the impact of dialogic instruction on the development of self-efficacy and self-regulation in EFL learners' academic writing is significant, as evidenced by various studies that highlighted the benefits of collaborative and reflective practices.

Critically, while self-regulation strategies are beneficial, some EFL learners may struggle to implement these strategies effectively due to varying levels of motivation and external support, highlighting the need for tailored interventions in EFL contexts. In this regard, dialogic instruction, facilitated by online collaborative task-based instruction, which emphasizes interaction and feedback, fosters a supportive learning environment that enhances learners' confidence in their writing abilities.

## Collaborative Task-Based Instruction

Studies have demonstrated that structured learning activities, including the use of formulaic sequences, can lead to significant improvements in writing self-efficacy among EFL learners (Kamil, 2024). In this regard, collaborative task-based writing instruction, which often incorporates formulaic sequences, has been found to enhance self-efficacy and self-regulation by providing learners with clear goals and opportunities for success (Iravani, 2023). For instance, a study involving Chinese EFL learners showed that online collaborative writing significantly improved self-efficacy compared to traditional methods (Li, 2023) . Implementing process-oriented and genre-based approaches in writing instruction has also been shown to enhance self-efficacy. Another study found that after 14 weeks of such instruction, participants reported a notable increase in their confidence levels in academic writing (Zhang, 2018). Additionally, formative feedback mechanisms, including self and peer assessments, contributed to this growth by providing learners with constructive insights into their writing (Moussaoui, 2024).

In particular, a number of studies in the related literature have dealt with the inter-relationship between the instruction of formulaic sequences and the development of writing skills on the one hand and its effects on developing self-efficacy and self-regulation on the other. To begin with, (Guleker, 2015) study set out to look at the impact learner reflections at a university EFL writing course have on self-efficacy beliefs about the writing course and on the attitudes towards reflection in general. Results showed that reflection increases self-efficacy of the course and students see reflection as a valuable tool. In the same vein, Zhang (2018) explored the change of EFL learners' level of self-efficacy in process-genre academic writing instruction. The teaching experiment was conducted for 14 weeks. A total of 59 graduate students participated in the experiment. Before the experiment, the results showed that the general level of EFL graduates' self-efficacy in academic writing was relatively low. After 14 weeks of academic writing instruction conducted by the process-genre approach, the participants' self-efficacy improved significantly. In the interview, participants also reported an increasing level of confidence in academic writing.

Anggraeni et al. (2024) investigated the effectiveness of self-regulated learning-based instruction and regular writing instruction on academic writing skills among university English as Foreign Language students with different self-efficacy levels. It also delved into the students' voices regarding the effectiveness of self-regulated learning-based instruction and regular writing instruction. For these aims, forty students in the experimental group received self-regulated learning-based instruction intervention, and another forty students received regular writing instruction. Forty out of eighty students were selected using purposive sampling to obtain the qualitative data. Self-efficacy questionnaires, argumentative essay writing tests, observations, writing diaries, and semi-structured interviews were utilized to gather quantitative and qualitative data. The results of quantitative data showed that self-regulated learning-based instruction and regular writing instruction effectively enhanced academic writing skills (contextualizing, summarizing, and sourcing) across university English as Foreign Language students' high, moderate, and low self-efficacy levels. Results obtained from observations, writing diaries, and interviews contended the benefits and challenges of self-regulated learning-based instruction and regular writing instruction.

In a similar survey, (Li, 2023)investigated the influence of online collaborative writing instruction on writing performance, writing self-efficacy, and writing motivation of Chinese EFL learners. The experimental group utilized collaborative writing and peer-editing activities outside the classroom, while the control group received traditional in-class instruction. The study spanned a duration of 13 weeks, during which writing tasks, writing motivation scales, and writing self-efficacy scales were employed to collect data. The findings revealed that the experimental group exhibited significantly greater improvement in writing performance, motivation, and self-efficacy

compared to the control group. By leveraging collaborative writing, instructors can foster improved performance, increased motivation, and enhanced self-efficacy among EFL learners.

Moussaoui (2024) conducted a quasi-experimental study seeking to enhance the writing quality and self-efficacy beliefs of Algerian undergraduate learners. The study employed task-based writing instruction within the process approach framework and various forms of formative feedback (self-, peer-, and teacher feedback). Data were collected through pre- and post-intervention writing tests to assess the participants' writing quality, as well as pre-and post-intervention surveys, along with post hoc interviews, to measure their writing self-efficacy levels. The analysis of the findings revealed that, in comparison to their pre-intervention performance, the participants exhibited varying degrees of progress in writing quality and a moderate increase in their self-reported writing self-efficacy levels. These results suggested that adopting a process-oriented task-based approach to teaching academic writing, along with diverse forms of formative feedback, positively enhanced EFL learners' writing skills and fostered more positive beliefs in their English writing abilities.

Nikcevic-Milkovic et al. (2022) study employed the social-cognitive model of writing to explore the issue of students' self-regulated learning (SRL) in EFL writing, with a special emphasis on the most important processes and strategies that may influence the quality of writing performance. The authors also wanted to explore whether there is an improvement in the quality of writing performance due to regular students' exposure to EFL learning at the university level. The quantitative part of the study involved 104 students (53 undergraduates and 51 graduates), while the qualitative part focused on two groups of higher and lower-proficiency writers. The quantitative part of the study pointed out a significant difference between the first and second measurement points in the quality of students' writing performance both at the undergraduate and graduate levels of study. Students in the second measurement point had a better writing performance than those in the first. The qualitative research results showed that higher-proficiency writers exhibited better SRL processes compared to lower-proficiency writers. The research findings suggest that students' writing proficiency benefits from incorporating more SRL processes in EFL learning/teaching in the Croatian educational context.

Tuyet (2024) aimed to create and assess an intervention to enhance academic writing and SRL abilities among English learners (ELs). ELs have a significant presence on American university and college campuses. Although many ELs succeed academically and get degrees, they often struggle with academic writing due to poor English competence and opportunities for practice. Evidence-based interventions are needed to improve academic writing skills for English Language Learners (ELs). Research suggests that incorporating self-regulated learning (SRL) instruction into writing courses is a promising approach.

Similarly, (Yang, 2024) examined how six EFL learners developed motivation and employed self-regulated learning strategies in writing in a university-level English writing course designed based on the socio-constructivist approach. Analysis of semi-structured interviews and self-reflections revealed that the participants experienced positive changes in writing motivation, including enhanced task interest, clarified writing goals, and increased self-efficacy in writing, as they engaged in interrelated social, interactive and collaborative writing activities. They also used various self-regulated learning strategies, such as goal setting, self-monitoring, self-assessment, self-reflection, seeking external help, revising, and self-selected models, to improve writing skills.

Cunying Fan and Juan Wang (2024) study classified self-regulated writing strategies into four distinct types: cognitive, metacognitive, social behavioral, and motivational. These types were combined with L2 learners' writing anxiety and writing difficulty to form conceptual models to predict high or low writing performance. Fuzzy-set qualitative comparative analysis (fsQCA) was used to gain a detailed understanding of the causal intricacies of writing performance. Data was

collected from a sample of 94 students attending a university in eastern China. fsQCA revealed a variety of configurations associated with EFL writing performance, with six of them leading to high performance and four to low performance. These configurations highlight the complex causal relationship between students' use of self-regulated writing strategies and their writing performance while considering their writing anxiety and perceived writing difficulty. The study provided theoretical and practical implications for L2 teachers and educators who wish to enhance L2 learners' writing performance.

Rahimi Yeganeh et al. (2024a) conducted a rigorous investigation into the utilization of formulaic language within both individualistic and collaborative writing instructional contexts. The findings of this research indicated that the application of formulaic language instruction exerted a statistically significant effect. Nonetheless, the variances observed among the experimental groups did not attain statistical significance. This study elucidates prospective benefits for educators involved in language instruction directed towards the enhancement of student development and achievement. Furthermore, the results of this inquiry may provide valuable insights for individuals engaged in the creation of educational materials, curriculum development, and policy formulation.

In another effort, Rahimi Yeganeh et al. (2024b) explored the ramifications of formulaic language instruction on autonomy, self-efficacy, and writing proficiency among a group of 80 Iranian undergraduate intermediate TEFL learners. For this analysis, participants were randomly assigned to either an experimental group (n = 40) or a control group (n = 40). The experimental group engaged in a collaborative EFL writing intervention, while the control group participated in their traditional mainstream classes, which emphasized individual learning of formulaic sequences. The findings revealed that the explicit instruction of formulaic language within a collaborative learning framework significantly improved the writing performance, self-efficacy, and autonomy of the experimental group in comparison to their control group peers. The authors suggested that when learners engage in communicative writing activities with their peers, they are provided with opportunities to negotiate meaning, exchange ideas, and collaboratively construct knowledge. This cooperative environment facilitates the enhancement of EFL writing through the integration of formulaic language. Additionally, the results from the interviews underscored that the collaborative instruction of formulaic sequences yields numerous advantages, including beneficial knowledge exchange, prompt written feedback, enhanced linguistic features, superior work quality, accelerated task completion, increased confidence and self-efficacy, greater autonomy, improved interpersonal skills, enhanced negotiation capabilities, and ultimately, refined management competencies.

## The present study

While the use of formulaic sequences and dialogic instruction shows promise in enhancing self-efficacy and self-regulation behaviors, it is important to consider individual learner differences and the need for personalized instruction. Some learners may benefit more from other instructional methods, such as task-based activities, collaborative writing, or dialogic interaction, which also have been shown to improve self-efficacy and self-regulation in academic writing (Bozorgian et al., 2022; Iravani, 2023; Li, 2023). In accordance with Zimmerman and Bandura (1994) conceptual framework of academic self-regulation, the present study seeks to conduct a survey aimed at investigating the inter-relationship between the instruction of formulaic sequences and the development of writing skills and its impact on developing self-efficacy and self-regulation. Drawing upon findings of the previous studies in the related literature and based on the objectives of the present study, the following research questions have been postulated.

## Research Questions

**Q1:** Does teaching of formulaic sequences have any significant effect on EFL learners' self-efficacy?

**Q2:** Does teaching of formulaic sequences have any significant effect on EFL learners' self-regulation?

**Q3:** Does teaching of formulaic sequences through dialogic interaction have any significant effect on EFL learners' writing performance?

## 3. METHODOLOGY

### Design

The study employed a quasi-experimental pre-test and post-test design, which was quantitative in nature (Creswell & Creswell, 2017). The emphasis was primarily on quantitative data collection and analysis, which involved examining the responses provided by the participants in the questionnaires and their writing tasks. Due to the objective of establishing a cause-and-effect relationship between the independent variable (dialogic instruction of formulaic sequences through online collaborative task-based instruction) and dependent variables (academic writing performance, self-efficacy, and self-regulation), the study employed a quasi-experimental design. However, random assignment of the participants to the experimental and control groups was not possible due to resource constraints. Therefore, convenience sampling was used as a practical alternative (Ary et al., 2019).

### Participants

The original pool of the present study consisted of 80 undergraduate TEFL students who were studying at two branches of Islamic Azad University, namely South Tehran Branch and Central Tehran Branch. They included male and female students who came from diverse ethnic backgrounds. Although they had different mother tongues, they all spoke Farsi as the official language. Besides, they had varying levels of proficiency in English. However, they were later homogenized through the Oxford Placement Tests (OPTs) and 60 TEFL students were identified as the ones with an intermediate level of English language proficiency, which was deemed appropriate for the study as it enabled them to handle formulaic sequences and successfully complete the required tasks. The participants' age range was between 19 and 30 years.

### Instruments and material

The four instruments and the two materials used in this study are described below.

#### *Oxford Placement Test*

An Oxford Placement Test (OPT) (see Appendix A), developed by Dave (2004), was used to identify the homogeneous participants in terms of language proficiency. The OPT consisted of 200 multiple-choice items distributed in two sections, namely listening and grammar. Each section, comprising 100 items, required the participants to choose what word they heard (e.g., 'oarsman' or 'hoarseman'?). Besides, they had to check the correct grammar-related option in terms of the verb tense or sentence structure. Participants had 60 minutes to complete the test. OPT has a high internal consistency reliability of .94, which is very good (Muhammadpour et al., 2024).

#### *Writing Self-efficacy Questionnaire*

A Writing Self-Efficacy Questionnaire (WSEQ) (see Appendix B), adapted from Rahimi and Abedini (2009), was used to assess the participants' writing self-efficacy. WSEQ consisted of 18 Likert-Scale items, requiring the participants to indicate their level of agreement with each statement on a scale of 1 to 5, ranging from strongly disagree to strongly agree: (1) strongly disagree; (2) moderately disagree; (3) slightly disagree; (4) moderately agree; and (5) strongly

agree. They were given 10 minutes to respond to the questionnaire items. The face and content validity of the questionnaire was checked and confirmed by two professors in the subject-specific field. The questionnaire demonstrated good internal consistency with a Cronbach's alpha coefficient of 0.83.

### Questionnaire for Self-Regulated Learning Writing Strategies (QSRLWS)

A Questionnaire for Self-regulated Learning Writing Strategies (QSRLWS) (see Appendix C), developed by Shen and Wang (2024), was used to measure the participants' self-regulated learning of writing strategies. QSRLWS consisted of 44 items organized into 12 self-regulated learning writing strategies, namely self-initiation (4 items), planning (3 items), monitoring and evaluation (3 items), revising (4 items), text-generating (4 items), resourcing (3 items), social assistance or collaboration (6 items), acting on feedback (3 items), interest enhancement (3 items), emotional control (3 items), motivational self-talk (4 items), and self-consequence (4 items). The participants were kindly asked to state on a 5-point Likert Scale ranging from 1 to 5 how often they did each of the items. The Likert Scale ranged from 1 (never do), 2 (seldom do), 3 (sometimes do), 4 (often do), and 5 (always do). They were given 20 minutes to respond to the questionnaire items. The overall Cronbach's alpha consistency reliability for all items was equal to 0.94, and that for each of the 12 types of SRL writing strategies ranged from 0.79 to 0.92, indicating a high reliability for each scale (Shen & Wang, 2024).

### Writing scoring rubric

An analytic writing scoring rubric (see Appendix D), adapted from Wiseman (2012), to assess the writing tasks before and after the treatment, which involved dialogic instruction of the formulaic sequences through online task-based collaborative writing instruction. The rubric consisted of five domains that reflected the construct of second language writing, as determined through a rigorous content-validation process. This process involved examining existing writing rubrics, analyzing student writing samples, seeking input from faculty members, aligning the domains with curricula and course objectives, and incorporating feedback from raters. The newly developed analytic rubric encompassed the following subdomains: task fulfillment, topic development, organization, register and vocabulary, and language control. The performance criteria for each domain were designed to differentiate between different levels of proficiency.

### Writings tasks

The writing tasks were prepared after considering the participants' opinions about the writing topics prior to the treatment. Each participant was asked to propose up to three topics, and the most frequently suggested themes were randomly selected as the writing prompts. The aim of this process was to ensure that the selected writing topics appealed to the interests and preferences of as many participants as possible. Eventually, a total of 10 topics were finalized, covering areas such as the environment, tourism, globalization, academic ethics, economic factors, and features of imagined communities. Besides, following the guidelines for IELTS essay writing exam, the participants were instructed to write a 300-word essay on one of the selected topics, utilizing as many of the formulaic sequences as possible during the pretest and posttest phases and were given 40 minutes to do so.

### Materials for dialogic instruction of formulaic sequences

Various materials were utilized to teach formulaic sequences, including news articles on a range of topics such as sports, science, politics, and economy. Additionally, short stories and paragraphs on different subjects were incorporated to cater to the diverse preferences of the participants. Care was taken in the selection of these readings to avoid using overly specialized or technical texts that

participants may have had limited background knowledge on, as this could potentially detract from the focus on formulaic language.

## Procedure

Initially, ethical approval for conducting the research was sought from the deans of the two universities. Further, written online informed consents were obtained from a total of 80 undergraduate TEFL students conveniently selected from Islamic Azad University South Tehran Branch and Central Tehran Branch. An important ethical consideration was ensuring the anonymity and confidentiality of the participants' identities. There were no conflicts of interest to disclose. Next, all the participants completed the 60-minute Oxford Placement Tests (OPTs) in session one. Following Dave (2004) interpretation table of the OPT results, those whose scores fell within the range of 127 to 142 were identified as having intermediate language proficiency, totaling 60 individuals.

Subsequently, the 60 Iranian intermediate TEFL students were requested kindly to go through the pretesting phase by taking the writing task and completing the self-efficacy and self-regulation questionnaires. Then, the participants were assigned to either the control group or the experimental group, each with 30 participants. The experimental group underwent the treatment (i.e., dialogic instruction of the formulaic sequences through online collaborative task-based writing instruction), while the control group continued with their regular mainstream classes. The treatments took 10 sessions to complete. The treatment employed in the present study was as follows.

To meet the research objective, the online explicit instruction of formulaic sequences was carried out from sessions two to 11. The targeted formulaic sequences were explicitly presented to the experimental group participants online on the Adobe Connect Platform, and the instructions for accomplishing the tasks were given explicitly. This approach adhered to the guidelines proposed by Pellicer-Sanchez and Boers (2018), which suggested three ways of creating intentional learning conditions: (1) instructing learners to explore texts for the presence of formulaic language, (2) engaging learners in decontextualized formulaic language-focused activities that are not necessarily tied to any particular input text, and (3) involving learners with specific characteristics of formulaic language that can enhance memorability.

To this end, in order to familiarize the participants with the formulaic sequences, at the beginning of the intervention, a number of academic formulaic sequences were visually enhanced and defined as a technique to raise their awareness of them, following the approach suggested by (Peters & Pauwels, 2015). Therefore, the experimental group was consistently prompted to identify instances of formulaic sequences and phrases in the texts through an activity called "text chunking," which was previously employed by (Boers & Lindstromberg, 2009). Subsequently, the glossing of formulaic sequences was gradually reduced, and the learners were tasked with independently recognizing these instances in the text.

In order to enhance the learning of formulaic sequences, the intervention was not restricted to exposing the instances of formulaic language via explicit instruction. Following the reading and input phase of the treatment, an output phase was introduced, which required the participants to actively utilize and recycle the formulaic language in a dialogic manner in the form of writing tasks. To this end, they were grouped together and given an output writing task to accomplish. The manner in which this was done varied according to the participants' preferences. These activities included employing the formulaic sequences in a writing task, for which the participants had to respond to questions using the formulaic sequences learned. After finishing the task, they would read and comment on each other's works to refine them. They were given the opportunity to discuss and share knowledge in groups. Finally, the teacher would collect and correct the papers and further provide corrective feedback.

The rationale for employing diverse methodologies and activities for acquiring formulaic language was derived from the findings of Peters and Pauwels (2015), which indicated that in order for EFL learners to transition from mere recognition of formulaic language to the ability to produce it appropriately, they need to undergo a substantial period of successive exposure and engagement at varying levels of activation and involvement through dialogic interaction. In simpler terms, in order for learners to effectively and naturally utilize their knowledge of formulaic language in output and communicative tasks, they must engage in extensive practice with the newly acquired language. The significance of providing ample opportunities for learners to consolidate their knowledge to the point where it can be readily accessed (procedural knowledge) is widely acknowledged in the field (Gatbonton & Segalowitz, 2005).

Following each treatment session, the participants in the experimental group were instructed to write a 300-word essay on one of the selected topics, utilizing as many of the formulaic sequences as possible that they had learned during the treatment session. This process was repeated for a total of 10 sessions and lasted 40 minutes each time. Due to time constraints and the curriculum that needed to be covered, writing assignments were also assigned as homework. The written samples were collected and exchanged among the peers, who were provided with specific instructions on which aspects of the text to focus on based on the previously explained writing rubrics. The feedback received from peers was then negotiated between the writer and the peer, and the writers were asked to revise their texts based on the feedback provided. The teacher was available to assist if any difficulties arose.

In addition to exchanging feedback on the appropriate use of formulaic sequences, the peers were also prompted to discuss the potential impact of learning formulaic sequences on their self-efficacy and self-regulation in terms of writing the linguistic units. This step was taken under the assumption that it could lead to an increased awareness of the potential effects of the independent variable of interest (dialogic instruction of the formulaic sequences through task-based online collaborative writing instruction) on the dependent variables of interest (writing performance, self-efficacy, and self-regulation). Alongside the feedback exchange for writing, these discussions were also conducted over the course of 10 sessions.

During the post-treatment phase in session 12, all the participants were required to take the writing task and complete the self-efficacy and self-regulation questionnaires. They were collected to be analyzed and compared with the pre-test results to find out the potential effect of learning formulaic sequences through dialogic interaction on their performance.

### Data analysis

After checking and confirming the reliability of the questionnaires in terms of Cronbach's Alpha statistics, the paired and independent samples *t*-tests were employed as a statistical procedure to compare the writing, self-efficacy, and self-regulation pre-test and post-test results, with the aim of examining the potential effects of the treatment on the participants' performance. The paired and independent samples *t*-tests were run to compare the within-group and between-group differences in the participants' performance on the writing, self-efficacy, and self-regulation measures.

### 4. RESULTS

The Statistical Package for the Social Sciences (SPSS), version 29 (IBM SPSS Statistics 29.0), was used to analyze the participants' performance. After confirming the acceptable reliability of the instruments in terms of the Cronbach's Alpha statistic and the normality of the pre-and post-test data using the Shapiro-Wilk test, paired samples t-tests were run to compare the pre-and post-test performances of the participants under the online collaborative task-based instruction of the formulaic sequences. Further, independent samples *t*-tests were performed to compare the mean

scores of the control and experimental groups in the pre-test and post-test phases in order to determine whether there were any statistically significant differences in terms of their writing, self-efficacy, and self-regulation performances before and after the treatment. Effect sizes were also reported in terms of the statistical tests performed.

In what follows, Tables 1 and 2 present the descriptive and inferential statistics related to the paired samples *t*-test run on the performances of the participants in each group from the pre- to the post-test.

**Table 1: Descriptive Statistics Related to the Participants' Performances on Writing Task, and Self-Efficacy and Self-regulation Questionnaires**

| Group | | Writing | | Self-efficacy | | Self-regulation | |
|---|---|---|---|---|---|---|---|
| | | WR.pre | WR.post | SE.pre | SE.post | SR.pre | SR.post |
| EG | M | 12.53 | 15.43 | 13.23 | 15.03 | 24.33 | 34.53 |
| | STD | 1.40 | 1.30 | 1.54 | 1.40 | 1.72 | 2.92 |
| CG | M | 12.37 | 14.70 | 12.73 | 14.30 | 23.77 | 31.53 |
| | STD | 1.24 | 1.23 | 1.43 | 1.36 | 2.07 | 3.71 |

Note on Table 1: EG = Experimental Group; CG = Control Group; WR = Writing; SE = Self-efficacy; SR = Self-regulation; M = Mean; STD = Standard Deviation

**Table 2: Results of Paired Samples t-Test Related to the Participants' Performances on Writing Task, and Self-Efficacy and Self-regulation Questionnaires**

| Group | | | M | STD | STDEM | Lower | Upper | *t* | *df* | Sig. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 95% CI | | | | |
| EG | Pair1 | WR | -2.90 | 1.78 | .32 | -3.56 | -2.23 | -8.88 | 29 | .00 |
| | Pair2 | SE | -1.80 | 1.29 | .23 | -2.28 | -1.31 | -7.60 | 29 | .00 |
| | Pair3 | SR | -10.20 | 2.57 | .47 | -11.16 | -9.23 | -21.66 | 29 | .00 |
| CG | Pair1 | WR | -2.33 | 1.78 | .32 | -3.00 | -1.66 | -7.14 | 29 | .00 |
| | Pair2 | SE | -1.56 | .77 | .14 | -1.85 | -1.27 | -11.08 | 29 | .00 |
| | Pair3 | SR | -7.76 | 3.71 | .67 | -9.15 | -6.38 | -11.46 | 29 | .00 |

As evident from Table 1 and Table 2, the two groups displayed a statistically significant difference from the pretest to the posttest as a result of receiving their respective treatments. However, to respond to the following three research questions, we had to compare the performances of the two groups in terms of their writing performance and self-efficacy and self-regulation measures. To this end, the results of running independent samples *t*-tests are given below.

## Research Question One

The first research question strove to examine whether dialogic instruction of formulaic sequences through online task-based collaborative writing instruction had any statistically significant effect on EFL learners' self-efficacy. The answer to this question was affirmative. To answer the first research question, an independent samples *t*-test was run on the self-efficacy scores of the two groups and the results are given in Table 3 below.

**Table 3: Results of Independent Samples t-Test Related to the Participants' Performances on Self-Efficacy Questionnaire**

| | | Levene's ToEV | | t-Test for EoM | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | MD | Std. ED | Lower | Upper |
| **Self-efficacy** | EV A | .00 | .94 | 2.05 | 58 | .04 | .73 | .35 | .01 | 1.44 |
| | EV NA | | | 2.05 | 57.96 | .04 | .73 | .35 | .01 | 1.44 |

Note on Table 3: EV A = Equal Variance Assumed; EV NA = Equal Variances Not Assumed; MD = Mean Difference; Std. ED = Standard Error Difference; CI = Confidence Interval; EoM = Equality of Means; ToEV = Test for Equality of Variances

Table 3 indicates that the experimental group that received dialogic instruction of formulaic sequences through online task-based collaborative writing instruction displayed a statistically significant difference in terms of self-efficacy scores compared with their control group peers; $t(58) = 2.05$; $p = .04$. The effect size for this statistical significance was equal to Cohen's $d = .52$, which was considered a medium effect size (Cohen, 1992).

### Research Question Two

The second research question probed whether dialogic instruction of formulaic sequences through online task-based collaborative writing instruction had any statistically significant effect on EFL learners' self-regulation. The answer to this question was affirmative. To answer the second research question, an independent samples $t$-test was run on the total self-regulation scores of the two groups and the results are given in Table 4 below.

**Table 4: Results of Independent Samples t-Test Related to the Participants' Performances on Self-Regulation Questionnaire**

| | | Levene's ToEV | | t-Test for EoM | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | MD | Std. ED | Lower | Upper |
| **Self-regulation** | EV A | 1.88 | .17 | 3.47 | 58 | .00 | 3.00 | .86 | 1.27 | 4.72 |
| | EV NA | | | 3.47 | 54.96 | .00 | 3.00 | .86 | 1.27 | 4.72 |

Note on Table 4: EV A = Equal Variance Assumed; EV NA = Equal Variances Not Assumed; MD = Mean Difference; Std. ED = Standard Error Difference; CI = Confidence Interval; EoM = Equality of Means; ToEV = Test for Equality of Variances

Table 4 reveals that the experimental group that received dialogic instruction of formulaic sequences through online task-based collaborative writing instruction displayed a statistically significant difference in terms of the total self-regulation scores compared with their control group counterparts; $t(58) = 3.47$; $p = .00$. The effect size for this statistical significance was equal to Cohen's $d = .89$, which was considered a large effect size (Cohen, 1992).

We were also interested to examine what self-regulation constructs, in particular, improved significantly as a result of the treatment. Therefore, the same procedure was followed for the related constructs and the results are presented in Table 5 below.

**Table 5: Results of Independent Samples t-Test Related to the Participants' Performances on Self-Regulation Constructs**

| | | Levene's ToEV | | t-Test for EoM | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | MD | Std. ED | Lower | Upper |
| **Self-initiation** | EV A | .09 | .75 | -.23 | 58 | .81 | -.03 | .14 | -.32 | .25 |
| | EV NA | | | -.23 | 57.57 | .81 | -.03 | .14 | -.32 | .25 |
| **Planning** | EV A | .00 | .94 | 4.66 | 58 | .00 | .70 | .15 | .39 | 1.00 |
| | EV NA | | | 4.66 | 52.58 | .00 | .70 | .15 | .39 | 1.00 |
| **Monitoring& Evaluation** | EV A | 13.12 | .00 | 4.28 | 58 | .00 | .63 | .14 | .33 | .92 |
| | EV NA | | | 4.28 | 44.13 | .00 | .63 | .14 | .33 | .93 |
| **Revising** | EV A | 5.77 | .01 | 4.23 | 58 | .00 | .83 | .19 | .43 | 1.22 |
| | EV NA | | | 4.23 | 48.61 | .00 | .83 | .19 | .43 | 1.22 |
| **Text-generating** | EV A | .56 | .45 | 3.45 | 58 | .00 | .60 | .17 | .25 | .94 |
| | EV NA | | | 3.45 | 53.92 | .00 | .60 | .17 | .25 | .94 |
| **Resourcing** | EV A | 1.75 | .19 | 2.00 | 58 | .05 | .30 | .15 | .00 | .60 |
| | EV NA | | | 2.00 | 54.28 | .05 | .30 | .15 | .00 | .60 |
| **SocialAssistance&Collaboration** | EV A | .00 | .98 | 2.55 | 58 | .01 | .80 | .31 | .17 | 1.42 |
| | EV NA | | | 2.55 | 57.67 | .01 | .80 | .31 | .17 | 1.42 |
| **ActingonFeedback** | EV A | 42.92 | .00 | 2.33 | 58 | .02 | .43 | .18 | .06 | .80 |
| | EV NA | | | 2.33 | 41.04 | .02 | .43 | .18 | .05 | .80 |
| **InterestEnhancement** | EV A | .73 | .39 | -1.31 | 58 | .19 | -.23 | .17 | -.58 | .12 |
| | EV NA | | | -1.31 | 56.56 | .19 | -.23 | .17 | -.58 | .12 |
| **EmotionalControl** | EV A | 4.46 | .03 | -1.43 | 58 | .15 | -.26 | .18 | -.63 | .10 |
| | EV NA | | | -1.43 | 54.58 | .15 | -.26 | .18 | -.63 | .10 |
| **Motivational SelfTalk** | EV A | .00 | .97 | -1.25 | 58 | .21 | -.33 | .26 | -.86 | .20 |
| | EV NA | | | -1.25 | 57.93 | .21 | -.33 | .26 | -.86 | .20 |
| **Self-Consequences** | EV A | 1.20 | .27 | -1.50 | 58 | .13 | -.43 | .28 | -1.00 | .14 |
| | EV NA | | | -1.50 | 56.62 | .13 | -.43 | .28 | -1.00 | .14 |

Note on Table 5: EV A = Equal Variance Assumed; EV NA = Equal Variances Not Assumed; MD = Mean Difference; Std. ED = Standard Error Difference; CI = Confidence Interval; EoM = Equality of Means; ToEV = Test for Equality of Variances

Table 5 reveals that the experimental group that received dialogic instruction of formulaic sequences through online task-based collaborative writing instruction displayed a statistically significant difference in terms of the self-regulation constructs, such as planning ($p = .00$), monitoring and evaluation ($p = .00$), revising ($p = .00$), text-generating ($p = .00$), resourcing ($p = .05$), social assistance and collaboration ($p = .01$), and acting on feedback ($p = .02$), compared with their control group counterparts. The remaining constructs failed to reach statistical significance.

### Research Question Three

The third research question queried whether dialogic instruction of formulaic sequences through online task-based collaborative writing instruction had any statistically significant effect on EFL learners' writing performance. The answer to this question was also affirmative. To answer the third research question, an independent samples $t$-test was run on the writing task scores of the two groups and the results are given in Table 6 below.

**Table 6: Results of Independent Samples t-Test Related to the Participants' Performances on Writing Task**

| | | Levene's ToEV | | t-Test for EoM | | | | | 95% CI | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | MD | Std. ED | Lower | Upper |
| Writing | EV A | .09 | .76 | 2.23 | 58 | .02 | .73 | .32 | .07 | 1.39 |
| | EV NA | | | 2.23 | 57.83 | .02 | .73 | .32 | .07 | 1.39 |

Note on Table 6: EV A = Equal Variance Assumed; EV NA = Equal Variances Not Assumed; MD = Mean Difference; Std. ED = Standard Error Difference; CI = Confidence Interval; EoM = Equality of Means; ToEV = Test for Equality of Variances

Table 6 shows that the experimental group that received dialogic instruction of formulaic sequences through online task-based collaborative writing instruction displayed a statistically significant difference in terms of writing task performance compared with their control group counterparts. The effect size for this statistical significance was equal to Cohen's $d = .57$, which was considered a medium effect size (Cohen, 1992).

## 5. DISCUSSION

Although teaching formulaic sequences through dialogic writing instruction appears to be effective in boosting self-efficacy and self-regulation, it is crucial to account for the differences among individual learners, hence the need for tailored instruction. Therefore, this study aims to explore how dialogic instruction of formulaic sequences through task-based online collaborative academic writing instruction impacts the self-efficacy and self-regulation of Iranian intermediate TEFL students. To this end, three research questions were formulated.

The first research question probed whether teaching formulaic sequences had any significant effect on Iranian intermediate TEFL students' self-efficacy. Results pointed to the effectiveness of the dialogic instruction of formulaic sequences through task-based online collaborative writing instruction on the Iranian intermediate TEFL students' self-efficacy measure. Our results are generally in line with those of the previous studies (Gheitasi Azami, 2024; Guleker, 2015; Iravani (2023); Kamil, 2024; Li, 2023; Moussaoui, 2024; Zhang, 2018) in that collaborative task-based instruction of formulaic sequences can lead to EFL learners' improvement in terms of self-efficacy measures. The possible reasons are that dialogic instruction encourages interactive and collaborative learning, creating a relaxed atmosphere where students feel at ease experimenting with their language skills. This supportive environment boosts their confidence and ability to manage their learning as they grow more proficient through practice and constructive feedback (Gheitasi Azami, 2024). Additionally, collaborative writing activities—especially those held on online platforms—have proven effective in enhancing students' confidence in their writing and their ability to self-manage and self-regulate. These activities allow for peer feedback and shared learning experiences, which further enrich the learning process (Li, 2023) leading to improved self-efficacy among the EFL learners.

The second research question queried whether teaching of formulaic sequences had any significant effect on Iranian intermediate TEFL students' self-regulation. Results revealed the effectiveness of the dialogic instruction of formulaic sequences through task-based online collaborative writing instruction on the Iranian intermediate TEFL students' self-regulation measure. Our results are in agreement with those of previous studies (e.g.,Al-Jiboury, 2024; Anggraeni et al., 2024; Fan and Wang, 2024; Nikcevic-Milkovic et al., 2022; Tuyet, 2024) in that self-regulation can improve writing task performance. The possible reasons are that collaborative task-based instruction of formulaic sequences can foster autonomy, self-monitoring, and strategic planning, gradually leading to improved self-regulation among EFL learners. This multifaceted approach not only improves writing performance but also addresses individual learner characteristics, such as anxiety and perceived difficulty. Also, previous studies showed that SRL-

based instruction could significantly improve academic writing skills, including contextualizing and summarizing, across different self-efficacy levels (Anggraeni et al., 2024).

Besides, the results were indicative of the outperformance of the experimental group in terms of a number of self-regulation constructs, such as planning, monitoring and evaluation, revising, text-generating, resourcing, social assistance and collaboration, and acting on feedback, which seems to be the explicit outcome of the proposed treatment in this study. These findings are in line with those of (Cunying Fan & Juan Wang, 2024; C. Fan & J. Wang, 2024) in that a configuration of self-regulated writing strategies, such as cognitive, metacognitive, social-behavioral, and motivational, can be particularly effective in enhancing the EFL learners' self-regulatory behaviors leading to improvements in writing task performance. This can be achieved under task-based collaborative writing instruction. Therefore, it stands to reason that there is a relationship between EFL learners' use of self-regulated writing strategies and their writing performance.

The third research question asked whether teaching formulaic sequences through dialogic interaction had any significant effect on Iranian intermediate TEFL students' writing performance. Results indicated the effectiveness of the dialogic instruction of formulaic sequences through task-based online collaborative writing instruction on the Iranian intermediate TEFL students' writing task performance. Our results run in tandem with those of previous studies (Li, 2023; Rahimi Yeganeh et al., 2024) in that the collaborative instruction of formulaic sequences would lead to the betterment of writing performance, self-efficacy, and autonomy. The possible reasons are that when learners engage in communicative writing activities with their peers, facilitated by dialogic interaction, they are blessed with opportunities to negotiate meaning, exchange ideas, and collaboratively construct knowledge. This cooperative environment facilitates the enhancement of EFL writing through the integration of formulaic language. Also, collaborative instruction of formulaic sequences yields numerous advantages, including beneficial knowledge exchange, prompt written feedback, enhanced linguistic features, superior work quality, accelerated task completion, increased confidence and self-efficacy, greater autonomy, improved interpersonal skills, enhanced negotiation capabilities, and, ultimately, refined management competencies.

## 6. CONCLUSIONS

Overall, the results showed the impact of online collaborative task-based instruction with a focus on formulaic sequence on the Iranian intermediate TEFL students in terms of their writing task performance, self-efficacy and self-regulation. These students thrive in the supportive nature of collaborating online, sharing thoughts and constructive feedback, and learning from their peers around them in a low-pressure environment. By tackling writing tasks together, they were emboldened to experiment with language and/or their own voices without the fear of being shot down, building their confidence organically. Learning formulaic sequences this way offered the students practical tools that conditioned the generation of writing fluency, which in return nourished smoother and more coherent expression overall. These types of collaboration and direct instruction fostered a model of growth and support.

Therefore, the findings bear pedagogical implications for all the stakeholders, including the TEFL professors, TEFL students, curriculum designers, and policymakers. The online collaborative task-based instruction could be considered an effective pedagogy that can help TEFL students deal with the complexities related to written production. We are preparing these learners for success in their education not only by developing their competency in written language and increasing their confidence and self-regulation but also by equipping them with these essential skills that will stay with them for life. Training against these will better equip individuals to succeed in academic contexts, which will subsequently enable individuals to do better in real-world scenarios.

Moreover, collaborative writing tasks can be adapted to focus the students on formulaic sequences to enhance their writing skills. As a result, they are able to recognize reoccurring phrases and sentence structures, allowing their writing to become increasingly clearer and more effective. Also, participation in cooperative work can greatly increase student self-efficacy. As students share their work and are critiqued by peers, they become more confident in their language skills and start to take risks in their writing. That said, a virtual co-learning environment helps create a sense of community for learners. Such peer support encourages students to immerse themselves in the learning journey while also creating a milieu for discussing various points of view and backgrounds. Also, with the rise of online collaboratively taught instruction, students are honing tactics that apply to wider worlds outside of school, connecting classrooms with meaningful exchanges outside. This flexibility is essential in a more globalized world. Finally, this equips them for future endeavors that demand written communication, as they have developed strong writing and self-management skills, instilled confidence and equipping them for the academic and professional worlds.

However, the present study was limited in terms of a number of factors. For example, the convenience sampling method would limit the generalizability of the findings; that is, the current sample could not be adequately representative as only Iranian intermediate TEFL students of only two branches of Islamic Azad University, namely South Tehran Branch and Central Tehran Branch were selected as the participants in this study. Therefore, the findings may not generalize to larger populations or other educational contexts. The overall quality of the instruction might have been influenced by the students' internet access and quality. Besides, there might have been varied levels of technology awareness among the participants. The study duration, including the intervention sessions, might also have played a negative role. Thus, other study designs, such as longitudinal might be needed to add to the robustness and rigor of the results. In order to provide a more in-depth picture of how the intervention aided the experimental group students, adding a qualitative aspect including semi-structured interviews, observation protocols, and self-reports could be useful.

Also, the study was delimited to Iranian intermediate TEFL students only, which turned the spotlight on language proficiency. Therefore, the findings might not be useful for advanced or beginner learners, which may also provide valuable insights into correlations and open new avenues for future research. Besides, the intervention relied heavily on formulaic sequences and left other mechanics of writing untouched. In addition, the study was conducted online and cannot be generalized to face-to-face settings. The conversation may have looked quite different, provided these same instructional practices were at play in traditional classrooms. Another delimiting factor was the duration of the collaborative writing tasks, which could have restricted variations in how the participants interacted with each other during the study.

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# Iranian EFL University Students' Personality Traits and Their Online Learning Satisfaction

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**Abstract**

Based on the existing literature in the field of online learning, it has been found that learners' satisfaction is influenced by multiple factors such as course design, instructor interaction, and assessment fairness. All of these aspects play a crucial role in determining learners' overall satisfaction with their educational experience. To thoroughly investigate the contentment of the students regarding online learning systems, it is essential to investigate another significant factor related to their personalities. Therefore, the present quantitative study attempts to investigate the relationships between the big five personality traits and online learning satisfaction of Iranian EFL university students. To fulfill this aim, an election survey including the NEO Five-Factor Inventory questionnaire and online learning satisfaction questionnaire were sent out to 150 Iranian EFL students participating in university online classes. The research findings revealed that openness to experience and extroversion, two of the big five personality traits, show a favorable correlation with online learning satisfaction in general. The study discovered that learners who had higher levels of satisfaction with online learning also had higher levels of openness, conscientiousness, extraversion, and agreeableness, but lower levels of neuroticism. This research has the potential to have a considerable effect on the current body of literature by establishing a connection between students' personality traits and their satisfaction with online learning. Tailoring the class format to accommodate diverse personality types can significantly enhance the learning experience; therefore, it is essential to consider learners' personality traits during the stages of class development, instruction, and learning.

## 1. INTRODUCTION

The rapidly evolving technological landscape in today's world has led to a significant transformation in the way education is imparted and accessed. The traditional educational model, characterized by physical classrooms and face-to-face interactions, has been gradually complemented and, in some cases, replaced by online learning platforms. This shift towards online education has been accelerated by various factors, including the increasing accessibility of high-speed internet, the proliferation of mobile devices, and, most recently, the COVID-19 pandemic.

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On March 11, 2020, the World Health Organization (WHO) classified the Coronavirus disease (COVID-19) as a pandemic, which a few months later, rapidly spread all over the world and resulted in millions of infections and deaths. The pandemic served as a catalyst, compelling educational institutions worldwide to transition to remote learning modalities to ensure the continuity of education while safeguarding public health. Today's importance of online learning is increasing significantly and irreversibly (e.g.,Despotović-Zrakić et al., 2012). Online learning or e-learning refers to situations in which online teaching and learning activities are obtained. Online learning has a significant intensification in the modern days and students' happiness with it is a vital factor in determining their success or failure in online courses (Kedia & Mishra, 2023). Hence, it is important to probe the categories that could impact learners' satisfaction. Due to online learning intensification and blended educational technology, it seems essential to investigate students' satisfaction in online learning contexts (Du et al., 2020). According to Demuyakor (2020), the implementation of online teaching strategies in the creation of online courses post-COVID-19 affects student satisfaction and different perspectives related to the course. Research shows that students' online learning satisfaction is confirmed essentially to utilize individuals' abilities to enhance their learning experience in an online setting; However, assessing the level of contentment among learners regarding online learning has become a pressing concern among universities (Horzum & Uyanik, 2015; Isik, 2008). As online courses and entire learning programs are becoming more prevalent in higher education, and with the students at the focus of the learning system, it is crucial to provide accurate information on how different learners perceive online learning.

Satisfaction is considered a critical element of education, effectively impacting learners' success or failure (Kedia & Mishra, 2023). Several studies have shown that various factors have an impact on learners' satisfaction with online learning. These factors include learners' acceptance of technology, their prior experience with online learning, the level of support they receive from their institution, the academic environment in which they are learning, and the interaction they have with their instructors (Biber et al., 1994; Conrad, 2002; Fulford & Zhang, 1993; Palloff & Pratt, 2010). According to Arbaugh and Duray (2002) and Conrad (2002), students who had more exposure to online classes were more satisfied with online courses and had less fear and anxiety about e-learning. Pitcher et al. (2022) also found that some factors such as educational structure, teacher support, and experiences, as well as students' motivation, were effective in e-learning satisfaction. However, the impact of personal variations on online satisfaction has not adequately been accounted for in previous studies. The influence of individual differences—such as learning preferences, styles, experiences, and personalities—on online satisfaction remains insufficiently addressed in prior research, despite evidence from Bouhnik and Carmi (2013) suggesting that these factors significantly shape online learning outcomes and may render such environments suitable only for certain students. Many researchers have mentioned that online learning may only be influential for some individuals at the same level because of their varying personality traits. As put above, assessing whether specific personality traits of learners affect their satisfaction level with online learning can shed more light on personality-based determinants of online learning satisfaction. Understanding why individual learners react differently to the same online learning situations can be aided by recognizing and acknowledging their unique characteristics. Unfortunately, not many studies on online learning take into consideration how personality differences can affect the level of satisfaction experienced by learners. To the best of the researchers' enlightenment, there is a dearth of research evidence that explores the interrelation between individual traits and online gratefulness in the Iranian context. This issue, therefore, reveals that there is a pressing need for further analyses to fill this gap.

Accordingly, the objective of the current examination is to bridge the gap by directly exploring the correlation between individuality traits and web-based learning delight and enriching the existing literature. The important implication of the study on this topic is to probe the associations between learners' personality-driven differences and their learning satisfaction in online classes. In particular, this examination constitutes an endeavor to recognize the role of Iranian EFL learners' Big Five personality traits (McCrae & Costa, 1985) in anticipating their satisfaction with the e-learning system. The present research aims to answer the subsequent inquiries:

> RQ 1: Is there a significant correlation between the big five personality traits and satisfaction with online courses among Iranian EFL learners?
> RQ 2: To what extent do Iranian EFL learners' personality characteristics predict learners' level of satisfaction with online learning?

## 2. LITERATURE REVIEW

### Online Learning Satisfaction

Bolliger and Erichsen (2013) stated that satisfaction is characterized as learners' sense of being happy or disappointed due to the contrast between their exceptions and experience of the service being experienced and what is presumed. Learning delight can be interpreted as the benefit that participants notice from their education experience in an educational system. Contentment with online sessions is a valuable topic for exploration since it is crucial to the student's motivation and scholarly performance (Sue et al., 2007; McFarland & Hamilton, 2005).

Learning pleasure in the circumstance of online learning pertains to how students assess the validity and merit of the educational online learning system provided by the instructor during a course; it can be measured by the extent to which students enjoy the online learning process. Online enjoyment is the term used to describe how students perceive their learning familiarity and how effectively the online learning semester confirms their theoretical achievements. E-learning satisfaction can be stated as the expanse to which individuals assume the online system comes across their information demands. Past research pinpoints that learners' satisfaction is a vital pointer to the excellence of academic courses (Yukselturk & Yildirim, 2008). Ezra et al. (2021) and Sahinidis and Tsaknis (2021) detected that learning by electronic device has restraints and may only work for some students. In general, while online learning is gaining impetus, it only meets different learners' needs simultaneously; particularly characteristics differences affect students' satisfaction (Bolliger & Erichsen, 2013), including in online learning contexts (Bolliger & Erichsen, 2013; Daughenbaugh et al., 2002a; Daughenbaugh et al., 2002b; Moller & Soles, 2001).

In their study, (Rainer Jr & Miller, 1996) argue that learners show a positive attitude toward online learning. Their attitude was evaluated based on a nonobjective assessment of learners' educative experiences and learning consequences in the blended learning environment. In addition, it has been shown that online learning satisfaction is related to learners' perception and academic gains (Rashidi & Moghadam, 2014). Hermans et al. (2009) state that assessing students' satisfaction with online programs is an important category in promoting higher education effectively. As online learning involves students from diverse academic backgrounds, they may have varying perspectives on online learning systems, as noted by (Zolotov et al., 2022).

Furthermore, research (e.g., Oliver, 1980; Oliver & Burke, 1999) indicates that learning satisfaction can be understood as a comparative outcome between expectations and perceived results, accompanied by a sense of happiness or disappointment, with learner satisfaction significantly predicting learning outcomes. Moreover, learners with a heightened overall awareness of social presence tend to achieve higher levels of perceived learning and satisfaction

with their e-learning courses. When instructive online strategies efficiently aid students in meeting the curriculum objective, learners would be satisfied. As a result, online learning satisfaction is an essential factor that we can use to evaluate the efficiency of e-learning. The empirical investigation of online learning satisfaction and its personality-based roots can facilitate learners' progress in their educational system.

## Personality

According to Lounsbury et al. (1970), personality combines different attributes, feelings, properties, and emotions that dissociate a person from others. This inner characteristic emerges from within the person and stays throughout their lives. Personality precisely refers to an individual's district characteristics that contribute to shaping their individuality in society.

Different models have been proposed to explain personality, as noted by (Parent-Lamarche et al., 2021), The Big Five model, created in 1985 by McCrae and Costa, is a highly popular and widely utilized psychological model. Numerous studies ( e.g., Ghorbani & Montazer, 2015; Li & Armstrong, 2015; Sorić et al., 2017; Soto & John, 2017; Tlili et al., 2019) have provided support for its prominence and use in contemporary psychology. This model has increasingly been utilized in scientific research on personality (Papamitsiou & Economides, 2014).

According to many psychologists, the Big Five personality traits include five basic dimensions. These five broad personality traits include openness, conscientiousness, extraversion, agreeableness, and neuroticism. Openness refers to the trait of a curious and imaginative person who has a new perception of the world. It leads to a broad scope of curiosity and adventure. Individuals with this characteristic tend to be unpredictable, risk-taking, and more creative Friedman & Schustack, 2016; Sahinidis & Tsaknis, 2021) and commonly have high individual performance in academic courses (Zhao & Seibert, 2006). Conscientiousness includes work discipline, organization, self-directedness, and thoughtfulness (Zhao & Seibert, 2006). A conscientious person likes planning, scheduling, and organizing. Extraversion is a human characteristic that encompasses interpersonal skills, talkativeness, assertiveness, and the creation of emotional experiences by external factors related to sociability (O'Donoghue & Rabin, 2000). Agreeableness describes people's behavior towards each other. Individuals with this characteristic tend to be unselfish, trustful, and collaborative (Sahinidis & Tsaknis, 2021). Neuroticism is characterized by moodiness and emotional instability. According to Friedman and Schustack (2016), this characteristic pertains to experiencing psychological tension and experiencing negative emotional arousal.

## Personality and Online Learning Satisfaction

The shift toward online learning has brought increased attention to the factors influencing students' learning experiences, with personality traits emerging as a crucial determinant of engagement and satisfaction (Tian et al., 2021). The Big Five Personality Traits framework (McCrae & Costa, 1985) provides a well-established model for understanding individual differences in learning behaviors. These traits—Extraversion, Conscientiousness, Openness to Experience, Agreeableness, and Neuroticism—have been linked to various cognitive and emotional processes that shape students' responses to online learning environments. The relationship between personality traits and online learning satisfaction can be explained through the Self-Determination Theory (Deci & Ryan, 2012), which highlights the importance of autonomy, competence, and relatedness in fostering motivation and satisfaction. Personality traits influence how students fulfil these psychological needs in online learning environments. For example, conscientious individuals may experience a stronger sense of competence due to their structured learning habits, while extraverts may derive greater satisfaction from courses that incorporate interactive elements.

Reviewing the literature suggests that personality strongly affects students' learning satisfaction and achievement (Horzum & Uyanik, 2015; Orvis & Leffler, 2011)  particularly in the online context (Bishop-Clark et al., 2007; Bolliger & Erichsen, 2013). According to Bolliger and Erichsen (2013), personality can impact how satisfied individuals are with their online learning experience, as well as affect how much students enjoy online learning environments (Daughenbaugh, Daughenbaugh, et al., 2002a; Daughenbaugh et al., 2002b; Moller & Soles, 2001). Fatahi et al. (2009) also recommend that personality has a crucial impact on the efficiency of the education process and can have a great influence on both training and learning. According to Irani et al. (2003) people's personality traits can cause them to respond differently to various learning methods.  Wicklein and Rojewski (1995) suggest that recognizing the influence of individuality may precede a better understanding of learning requirements and enable administrators to make sure that an ideal learning condition is established. Therefore, identifying students' personality traits is necessary to tailor learning to their individual needs. Therefore, personality trait identification is required to adapt learning to students' personalities. With the proliferation of studies on learner personality and related psychological factors in online learning contexts, it has been shown that some personality factors can anticipate satisfaction and motivation in an online environment (Horzum & Uyanik, 2015; Isik, 2008). Furthermore, crowds of students in an online class may be categorized based on their personality attributes and satisfaction (Baruth & Cohen, 2023). Individual satisfaction can denote success in online learning classes, as a result, satisfied learners are more likely to be participated and impressionable (Dziuban et al., 2015). Some scholars have even claimed that learners may not return for more if they are dissatisfied with their online courses (Moller & Soles, 2001). In their study, Vasileva-Stojanovska et al. (2015) investigated models to anticipate success in learning and students' satisfaction, revealing that satisfaction was an element that could portend learning achievements and that the students' personality could influence their efforts and achievements. In addition, regarding the role of satisfaction in learning outcomes, according to the research explored by Kuo et al. (2013), it was discovered that individuals who exhibit traits of extraversion and conscientiousness are to a great extent probable to be satisfied with online classes and display a strong drive to learn.

Baruth and Cohen (2023) conducted a study to investigate how personality traits, based on Costa and McCare's Big Five model, relate to learner satisfaction with diverse learning tasks and exercises in online classes known as Techno-Pedagogical Learning Solutions (TPLS). The tested TPLS included discussion groups, electronic books, online tasks, observations/polls, and media. The study involved 108 university learners who were participating in an approved online academic semester, and questionnaires were used to assess their characteristics and satisfaction levels. The study revealed a significant association between all five personality traits and satisfaction levels with various TPLS. To identify students with the same personality features, the researchers used the cluster analysis technique, which resulted in the formation of four groups. The satisfaction score of each group was then evaluated. The study found that students belonging to the "neurotic" group expressed low satisfaction levels with all TPLS, unlike those in the "non-neurotic" group. These results suggest that personality can play a crucial role in determining satisfaction levels in online learning.

Patitsa et al. (2021) also conducted researched to examine any correlation between individuals' personalities and their satisfaction with online educational platforms and found openness and conscientiousness, two specific personality traits from the Big Five model, were associated with students' learning enjoyment in synchronous online academic learning (SOAL), with conscientiousness having the most significant connection with satisfaction with SOAL in general. Their results furthermore revealed that students who were more pleased with the online learning system had greater levels of openness, conscientiousness, extraversion, and agreeableness, but

lower levels of neuroticism. In addition, research by Tlili et al. (2019) suggests that recognizing a student's personality can lead to more significant learning interactions. Studies by (Bolliger and Erichsen, 2013; Daughenbaugh et al., 2002a; Daughenbaugh et al., 2002b; Moller & Soles, 2001) also indicated that the satisfaction of learners with online learning systems can be influenced by their personality types.

In sum, it is believed that personality influences students' learning happiness in classes. Despite several studies conducted in this field (e.g., Bolliger & Erichsen, 2013) there is still insufficient information available on the exact correlation between the Big Five personality traits and contentment with online platforms in the EFL context. Therefore, more studies are needed to investigate the nature of the relationship between the students' personalities in the manner of the Big Five model and their satisfaction with online learning. By bridging this gap, the present study aims to provide empirical insights into how individual personality differences shape their online learning experiences and satisfaction levels.

## 3. METHOD

### Design of the Study

This study followed a quantitative approach and had a correlational design. Questionnaires were used for collecting data to examine the relationship between personality traits and remote learning gratefulness among Iranian EFL learners. Multiple regression was conducted to identify the contribution of any prognosticator variable to learners' online learning satisfaction.

### Participants and Setting

The sample of this study was 150 Iranian EFL university students (Male = 45.3%, Female = 54.7%). The participants included all English language students (N of Bachelor of Arts = 72; N of Master of Arts = 71; N of Ph.D. = 7) who had attended online university classes for at least one semester. As Bonebrake (2002) stated, university students were recruited because they have had online learning exposure and attainability to the Net on and off university. The age of respondents varied from 19 to 27 years. The individuals who took part in the research were selected via the convenience sampling method. Gass et al. (2005) defined convenience sampling as a nonrandom sampling technique where individuals who are available for the study are selected. This method is frequently used in EFL studies, as noted by (Cheng & Dörnyei, 2007)

### Instruments

*NEO Five-Factor Inventory Personality Questionnaire:* The NEO-FFI Personality Questionnaire assesses an individual's personality on five dimensions of personality based on Big Five personality traits. It was initially created by McCrae and Costa (1985) and consisted of 30 items (6 per trait). This measure assesses five-factor domains, including neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. The test was initially developed for adults without overt psychopathology. The instrument was chosen because it is easily accessible, simple to administer, and applicable. According to Goldberg (1992), the alpha coefficients for extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience were .87, .82, .79, .86, and .84, respectively. Students rated each item on a scale of 1 (strongly disagree) to 6 (strongly agree) according to how agreeably they believed it reflected their personality. In the present study, the reliability for all Big Five traits was adequate, α's > 0.80.

*Online Learning Satisfaction Questionnaire:* Bolliger and Martindale (2004) created the Online Learning Satisfaction Questionnaire, which is composed of 24 items that are sorted into six components: professor, technology, session organization, engagement, achievements, and total satisfaction. Participants rate their level of concurrence with each utterance on a 6-point Likert scale, where 1 represents "strongly disagree" and 6 means "strongly agree." The questionnaire

items were exactly taken from the literature that discusses the factors related to student satisfaction in online courses, including works by ( Liaw, 2008; Sahin & Shelley, 2008; Shee & Wang, 2008). These studies reported Cronbach's alpha coefficients within an acceptable range of .69 to .86 for the sub-scales. Additionally, Bolliger and Halupa (2012) reported an internal reliability coefficient of .92.

## Reliability and Validity Assessment

To ensure the reliability and validity of the data collected through the Online Learning Satisfaction Questionnaire, statistical analyses were conducted to examine internal consistency and construct validity.

*Reliability Analysis:* Cronbach's alpha was calculated for the key constructs of the questionnaire. The results indicated satisfactory internal consistency, with the following reliability coefficients: personality traits: $\alpha = 0.82$ and online learning satisfaction: $\alpha = 0.86$. Since all values exceed the commonly accepted threshold of 0.70, the instrument demonstrates good reliability.

*Validity Analysis:* The validity of the questionnaire was evaluated through content validity and construct validity analyses. Content validity was ensured by adapting items from previously validated instruments and having three subject matter experts review the questionnaire for relevance and comprehensiveness. Construct validity was assessed using Confirmatory Factor Analysis (CFA), where factor loadings for all items exceeded 0.50, indicating that each item significantly contributed to its respective construct. The model fit indices confirmed an acceptable fit (CFI = 0.91, TLI = 0.89, RMSEA = 0.06, and SRMR = 0.05), demonstrating that the questionnaire appropriately measures the intended variables. Additionally, convergent validity was confirmed by the Average Variance Extracted (AVE > 0.50 for all constructs), and discriminant validity was supported using the Fornell-Larcker criterion. These results collectively indicate that the questionnaire has strong validity for measuring personality traits and online learning satisfaction.

## Data Collection Procedure

In this study, the participants were picked based on their availability from state universities in Iran. The purposes of the study were clarified to them. Additionally, all students provided online consent and were given contact details. Accordingly, the participants were appealed to complete the questionnaires according to their experiences with the distance learning system. All students provided online consent and were given contact details, as well as being ensured the confidentiality of their data.

The researchers sent a link to a Google form questionnaire to students via Telegram and made it clear that participation in this research was optional and they could opt out at any point. Each questionnaire took around 10 to 15 minutes to finish.

## Data Analysis

To address the study questions, the clustered data was dissected via the Statistical Package for Social Sciences (SPSS) 26.0. The Pearson product-moment correlation analysis investigated the relationship between the Big Five personality traits and online learning satisfaction. Multiple regression was also used to investigate whether five personality traits predict students' online learning satisfaction.

## 4. RESULTS

The study findings are reported below in terms of descriptive (i.e., demographic data, mean, standard deviation, skewness, and kurtosis) and inferential (i.e., Pearson correlations and multiple regression) statistics. Table 1 shows the demographic data of participants. One hundred fifty

Iranian EFL university students completed the questionnaires. Concerning gender, 68 representing (45.3%) were male and 82 presenting (54.7%) were female.

**Table 1: Frequency distribution of the sample group based on gender**

| Gender | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Male | 68 | 45.3 | 45.3 | 45.3 |
| Female | 82 | 54.7 | 54.7 | 100.0 |
| Total | 150 | 100.0 | 100.0 | |

Table 2 shows the demographic data of participants based on education; of the one hundred fifty participants, 72(48%) were at BA level, 71 (47.3%) were at MA level, and 7 (4.7%) were at PhD level.

**Table 2: Frequency distribution of the sample group based on education**

| Education | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| BA | 72 | 48.0 | 48.0 | 48.0 |
| MA | 71 | 47.3 | 47.3 | 95.3 |
| Phd | 7 | 4.7 | 4.7 | 100.0 |
| Total | 150 | 100.0 | 100.0 | |

As seen in Table 3, all the skewness and kurtosis amounts were found within the limit of -1 to +1, which proves the standard distribution of the data. Moreover, among personality factors, neuroticism had the maximum mean (M = 22.6, SD = 5.1), while conscientiousness had the lowest (M = 15.5, SD = 5.03).

**Table 3: Descriptive Statistics Indices of Research Variables**

| Descriptive Statistics | N | Mean | Std. Deviation | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|
| | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| Neuroticism | 150 | 22.63 | 5.119 | .191 | .198 | -.761 | .394 |
| Extraversion | 150 | 17.21 | 6.685 | .123 | .198 | -.630 | .394 |
| Openness | 150 | 17.63 | 7.208 | -.136 | .198 | -.583 | .394 |
| Agreeableness | 150 | 18.27 | 4.548 | .525 | .198 | 1.118 | .394 |
| Conscientiousness | 150 | 15.58 | 5.038 | .383 | .198 | -.388 | .394 |
| Satisfaction | 150 | 68.6133 | 17.35642 | .478 | .198 | -.601 | .394 |
| Valid N (list-wise) | 150 | | | | | | |

To explain the first investigation question, Pearson's product-moment correlation analyses were utilized to investigate the association between personality components and happiness levels with online sessions. Table 4 displays the results, which indicate significant correlations with varying degrees of strength. Overall, the analysis revealed a momentous positive interrelation ($r = .611$, $p <.01$) between personality and online learning satisfaction. Additionally, there was a positive, comparatively high noteworthy correlation between conscientiousness and satisfaction ($r = .304$, $p <.01$), as well as between agreeableness and satisfaction ($r = .225$, $p <.006$). Students who scored high in conscientiousness and agreeableness were to a greater extent pleased with online learning than those who scored inferior in these sections. There was also an intensified and meaningful correlation between extraversion and satisfaction with online learning ($r = .578$, $p <.01$), in addition to an extremely positive correlation between openness to experience and online learning satisfaction ($r = .673$, $p < .01$). Students who scored high in extraversion and openness to experience were more delighted with online courses in contrast with individuals who scored lower in these domains. Conversely, there was an inverse correlation between neuroticism and learning satisfaction ($r = -.352$, $p < .01$). Students who scored high in neuroticism were less gratified with web-based education than trainees who scored lower in this component. Overall, the data suggests that students who are defined as extroverts and open to experience tend to be more contented with online courses, while those with high neuroticism scores are less satisfied.

**Table 4: Descriptive Statistics and Correlations Coefficient**

| Correlations | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 1. Neuroticism | 1 | | | | | | |
| 2. Extraversion | -0.612** | 1 | | | | | |
| 3. Openness | -0.644** | 0.747** | 1 | | | | |
| 4. Agreeableness | -0.170* | 0.312** | 0.268** | 1 | | | |
| 5. Conscientiousness | -0.176* | 0.420** | 0.276** | 0.439** | 1 | | |
| 6. Personality | -0.341** | 0.806** | 0.744** | 0.640** | 0.706** | 1 | |
| 7. Satisfaction | -0.352** | 0.578** | 0.673** | 0.225** | 0.304** | 0.611** | 1 |

To address the second question in this investigation, a multiple regression analysis was conducted to probe how much the big five personality traits contribute to predicting web-based learning contentment. Table 5 displays the results, which show that the big five independent variables can account for 49.1% of the variance in online gratification ($F (5,144) = 27.7$, $p= .000$). Neuroticism and openness to experience were detected to have a positive and statistically indicative connection with total online learning pleasure. However, all other traits (extraversion, agreeableness, conscientiousness) did not demonstrate statistically significant results. In summary, the data suggests that neuroticism and openness to experience are the most powerful anticipators of remote learning fulfilment among the big five personality traits. The variables that contributed to students' online learning satisfaction to a large extent were neuroticism and openness.

### Table 5: Multiple Regression of online Learning Satisfaction by big five personality

*Coefficients*

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 15.959 | 9.661 | | 1.652 | .101 |
| neurtocism | .605 | .274 | .179 | 2.209 | .029 |
| extraversion | .475 | .257 | .183 | 1.849 | .066 |
| openness | 1.514 | .231 | .629 | 6.547 | .000 |
| agreeableness | -.039 | .257 | -.010 | -.152 | .879 |
| conscientiousness | .308 | .244 | .090 | 1.267 | .207 |

*Note*. Dependent variable: satisfaction

Table 6 provides a summary of the regression model, illustrating how personality traits (neuroticism, extraversion, openness, agreeableness, and conscientiousness) predict satisfaction with online learning. The R-value indicates the correlation between the independent and dependent variables, while the R Square value represents the proportion of variance explained by the model. Additionally, the Adjusted R Square value accounts for the number of independent variables in the model, providing a more accurate estimate. The error of the Estimate reflects the standard error of the model's predictions.

### Table 6: Model Summary

| Model | R | R Square | Adjusted R Square | Std. The error in the Estimate |
|---|---|---|---|---|
| 1 | .701 | .491 | .473 | 12.59842 |

*Note*. Predictors: (Constant), conscientiousness, neuroticism, agreeableness, openness, extraversion

Table 7 presents the results of the ANOVA test, which is used to assess the overall significance of the regression model. The F-value in this table indicates whether the independent variables significantly explain the variance in the dependent variable (online learning satisfaction). A Sig value of less than 0.05 suggests that the model is statistically significant, meaning that at least one of the independent variables has a meaningful impact on the dependent variable. This test helps determine whether the regression model is appropriate for predicting the dependent variable.

### Table 7: ANOVA

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Regression | 22029.873 | 5 | 4405.975 | 27.759 | .000[b] |
| Residual | 22855.700 | 144 | 158.720 | | |
| Total | 44885.573 | 149 | | | |

*Note*. Dependent variable: satisfaction, Predictors: (Constant), conscientiousness, neuroticism, agreeableness, openness, extraversion

## 5. DISCUSSION

The current research aimed to investigate the relationships between the big five personality traits and online learning satisfaction of Iranian EFL university students The results indicate a correlation admits the five-factor model and the general satisfaction of college learners with the online learning system. The three personality traits that have an essential and positive correlation with overall pleasure in online semesters condition are openness to experience, extraversion, and conscientiousness. These findings are compatible with the results of Tsai (2001), which found a

clear correlation between satisfaction, extraversion, and conscientiousness. Among these three traits, openness to experience has the greatest influence on overall satisfaction. Nonetheless, there is a significant inverse correlation between neuroticism and learning happiness, while agreeableness did not demonstrate a statistically significant result.

In general, those learners who have an outstanding level of satisfaction in their education are those who score high in extraversion, agreeableness, conscientiousness, and openness to experience, but not in neuroticism (which showed a negative relationship with learning satisfaction). Moreover, learners with similar traits prefer founding, predominantly, even computer-assisted or face-to-face courses. Blau and Barak (2012) conclusions are consistent with this, as they demonstrated a meaningful correspondence between temperament (even though not specifically related to the Big Five model) and the synchronous treatment of students. As a result, the groups that were formed highlight the distinctions between the student groups, while also revealing similarities within each group. Furthermore, the results demonstrated that learners who were found to be more pleasured with electronically connected learning systems were likely to possess an eminent degree of extraversion, conscientiousness, and openness. The study's discoveries regarding the impression of character on online contentment could aid in the creation of effective course designs and ultimately result in greater satisfaction among students (Baruth & Cohen, 2023). The discoveries of the present search showed that, aside from different essential components, like the merits of online classes, the condition of curriculum design, the role of the trainers, the infrastructure available, and the fairness of the assessment system, the institutional preparedness, there exists equally a demand to accentuate on temper factors when we want to evaluate learners' cheerfulness with online courses. The findings of this research align with earlier studies that propose that personality traits could impact learners' contentment with correspondence course settings (Bolliger & Erichsen, 2013; Daughenbaugh et al., 2002a; Daughenbaugh, et al., 2002b; Moller & Soles, 2001).

In recent years, online courses have been a growing trend in academic and educational institutions, notably in higher education (Allen & Seaman, 2017). Satisfaction is an essential requirement for effective e-learning (El Bachari et al., 2012). Innumerable investigations have discovered a close correlation between student satisfaction and interactions in the computer-assisted learning condition (Dziuban et al., 2015). Additionally, online classes may be customized to suit learners' satisfaction based on their personality style and favorite learning style, as suggested by Denphaisarn (2014). It is crucial to consider student satisfaction as a significant factor when assessing course effectiveness, as emphasized by (Bolliger & Erichsen, 2013). Lim and Lee (2020) found that learners' satisfaction was linked to the presence of well-defined guidelines for online courses and clear rubrics for assignments. It might be productive to explore to what extent learners with different personality traits benefit from online classroom guidelines. It is essential to point out that online courses can only be appropriate for some learners at the same level due to their diverse personalities (Bouhnik & Carmi, 2013). Discovering learners' characteristic traits can help meet their learning goals and needs which subsequently helps increase their satisfaction with online classes. Although considerable studies have explored the benefits of online courses, more needs to be concentrated on students' personality traits in an online context (Orvis & Leffler, 2011). Regarding the results of the current detection, it is implied that before designing effective e-learning courses, it would be beneficial to achieve an understanding of their personality types and preferences. The fact that these attributes are different from each other suggests that there is no universal approach that is perhaps used to boost successful online learning experiences in higher learning conditions. Instead, it is necessary to have a specific understanding of the attributes that students value in each context to develop a suitable strategy for enhancing online learning

engagement. This entails the view of Tlili et al. (2019) that recognizing a student's personality can be useful in delivering more influential learning participation.

## 6. CONCLUSION AND IMPLICATIONS OF THE STUDY

This research aimed to analyze the function that personality has in Iranian EFL university learners' satisfaction with the online system, strikingly amid the COVID-19 pandemic. In particular, this study investigated five significant personality traits as predictors of online learning satisfaction. The finding indicated that Iranian EFL learners' personality was related to their online learning satisfaction, with openness and neuroticism being the most two important components predicting student's satisfaction with online learning. The study found that two important components that predicted students' satisfaction with online learning were their level of openness and neuroticism. This suggests that an individual's personality possesses a serious domination of the effectiveness of the learning procedure and is linked to their satisfaction with it, as noted by Fatahi et al. (2009), Different individuals respond diversely to various educational manners based on their diverse attributes, which can result in varying levels of satisfaction (Irani et al., 2003; Simo-Serra et al., 2015). This study focused on the relationship between personality traits and online learning satisfaction to contribute to curriculum development and teaching strategies. The findings suggest that learners with certain personality characteristics, such as low extraversion and high neuroticism, may experience greater satisfaction with online learning compared to others. Therefore, online education platforms should be designed to accommodate different personality traits and learning preferences.

Institutions, instructors, and policymakers can consider the findings of the present study and accordingly form educational courses that will more completely meet the requirements of individuals and enhance learners' enjoyment. According to the findings of this research, educational institutions, instructors, and policymakers can develop learning programs that are more tailored to individual personality differences. By taking into account the diverse characteristics of learners, online education platforms can improve student engagement and satisfaction. For instance, individuals with high neuroticism might benefit from a structured and supportive learning environment, whereas those with high openness may perform better in flexible and exploratory learning settings. It is crucial to consider the learners' personality traits during the development, instruction, and learning stages. The class format should be tailored to accommodate different personality types and online learning platforms should be designed to cater to a variety range of student types, with concentrating on their trait levels.

This study has some limitations that are supposed to be considered in future studies. The first restraint is that this study only focused on Iranian EFL students. Future research could analyze the validity of the outcomes reported in this study across disparate subject areas as well as contexts. They could consider the study population from different majors, not just limited to EFL students. In addition, this research employed self-report survey data. Using qualitative approaches such as interviews and case studies would gain a deeper understanding of the potential interrelationships among these constructs. Additionally, this research does not take into account the demographic attributes related to the learners, for instance, gender, age, ethnicity, background, and year of academic study.

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# Enhancing Young EFL Learners' Metacognitive Awareness of Speaking Skill and Developing Their Speaking Fluency After the COVID-19 Pandemic

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## Abstract

The present mixed methods study examined how enhancing young EFL learners' metacognitive awareness through a teaching-speaking framework developed their L2 speaking fluency after the COVID-19 pandemic. To achieve this, 60 Iranian intermediate EFL learners aged 12 to 15 were selected and randomly divided into two groups: experimental ($n = 30$) and control ($n = 30$). An EFL teacher instructed the participants in the experimental group to engage in a 7-stage teaching-speaking cycle online for 10 sessions, while the control group followed the conventional method for teaching L2 speaking. Participants in the experimental group were requested to document their perceptions of the metacognitive training in diaries and submit them to the designated teacher online. Their oral performances and perceptions were recorded, transcribed, coded, and analyzed before, during, and after the intervention. Results indicated a statistically significant improvement in the experimental group's metacognitive awareness of L2 speaking, along with a notable enhancement in their L2 fluency by the end of the intervention. Additionally, participants expressed an overall positive attitude toward the teaching-speaking cycle. These findings hold pedagogical significance as they advocate for implementing more metacognitive awareness-raising frameworks on online platforms.

## 1. INTRODUCTION

The real-time nature of speaking is challenging for language learners, especially young ones because they have limited linguistic resources and cognitive capacity to promptly and fluently respond to their interlocutors (Copland et al., 2014). Many EFL young learners often stay reticent online or experience communication breakdowns while performing the speaking tasks for several cognitive (i.e., low working memory capacity, attention deficit, etc.) and affective (i.e., anxiety, boredom, inhibition, etc.) reasons (Chen & Curdt-Christiansen, 2024; Erten, 2016). This is even the case with those with higher levels of communicative competence (Baghaei et al., 2012; Dörnyei, 2005). Thus, teachers need to be armed with an approach to scaffold these young learners by, for example, providing linguistic resources, using strategies such as task repetition to expand their cognition, making them aware of the L2 speaking process, and teaching them how to plan and evaluate speaking, thus improving their metacognition on speaking (Paterson, 2022). This is

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particularly important since teaching and learning have mostly moved to online platforms after the COVID-19 pandemic, and there has been a surge in distance learning during this period (Wang et al., 2021), especially in EFL contexts, such as Iran. In this regard, metacognitive awareness assists EFL learners with introspecting and contemplating the way they engage in their communicative endeavors (Seifoori, 2016). It enables them to employ new strategies, such as planning and evaluating, to facilitate their understanding of content and language and thinking about their learning (Zhang et al., 2021). Despite its value, the role of metacognitive awareness in developing young learners' L2 speaking has been less explored (Sabnani & Goh, 2021). Motivated by this gap in the related literature, the present study was designed to examine whether the teaching-speaking cycle (Goh & Burns, 2012) had a statistically significant effect on the young EFL learners' metacognitive awareness of L2 speaking after the pandemic. Besides, it explored whether their L2 speaking fluency would develop with raised metacognitive awareness and probed into their perceptions of raising their metacognitive awareness of L2 speaking to develop their L2 fluency (Capital & Sabat, 2023; Sánchez et al., 2015; Seifoori, 2016).

## 2. LITERATURE REVIEW

The term metacognition was defined by a cognitive psychologist named (Flavell, 1976, 1979) formulator of the metacognitive theory, as ''thinking about one's own thinking''. The prefix "meta" means "beyond," so the concept refers to "beyond thinking" and involves planning, monitoring, problem-solving, and evaluating one's own understanding or performance. It is related to the capacity of an individual to be mindful and aware of their own mental processes and to have control over their learning mechanisms, hence referred to as the ''seventh sense'' (Çini et al., 2023; Tuononen et al., 2023). Developing this sense is feasible for all learners, even young ones (Nisbet & Shucksmith, 1986; Wenden, 1987). Wenden (1987) was the first to apply the concept of metacognition to language learning, touching upon its role in developing learner autonomy and self-directedness (Goh & Vandergrift, 2021). Not only is metacognition conducive to a learner's cognitive development, but it is also amenable to classroom instruction (Wenden, 1987, 1991, 1998). It gives learners a sense of agency to self-regulate and manage their own learning processes (Goh & Burns, 2012; Gönül et al., 2021; Hacker et al., 2009; Palladino et al., 2025; Taouki et al., 2022; Vosniadou et al., 2021). Thus, an understanding and recognition of this key concept enables teachers to delve into their students' learning processes and become more cognizant of their learning styles. Accordingly, they tailor their teaching to suit their student's needs and assist them with developing their language, including L2 speaking.

### Metacognitive awareness in L2 speaking

Metacognitive awareness was defined by Goh and Vandergrift (2021) as "a state of consciousness of our own thoughts as we focus on a particular cognitive or learning situation," which helps learners become self-knowing, self-directed, and self-managed in their learning. In fact, it is related to the manifestations of language learners' metacognition and is deconstructed into metacognitive experience, metacognitive knowledge, and strategy use (Bozorgian & Muhammadpour, 2020; Bozorgian et al., 2022; Çini et al., 2023; Goh & Vandergrift, 2021). *Metacognitive experience* is the real-time feeling of a thought process or learning demand. For example, an L2 speaker may have difficulties recalling proper words when attempting to respond to a question. Thus, they might resort to a communication strategy, such as circumlocution, to communicate what they mean (Burns, 2016; Goh & Burns, 2012; Thomas, 2019). *Strategy use* refers to a learner's use of strategies to solve communication problems. Strategies are also vital to a learner's overall speaking development because they assist them with planning, monitoring, and evaluating their learning efforts (Muhammadpour et al., 2023; Muhammadpour et al., 2024). *Metacognitive knowledge* is a learner's knowledge about a particular experience or learning

situation. For example, an L2 speaker might know how to structure a discourse (Zhang et al., 2021).

According to Goh and Burns (2012) teaching-speaking framework, metacognitive knowledge encompasses three dimensions: person knowledge, task knowledge, and strategy knowledge. Person knowledge involves understanding how we learn and the various factors influencing our learning process. Task knowledge pertains to the characteristics and requirements of a learning task, such as a real-life speaking task. Finally, strategy knowledge entails knowing which strategies to employ to achieve a learning goal, like comprehension or communication. Despite the significance of metacognitive awareness, it has often received inadequate attention in the field of L2 speaking instruction, particularly regarding young EFL learners (Sabnani & Goh, 2021). This oversight may arise because speaking instruction primarily focuses on the final product of speaking, such as delivering a presentation, rather than on the speaking process itself, including the development of communication skills (Baker, 2014). Nevertheless, the following are among the few studies conducted to explore the impact of enhancing young learners' metacognitive awareness through instruction on their oral production.

Sabnani and Renandya (2019) examined the effect of a 7-stage teaching-speaking cycle proposed by Goh and Burns (2012) on enhancing L2 speaking competence in terms of accuracy and fluency and promoting metacognitive awareness of language, discourse, and communication strategies. This methodological framework incorporated cognitive, metacognitive, and socio-affective domains and emphasized techniques, such as rehearsal, task repetition, and focused teaching, to build oral competence holistically. By combining explicit instruction with contextual practice, the model promotes learners' introspective awareness, leading to greater autonomy in their language learning process. Overall, this comprehensive framework seeks to better equip learners for effective communication in academic and interpersonal contexts. In another study, Sabnani and Goh (2021) probed into the teaching practices of three English language teachers to develop 40 10-year-old primary-four and 40 11-year-old primary-five students' metacognitive awareness for speaking in three domains of person, task, and strategy knowledge. Results suggested that the metacognitive instruction elevated young learners' metacognitive awareness and assisted them with communicating effectively.

Similarly, Chou (2021) explored the effectiveness of Goh and Burns (2012) teaching-speaking cycle in improving the speaking skill of 30 low-intermediate Taiwanese EFL university students in terms of pronunciation, grammar, vocabulary, fluency, and content and examined their strategy use while speaking. Results of implementing the teaching-speaking cycle for 18 weeks indicated that the integrated teaching approach honed their lexical and grammatical knowledge, clarified their communicative purpose, and propelled them toward strategy use (e.g., rehearsal and interactional strategies). Therefore, they gradually improved and progressed in terms of their speaking proficiency (i.e., vocabulary, content, and fluency) and strategy use.

Sato and Lam (2021) investigated the effect of metacognitive instruction on 44 Grade Three students' willingness to communicate (WTC), participation in communicative activities, and metacognitive knowledge of oral communication. The experimental group underwent a series of metacognitive awareness-raising activities, while the control group did not. Results suggested that the intervention did not improve the learners' WTC but increased their metacognitive knowledge of oral communication. As a result, the experimental group learners produced more target language and shared the talk patterns more evenly.

Seifoori (2016) examined the effect of raising the metacognitive awareness of 114 Iranian TEFL learners using a fifteen-session metacognitive awareness program on their task-based speaking fluency. The program taught metacognitive strategies for learning, arranging, planning, and evaluating. For this purpose, they were randomly divided into two tripartite classes of

experimental and control participants. Each class consisted of three groups: pre-task planners (PTP), online task planners (OLP), and pre and online task planners (POLP). Results suggested that raising the participants' metacognitive awareness under different planning conditions would significantly improve the L2 speaking fluency of all three experimental groups compared with their control group peers.

Finally, Rahimi and Katal (2013) investigated the effect of metacognitive instruction on the listening comprehension and oral language proficiency of fifty upper-intermediate EFL students who were randomly divided into an experimental and a control group. The experimental group participants underwent a sixteen-week metacognitive instruction, while the control group followed the conventional instruction. The purpose of the metacognitive instruction, including teaching strategies such as planning and evaluation, problem-solving, mental translation, person knowledge, and directed attention, was to raise the experimental group participants' metacognitive awareness. Results indicated that while metacognitive instruction improved the experimental groups' listening comprehension and oral language proficiency, the difference was only statistically significant in terms of their oral speaking proficiency.

The above studies merely examined and probed into the effect of metacognitive instruction on the participants' speaking skills, including fluency. However, it is not yet clear whether raising young learners' metacognitive awareness through strategy instruction leads to their speaking development in online classes as well. The reason is that although the communicative approach is mainly embedded in the Iranian curriculum, L2 speaking remains a challenging skill in many online classes, especially after the pandemic (Baleghizadeh & Nasrollahi Shahri, 2014; Blake, 2017). These online classes were and are normally run on Adobe-Connect or the Big Blue Button Platforms, and the pandemic was the major cause of the shift to these online classes. That is particularly the case with young EFL learners, who often lack words or structures to convey what they mean in online communicative activities (Sabnani & Goh, 2021). Thus, teachers may need to support them in planning and evaluating speaking until they gain enough confidence to become self-regulated (Zhang et al., 2021).

In this regard, teachers may raise their awareness of the elements and processes involved in speaking and assist them with thinking about their learning, a process referred to as metacognition (Sabnani & Goh, 2021). To do so, they can assist them with improving their personal factors, understanding the speaking task requirements, and learning useful strategies to overcome their linguistic difficulties, manage communication problems, and develop their speaking skill. Thus, the present article sought to fill the above gap in the related literature by addressing the following three research questions:

(1) Does a pedagogical cycle have a statistically significant effect on young EFL learners' metacognitive awareness of speaking skill after the pandemic?

(2) Does young EFL learners' metacognitive awareness of speaking skill have a significant effect on their speaking fluency after the pandemic?

(3) What are young EFL learners' perceptions of their metacognitive awareness of speaking fluency after the pandemic?

## 3. METHODS

### Design

The present study is of a mixed methods nature: the quantitative data are collected to compare the two group's performance in terms of the metacognitive awareness of L2 speaking and their speaking fluency while the qualitative data enables the researcher to develop a richer and a more in-depth understanding of the new experience and add support to the quantitative results (Ary et al., 2018)

## Participants

The participants in this mixed methods study were 60 EFL learners of 12 to 15 years of age selected through convenience sampling. The participants' native language was Farsi, and they were placed at the Intermediate level of linguistic proficiency using OPTs. The context of the study was a private language institute in Iran. The classes were 90 minutes long and held online on the Adobe Connect Platform twice a week for a full semester (i.e., a period of 20 sessions). There were normally 15 to 20 EFL learners participating in these online classes in the adult department. Locally-designed language textbooks were designed for the adult department's basic to advanced levels. The speaking lessons included topics of everyday life, such as personal interests, social life, etc. There were strict regulations imposed by the policymakers regarding the methodology used by the teachers. There was a fixed set of steps for teaching the four linguistic skills designed for each level at the adults' department. To comply with the ethical standards, online written informed consent was obtained from the EFL learners and their parents. The participants were notified that their participation in the study was completely voluntary and that their performance results would not affect their final class performance grades. They were allowed to opt out of the study any time they liked. Pseudonyms were used for the participants to ensure anonymity, and their data were maintained confidential to ensure confidentiality.

## Instruments and Materials

Five instruments and materials, namely the Oxford Placement Test, Metacognitive Awareness Inventory, teaching-speaking cycle, a speaking task, and semi-structured interviews, were used in this study, explained as follows:

### Oxford Placement Test (OPT)

The 200-multiple-choice-item OPT (Dave, 2004) consists of two sections, namely listening and grammar. Each of the two sections contains 100 questions. In the listening section, the participants are required to circle around the word they hear (e.g., 'earing' and 'hearing'). The grammar section has multiple choice questions on verb tense and sentence structure (e.g., 'is boiling' and 'boils'). OPT has a high internal consistency reliability of 0.94 (Geranpayeh, 2003).

### Metacognitive Awareness Inventory (MAI)

The Metacognitive Awareness Inventory (MAI), proposed by Schraw and Dennison (1994), is a common instrument used to measure metacognition. It consists of 52 items and contains a scoring guide in which participants give themselves 1 point for each true statement and 0 points for each false statement. The scoring guide features two main constituents of metacognitive knowledge (52 items), namely knowledge about cognition (17 items) and regulation of cognition (35 items). The former consists of three components, namely declarative knowledge (eight items: 5, 10, 12, 16, 17, 20, 32, & 46), procedural knowledge (four items: 3, 14, 27, & 33), and conditional knowledge (five items: 15, 18, 26, 29, & 35). The latter consists of five components, namely planning (seven items: 4, 6, 8, 22, 23, 42, & 45), information management strategies (10 items: 9, 13, 30, 31, 37, 39, 41, 43, 47, & 48), comprehension monitoring (seven items: 1, 2, 11, 21, 28, 34, & 49), debugging strategies (five items: 25, 40, 44, 51, & 52), and evaluation (six items: 7, 18, 24, 36, 38, & 49). MAI had a high reliability of 0.95 (Çini et al., 2023). Two experts in the subject-specific field confirmed the validity of the face and content of MAI. They were requested to provide item relevance ratings, according to which a content validity index (CVI) was computed per item. Items achieving a CVI of .78 or higher were considered to have acceptable content validity.

### Teaching-speaking cycle

A 7-stage teaching-speaking cycle, proposed by Goh and Burns (2012), was used to develop the EFL learners' speaking fluency by raising their metacognitive awareness of speaking skill.

This pedagogical cycle in speaking was designed to improve the EFL learners' person knowledge (i.e., knowledge of one's internal factors to combat the impediments to L2 speaking), task knowledge (i.e., knowledge of the requirements of the speaking task), and strategy knowledge (i.e., knowledge of the strategies for addressing conversation breakdowns and speaking-related challenges). As depicted in Figure 1, this framework consists of a series of sequenced learning activities, namely (1) focusing learners' attention on speaking, (2) providing input and/or guiding planning, (3) conducting speaking tasks, (4) focusing on language/discourse/skills/strategies, (5) repeating speaking tasks, (6) directing learners' reflection on learning, and finally (7) facilitating feedback on learning.
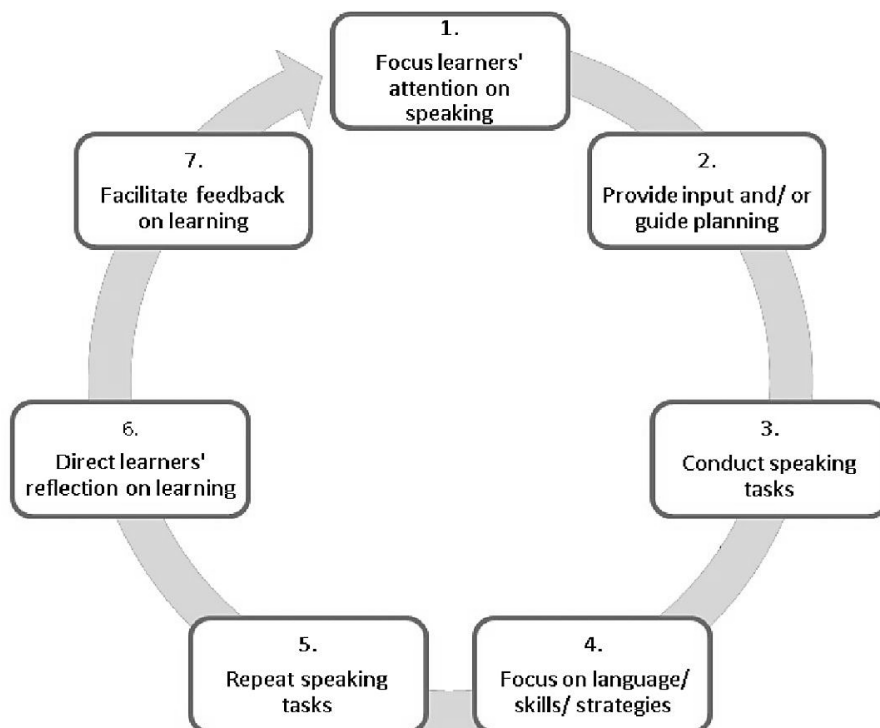


**Figure 1: The teaching-speaking cycle** (Goh & Burns, 2012, p. 153)

Each of these seven stages plays a pivotal role in developing the participants' L2 speaking skills. Stage 1 raises their metacognitive awareness of L2 speaking and teaches them how to self-regulate their speaking performance. Stage 2 provides them with adequate input to pick up the required vocabulary and speaking-related linguistic forms, understand the roles of the speakers and speaking conventions for various contexts, and produce utterances to communicate what they mean. Stage 3 develops their fluency and improves their speaking skill. Stage 4 re-emphasizes the required vocabulary, forms, and social and linguistic conventions of speech. Stage 5 assists them with acquiring a wide spectrum of speaking skills and strategies, producing utterances for the sake of communicating meaning, and developing fluency. Stage 6 aids them with their overall development of L2 speaking and self-regulating their speaking performance. Finally, stage 7 eases the development of metacognitive awareness of L2 speaking. Consequently, the teaching-speaking framework proposed by Goh and Burns (2012) develops the EFL learners' L2 speaking skills by focusing their attention on speaking, preparing them for speaking, assisting them with reflecting on speaking, and improving their speaking.

### Speaking task

Following studies such as Bei (2013) and Bygate et al. (2001), a retelling task (i.e., a 2-minute episode of the silent Tom and Jerry cartoon) is given to the participants to watch and recall its story content. The reason that a silent episode is chosen for the study is that the lack of any dialogue ensures that the participants' speaking performance is not affected by their listening comprehension of the aural linguistic input they receive. Each participant is required to watch the episode individually and narrate the story of the silent video cartoon. The instructions are given in Farsi, and their oral performance is audio-recorded.

### Semi-structured interviews

The semi-structured interview (see *Appendix*) was a qualitative data collection strategy in which the researcher asked 10 randomly selected experimental group participants a series of seven predetermined but open-ended questions (Ary et al., 2018). It was a suitable instrument commonly used to capture the participants' attitudes, perceptions, beliefs, and motives in a qualitative research study. To formulate the interview questions, Bloom's taxonomy is used as the fundamental base to assist the researcher with composing questions on a wide range of cognitive thinking, including knowledge, comprehension, application, analysis, synthesis, and evaluation. Each interview was audio-recorded and took 30 minutes to complete. The interview was validated by expert judgments.

### Procedure

The researcher initially obtained permission from the head of the private English institute. Online written informed consent was obtained from the participants and their parents to comply with the research ethics. They were also informed that the data would remain confidential and be used merely for research purposes. As tabulated in Table 1, the research data was collected over nine weeks. In week 1, the participants' proficiency levels and metacognitive awareness were assessed using the Oxford Placement Test (OPT) (Dave, 2004) and Metacognitive Awareness Inventory (MAI) (Schraw & Dennison, 1994), respectively. In week 2, their L2 speaking fluency was assessed using a retelling task as the pre-test. In doing so, they were requested to watch a short episode of a silent video cartoon and retell it immediately with no planning time but with unlimited time for completion. Their voices were audio-recorded and transcribed verbatim. It should be noted that they were not made aware of the retelling task beforehand. Following Sabnani and Goh (2021), a 7-stage teaching-speaking cycle by Goh and Burns (2012), including person, task, and strategy knowledge, was adopted for a period of 10 sessions (from week 3 to 7) to teach the speaking skill. Meanwhile, the EFL learners were asked to write down their perceptions in their diaries based on several questions and hand them to the teacher. In week 8, they were asked to retell a new silent video cartoon to assess their L2 speaking fluency as the post-test. The same instructions and procedures were given and followed for this purpose. In week 9, their metacognitive awareness was assessed using MAI. In addition, they undertook a 30-minute semi-structured interview (recorded), and their teacher launched the questions and asked for their ideas.

**Table 1: At-a-glance procedure**

| Week | Participants | Stages |
|------|--------------|--------|
| **1** | All | The participants' proficiency levels were assessed using the OPT. The participants' metacognitive awareness was assessed using the MAI. |
| **2** | Individually | The participants' EFL speaking fluency was assessed using a retelling task. |
| **3-7** | Experimental and control groups | The experimental group participants underwent a 7-stage teaching-speaking cycle (Goh & Burns, 2012) for a period of 10 sessions (i.e. 5 weeks). Meanwhile, they were asked to write down their reflections in their diaries. On the contrary, the control group participants followed the conventional teaching of L2 speaking. |
| **8** | Individually | The experimental group participants' EFL speaking fluency was assessed using a new retelling task. |
| **9** | All | The participants' metacognitive awareness was assessed using the MAI. The participants undertook a 30-minute semi-structured interview (recorded). |

### *Teaching-speaking intervention*

Stage 1: Focus learners' attention on speaking

The teacher raised the participants' awareness of L2 speaking by inquiring them about their previous L2 speaking experiences and further raising their person, task, and strategy knowledge. They were asked to think about how they can plan for speaking a foreign language by considering the demands of L2 speaking, including but not limited to components such as pronunciation, language forms, vocabulary, fluency, etc. To assist them with thinking about their own L2 speaking process and planning for their overall speaking development, the teacher distributed self-observation sheets on speaking development, which included 10 questions to prepare them for the speaking tasks. The teacher also activated the participants' prior knowledge aimed at facilitating their conceptualization and formulation.

Stage 2: Provide input and/or guide planning

To ease the participants' cognitive overload and reduce their speaking anxiety, the teacher would scaffold them by giving them planning time, activating their prior linguistic knowledge, and allowing them to clarify the specific linguistic items and ideas for the speaking task. Examples of scaffolding that the teacher provided were vocabulary, form, and content support. Besides, the teacher used a pre-task planning guide to give a talk or participate in a discussion.

Stage 3: Conduct speaking tasks

The teacher requested the participants to participate in a communication task which encouraged them to express meaning and develop fluency of expression with no particular focus on form. The communication task which was designed in the form of an information or opinion-gap activity, a problem-solving task, or an extended discourse involved the participants in pair or group discussions. Thus, these tasks would allow the participants to plan, organize, monitor, and evaluate their speaking process.

Stage 4: Focus on language/discourse/skills/strategies

The teacher facilitated the participants' speaking performance by providing the necessary linguistic features and speaking strategies. The linguistic features included pronunciation, grammar, linguistic forms, and vocabulary. In addition, their attention was drawn to specific parts of the fluency task (e.g., discourse markers, intonation features, etc) they had completed in the previous stage. They were also requested to transcribe the speaking performance of one competent speaker to examine their speech production more closely. Thus, they were familiarized with organizing the talk and understanding the function of various linguistic features.

Stage 5: Repeat speaking tasks

The teacher asked the participants to perform the communication task of Stage 3 again. As Bygate (2005) also maintained, this task repetition (i.e., repeating all or part of the original task) enhanced their speaking performance since they had this opportunity to analyze the linguistic features and speaking strategies needed to perform the task once. Thus, it reduced the participants' cognitive overload and increased their planning time, contributing to their automaticity and effective speaking performance, ultimately leading to greater self-confidence and motivation.

Stage 6: Direct learners' reflection on learning

The teacher asked the participants to self-regulate their learning using monitoring and evaluating their prior learning experiences from previous stages. Besides, they had a chance to consolidate their knowledge of the language and speaking strategy use. They were asked to reflect on their learning in pairs or groups through different types of metacognitive knowledge, namely person, task, and strategy knowledge. In doing so, the teacher distributed a prompt for reflection on previous learning experiences.

Stage 7: Facilitate feedback on learning

The teacher provided the participants with adequate feedback on their performance in previous stages of the teaching-speaking cycle. They received their personalized feedback (e.g., comments and grades) based on what they had recorded in their prompts in terms of their previous learning experiences from both the teacher and their peers.

### Control group

The control group participants followed the conventional teaching of L2 speaking. The speaking lessons included topics of everyday life, such as personal interests, social life, etc. Every speaking lesson consisted of three sections: Let's Get Started, Dialogue, and Speak Out. The Let's Get Started section served as a warm-up activating their prior schemata. The teacher would have the students do the speaking task and express their opinions. The dialogue section served as the main speaking section, during which the teacher would read the lines of conversation, define the new words or expressions, ask some comprehension questions, and have two students act out the conversation. Finally, the Speak Out section aimed to improve students' oral performance by providing them with the opportunity to discuss an open-ended question.

### Data analysis

To answer the first and second research questions, a one-sample Kolmogorov-Smirnov test was used to examine the normality of the data ($P > .05$). Following Ary et al. (2018), independent samples $t$-tests and paired samples $t$-tests were run using the SPSS Package ver. 24 to compare the metacognitive awareness and fluency scores of the participants in both groups before and after the treatments. To answer the third research question, the participants' perceptions were transcribed, segmented, coded, and thematized. The data were collected from recordings, diaries, and semi-structured interviews, which were further transcribed verbatim and analyzed by the NVivo software ver. 11 through thematic and content analyses. The participants' L2 speaking fluency was measured and analyzed before and after the 10-session intervention following Ellis and Barkhuizen (2005) guidelines, and the descriptive statistics were tabulated to support the qualitative analysis. The choice of these guidelines was informed by its application in numerous other task-based articles, such as Ahmadian (2011), Bygate (2005), Foster and Skehan (2013), and Gass et al. (1999). The guidelines for measuring L2 speaking fluency consisted of calculating speech rate A (i.e., the total number of syllables divided by the total number of seconds multiplied by 60) and speech rate B (i.e., the total number of meaningful syllables minus dysfluencies divided by the total number of seconds multiplied by 60).

## 4. RESULTS

### Research Question One

Research question one strove to investigate whether the teaching-speaking cycle (Goh & Burns, 2012) had a statistically significant effect on young EFL learners' metacognitive awareness of speaking skill after the pandemic. We measured the participants' metacognitive awareness before and after the treatments using the metacognitive awareness inventory (MAI). Tables 2 and 3 present the descriptive and inferential results related to the two groups.

**Table 2: Descriptive information on metacognitive awareness for the two groups (n = 60)**

| Measures | Control Group (*n* = 30) | | | | | | Experimental Group (*n* = 30) | | | | | |
| | Pre-test | | | Post-test | | | Pre-test | | | Post-test | | |
| | *M* | *SD* | *Std. Error* | *M* | *SD* | *Std. Error* | *M* | *SD* | *Std. Error* | *M* | *SD* | *Std. Error* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Declarative | 3.33 | 1.37 | .25 | 3.47 | 1.1 | .2 | 3.63 | 1.24 | .22 | 4.77 | 1 | .18 |
| Procedural | 2.17 | .98 | .18 | 2.5 | .77 | .14 | 2.47 | .97 | .17 | 4.43 | 1.5 | .27 |
| Conditional | 2.43 | .93 | .17 | 3.2 | .96 | .17 | 2.77 | 1.13 | .2 | 4.17 | .91 | .16 |
| Knowledge of cognition | 7.93 | 1.74 | .31 | 9.17 | .148 | .27 | 8.87 | 1.87 | .34 | 13.37 | 2.38 | .43 |
| Planning | 3 | 1.14 | .2 | 3.5 | 1.1 | .2 | 2.93 | 1.11 | .2 | 3.83 | .87 | .16 |
| Monitoring | 2.83 | 1.28 | .23 | 3.4 | 1.13 | .2 | 3.03 | 1.4 | .25 | 3.9 | .92 | .16 |
| Management | 3.33 | 1.24 | .22 | 3.53 | 1.22 | .22 | 3.3 | 1.31 | .24 | 4.5 | 1.16 | .21 |
| Debugging | 2.77 | 1.16 | .21 | 3.23 | 1.19 | .21 | 2.73 | 1.04 | .19 | 3.97 | .85 | .15 |
| Evaluating | 2.87 | 1.19 | .21 | 3.33 | 1.09 | .2 | 2.7 | 1.26 | .23 | 4.53 | 1.07 | .19 |
| Regulation of cognition | 14.8 | 2.38 | .43 | 17 | 2.61 | .47 | 14.7 | 2.71 | .49 | 20.73 | 2.16 | .39 |
| Metacognitive awareness | 22.73 | 2.8 | .51 | 26.17 | 2.87 | .52 | 23.57 | 3.3 | .6 | 34.1 | 3.15 | .57 |

**Table 3: Independent samples t-test of metacognitive awareness for the two groups (n = 60)**

| Measures | *F* | *Sig.* | *t* | *df* | *Sig (2-tailed)* |
|---|---|---|---|---|---|
| Declarative | .29 | .58 | 4.76 | 58 | .00 |
| Procedural | 11.75 | .00 | 6.26 | 43.48 | .00 |
| Conditional | .01 | .89 | 3.99 | 58 | .00 |
| Knowledge of cognition | 5.54 | .02 | 8.18 | 48.59 | .00 |
| Planning | 4.36 | .04 | 1.29 | 55.05 | .2 |
| Monitoring | 1.16 | .28 | 1.87 | 58 | .06 |
| Management | .33 | .56 | 3.13 | 58 | .00 |
| Debugging | 6.68 | .01 | 2.74 | 52.38 | .00 |
| Evaluating | .003 | .95 | 4.28 | 58 | .00 |
| Regulation of cognition | 1.63 | .2 | 6.02 | 58 | .00 |
| Metacognitive awareness | .08 | .76 | 10.17 | 58 | .00 |

According to Table 3, the teaching-speaking framework (Goh & Burns, 2012) had a statistically significant effect on the experimental group participants' overall metacognitive awareness from the pre-test ($M = 23.57$; $SD = 3.3$) to the post-test ($M = 34.1$; $SD = 3.15$), $t(58) = 10.17$; $p = .00$. Thus, the answer to the first research question is affirmative. However, it should be noted that there was no statistically significant difference between the two groups in terms of two components of the metacognitive awareness inventory (MAI), namely planning ($p = .2$) and monitoring ($p = .06$).

### Research Question Two

Research question two examined whether young EFL learners' metacognitive awareness of speaking skill have a significant effect on their speaking fluency after the pandemic. Table 4 shows the descriptive information related to two measures of fluency development, namely speech rate A and speech rate B, proposed by Ellis and Barkhuizen (2005), for the experimental and control groups.

**Table 4: Descriptive information on fluency measures for the two groups (n = 60)**

| Measures | Control Group (*n* = 30) | | | Experimental Group (*n* = 30) | | |
|---|---|---|---|---|---|---|
| | *M* | *SD* | *Std. Error* | *M* | *SD* | *Std. Error* |
| Speech Rate A (Pre-test) | 109.72 | 31.9 | 5.82 | 113.03 | 27.97 | 5.1 |
| Speech Rate A (Post-test) | 105.3 | 32.97 | 6.02 | 121.85 | 27.25 | 4.97 |
| Speech Rate B (Pre-test) | 99.48 | 58.22 | 10.63 | 103.42 | 28.44 | 5.19 |
| Speech Rate B (Post-test) | 90.3 | 42.12 | 7.69 | 109.55 | 27.41 | 7.69 |

Table 5 displays the results of the independent samples *t*-test performed to examine whether there was any statistically significant difference between the two groups in terms of their EFL speaking fluency. Results indicated that the experimental group participants outperformed their control group counterparts after undergoing a 7-stage teaching-speaking cycle Goh and Burns (2012, p. 153), for a period of 10 sessions. Thus, there was a statistically significant difference between the experimental group and the control group in terms of two fluency measures, namely Speech Rate A ($t(58) = 2.11$; $p = .03$) and Speech Rate B ($t(58) = 2.09$; $p = .04$). Therefore, the answer to the second research question is also affirmative.

**Table 5: Independent samples t-test of fluency measures for the two groups (n = 60)**

| Measures | *F* | *Sig.* | *t* | *df* | *Sig (2-tailed)* |
|---|---|---|---|---|---|
| Speech Rate A (Pre-test) | .16 | .68 | .42 | 58 | .67 |
| Speech Rate A (Post-test) | .3 | .58 | 2.11 | 58 | .03 |
| Speech Rate B (Pre-test) | 3.9 | .05 | .33 | 58 | .74 |
| Speech Rate B (Post-test) | 2.39 | .12 | 2.09 | 58 | .04 |

Interestingly, Table 6 presents the results of a paired-sample *t*-test indicating that the experimental group participants' fluency (i.e., speech rate A) developed significantly from pre- to post-test ($t(30) = -2.41$; $p = .02$) with a large effect size (Cohen's $d = 0.8$). However, their fluency rate, excluding their dysfluencies (i.e., speech rate B), did not have a significant improvement from pre- to post-test ($t(30) = -1.6$; $p = .12$). Thus, although the opportunity for raising their metacognitive awareness online through Goh and Burns (2012) teaching-speaking framework could assist them with a more fluent speech production from pre- to post-test, this improvement was only statistically significant with the inclusion of all the dysfluencies, but not excluding them.

**Table 6: Paired samples t-test of fluency measures for the experimental group (n = 30)**

| Measures | Pre-test M (*SD*) | Post-test M (*SD*) | *t* | *p* |
|---|---|---|---|---|
| **Speech rate A** | 113.03 (27.97) | 121.85 (27.25) | -.2.41 | .02 |
| **Speech rate B** | 103.42 (28.44) | 109.55 (27.41) | -1.6 | .12 |

## Research Question Three

Research question three sought to capture the young EFL learners' perceptions of their metacognitive awareness of speaking fluency after the pandemic. The thematic and content analyses of the data collected throughout the intervention yielded 10 factors affecting their L2 speaking fluency, which is dealt with below.

### Planning

Several participants (*n* = 8) regarded planning as a key activity that allowed them to set a goal, clarify the specific linguistic items, contents, and ideas, and have a plan for the speaking task. For example, Amir (*age* = 15) maintained, *"The teacher gave us some time to think about the words about the subject. So I could speak faster"* (extract 1).

There were other participants (*n* = 6) who maintained that they set a communication goal and predicted the probable difficulties and the way they could resolve them. In this regard, Sam (*age* = 14) stated, "When I don't understand my classmate, I don't know how I should answer. I learned that I can ask the teacher to give me the meaning of some keywords that I hear. This helped me speak more easily" (extract 2).

### Monitoring

A number of participants (*n* = 7) learned to self-manage their L2 speaking process and select proper strategies to meet the demands of the speaking tasks. One example of these strategies was to ignore the missing parts and focus on the comprehended parts of the interactions. For instance, Arad (*age* = 15) highlighted, "If there are some parts I can't understand, I ignore them or ask the speaker to repeat his sentence or use another word" (extract 3).

### Evaluating

It appears that the teaching-speaking cycle assisted the participants (*n* = 5) in not only monitoring the L2 speaking process and employing proper strategies but also reflecting on and evaluating whether or not their speaking performance was effective. Along this line, Sepehr (*age* = 14) mentioned, "I use some strategies. They sometimes work and sometimes don't work. When I think about these, I try to not use them the next time or don't pay attention to the parts I did not understand" (extract 4).

### Problem-solving

The communication problems that the participants (*n* = 8) mostly encountered centered upon vocabulary and grammar deficits (e.g., Shayan's and Javad's cases) and processing time pressure (e.g., Taha's case). With regard to the former, Shayan (*age* = 13) asserted, "Um, I think I use some strategies when I don't know a word; for example, I use the word 'thing.' If I don't know the grammar, I don't say it, or I ask someone about it" (extract 5). In the same vein, Javad (*age* = 12) continued, "… Usually when I don't know the English word, I change the Farsi word to English or ask our teacher" (extract 6). Apparently, their coping mechanisms were using all-purpose words, message reduction, literal translation, and requesting help from peers or the teacher directly or indirectly. Concerning the latter, Taha (*age* = 14) reported, "The strategies that I use is I remain silent and think. Sometimes I say 'Uhm' or 'you know' …. Yes, I sometimes repeat the word or sentence, too" (extract 7). To solve communication problems, the participants mostly used pauses (filled and unfilled) and repetitions (self-repetition).

### Vocabulary

Most of the participants (*n* = 7) asserted that adequate vocabulary knowledge eases the understanding of the main points of discussion or collaborative talks and limited vocabulary leads to communication breakdowns or misunderstandings, as evident in Matin's (age = 15) words in the following extract.

"When we know the necessary words, we understand each other better. If we have limited words, we might get confused during the discussion or misunderstand the other speakers. Sometimes, I try to remember the meaning of a hard word, but I lose the rest of the talk …" (extract 8).

### Linguistic Forms

Like vocabulary, most of the participants (*n* = 8) referred to grammar as an impeding element that could prevent them from fluent production of their foreign language, as also verified below by Aryan (*age* = 14).

"… or sometimes I forget to add 's' to the verb in simple present tense when I'm talking fast. Other times, I don't know the grammar and use other grammatical forms; for example, I use simple present instead of simple past, or I stop and think a bit …" (extract 9).

### Speech Rate

Some participants (*n* = 5) identified the rate of speech as a source of problems for comprehension and production. For example, Nima (*age* = 13) remarked, "… Some of my classmates speak really fast. This makes it hard to understand. They might make mistakes as they speak too …" (extract 10).

### Prior Knowledge

The participants (*n* = 9) considered prior knowledge as a pivotal factor for overall comprehension and production. In this respect, Arad (*age* = 15) confirmed, "Definitely! Being familiar with the topic is very useful. I should always have some information about it before starting to talk" (extract 11).

### Listening Comprehension

Several participants (*n* = 7) believed that factors such as speech rate, accent, voice clarity, noise, pronunciation, vocabulary, and sentence length affected their listening comprehension in their collaborative interactions, as also opined by Taha (*age* = 14) below.

"I can't respond fast when I don't understand the speaker. If he speaks badly or uses hard words and long sentences, I can't understand him. Or, for example, they talk fast, and I can't understand what they are talking about…" (extract 12)

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### *Peer and Group Discussions*

Some other participants (*n* = 6) mentioned that they could assist one another by building up topic-related knowledge, which made their overall understanding and speech production much easier. In this regard, Sam (*age* = 14) posited, "Group discussions really improve our understanding of the topic" (extract 13). Similarly, Javad (*age* = 12) emphasized that "… Discussing the topic with my classmates makes me talk more and faster" (extract 14).

## 5. DISCUSSION

The present study set out to examine three research questions. The first research question examined whether the teaching-speaking cycle Goh and Burns (2012) had a statistically significant effect on the young EFL learners' metacognitive awareness of EFL speaking after the pandemic. The answer to this research question was affirmative. Our findings are in agreement with those of the previous studies (Chou, 2021; Sabnani & Renandya, 2019; Scolaro, 2021) in that the teaching-speaking cycle could enhance the participants' overall metacognitive awareness of EFL speaking and improve their knowledge of cognition (i.e., declarative, procedural and conditional knowledge). The reason is that the cycle encouraged the participants to use metacognitive strategies, such as planning, evaluating, problem-solving, and directed attention, and practice them before, while, and after performing the speaking task. However, only three out of five factors under the regulation of cognition, namely information management, debugging, and evaluating, were statistically significant. The remaining two factors, namely planning and comprehension monitoring, did not reach statistical significance, which is in line with previous studies, such as (Bozorgian et al., 2022). Previous studies attributed this insignificance to a number of mediating variables, such as low working memory capacity, which, according to Gathercole (2010), can lead to difficulties in terms of cognitive functions, such as planning, problem-solving, and sustained attention. Other reasons could be the participants' inadequate familiarization with or understanding of the functions of the two metacognitive strategies.

The second research question sought to investigate whether young EFL learners' L2 speaking fluency would develop with raised metacognitive awareness after the pandemic. Results showed that the teaching-speaking cycle proposed by Goh and Burns (2012) had a statistically significant effect on the participants' fluency development from pre- to post-test. Confirming a large effect size, the findings of this study are in line with those of previous studies (Chou, 2021; Rahimi & Katal, 2013; Sabnani & Renandya, 2019; Sato & Lam, 2021; Seifoori, 2016). However, these previous studies did not consider employing this framework on private institutes' online platforms with a particular focus on young EFL learners' L2 speaking fluency development. In any event, results were collectively indicative of the fact that L2 teachers can play a pivotal role in providing adequate scaffolding to EFL learners such that they can reach self-regulation and automatization of their L2 speaking process and move toward developing their fluency. The speaking framework guided them to enhance their metacognitive knowledge of their speaking processes, task requirements, and speaking strategies needed for the sake of meaning-making and effective communication with their interlocutors, which is in agreement with (Burns, 2016).

An interesting finding of the present study is that although Goh and Burns (2012) teaching-speaking framework was successful in improving the EFL learners' fluency development on an online platform, one measure of fluency, namely speech rate B (i.e., the number of meaningful syllables per minute of speech), as proposed by Ellis and Barkhuizen (2005), signaled that the improvement in fluency with the exclusion of all the dysfluencies was not statistically significant. This finding might have been the result of task complexity, language proficiency, low working memory capacity, and foreign language anxiety, which are commonly the case with young EFL learners learning a foreign language (Ahmadian et al., 2015; Awwad & Tavakoli, 2019; Pérez Castillejo, 2019).

Those with lower levels of linguistic proficiency or working memory capacity might not be able to understand and apply all the metacognitive strategies taught (Bozorgian et al., 2022; Muhammadpour et al., 2024). In addition, task complexity might affect the participants' anxiety levels, which in turn disrupts their fluency and accuracy (Mora et al., 2023). Another reason could be that the participants needed more sessions to practice the metacognitive strategies, such as planning and monitoring since no statistically significant results were achieved. Fluent speakers, as Ghonsooly and Hosienpour (2009) also maintained, need to use their articulatory organs properly by drawing on their psycholinguistic and information processing skills; that is, they need to plan the message, use their background knowledge and find proper words, grammar, and sound patterns. Besides, they need to be able to self-correct their mistakes, an ability that has to do with their self-monitoring capacity. This capacity gradually leads to fewer pauses in their speech and more fluency.

The third research question probed into the young EFL learners' perceptions of raising their metacognitive awareness of L2 speaking to develop their L2 fluency after the pandemic. The participants collectively believed that the teaching-speaking cycle assisted them with raising their metacognitive awareness of L2 speaking so that they could speak with greater ease and more fluency. This finding is in agreement with those of Sato and Lam (2021). The findings of their study suggested that the metacognitive intervention improved the participants' metacognitive knowledge of oral communication such that they could produce the target language more and share the patterns of talk more evenly. However, they enumerated 10 factors, including the metacognitive strategies such as planning, monitoring, evaluating, and problem-solving. In addition, they made mention of some language- and communication-related factors such as prior knowledge, vocabulary, linguistic forms, speech rate, listening comprehension, and finally, peer and group discussions that played either a facilitative or debilitative role in developing the L2 speaking fluency of each participant.

The participants considered planning as a metacognitive strategy that allowed them to set a goal, clarify the specific linguistic items, contents, and ideas, and have a plan for the speaking task. This finding is supported by those of Yuan and Ellis (2003), who maintained that pre-task planning assists EFL learners with producing more fluent and lexically varied speech, hence the need to consider proper task conditions. The second metacognitive strategy mentioned by the participants was monitoring, which assisted them with self-management of their L2 speaking process and selecting proper strategies to meet the demands of the speaking tasks. As Levelt (1983) also confirmed, an L2 speaker can monitor their own (i.e., internal or overt speech) or their interlocutor's speech, which might occasionally have the speaker interrupt the flow of speech, carry out self-repairs and restatements, and signal troubles. The third metacognitive strategy was 'evaluating', in which the participants reflected on and evaluated whether or not their speaking performance was effective. This finding is consistent with those of Zhang et al. (2021) in that L2 speakers evaluate their speaking performance to check to see whether it is consistent with the task demands. The fourth and last metacognitive strategy was problem-solving, during which the participants used coping mechanisms, such as using all-purpose words, message reduction, literal translation, and requesting help to cope with vocabulary and grammar deficits. In addition, they used pauses and repetitions to deal with processing time pressure. These findings are in line with those of Mirzaei and Heidari (2012), who postulated that fluent L2 speakers normally use a range of cognitive, linguistic, and interactional problem-solving mechanisms to bridge the communication gaps and negotiate for meaning.

Two language-related components, namely vocabulary and linguistic forms, were mentioned by the participants, who stated that a better understanding of the main points of discussion or collaborative talks can be achieved by adequate vocabulary and grammatical forms, which make

for more fluent speech production. These findings comply with those of Gan (2012), who sustained that these two factors, along with correct pronunciation, are necessary for speaking a second or foreign language aimed at achieving oral fluency. In addition, the participants also referred to four communication-related factors, namely speech rate, prior knowledge, listening comprehension, and peer and group discussions. The findings are in accord with those of Lintunen et al. (2019) and Chang (2018), suggesting that slower speech rates usually lead to an improvement in comprehension and production. In line with the findings of the present study, Sabnani and Renandya (2019) also maintained that discussion tasks encourage L2 speakers to tap their prior knowledge, including their own schemata and personal experiences, to engage in more effective speech production. Like the findings in this study, Zhang (2009) maintained that adequate and effective listening comprehension is an important step in L2 speech production. Last but not least, the implementation of peer and group discussions, as Wahyurianto (2018) asserted, can result in fluency development in students.

## 6. CONCLUSION

L2 speaking is often a long and complicated process that requires such elements as linguistic competence and metacognitive strategy use. Thus, it appears that teaching L2 speaking can be challenging for EFL teachers. Therefore, they need to be equipped with a tool to teach this skill explicitly in their language classes, thereby providing their EFL learners with scaffolding to assist them with facing the challenges of L2 speaking and meeting the demands of the speaking tasks effectively. In this respect, there have been numerous task-based and strategy-based approaches (Skehan, 2003; Ulla, 2020) that have had positive effects on improving EFL learners' speaking skills in general. However, Goh and Burns (2012) proposed an integrated pedagogical approach that features a teaching-speaking cycle aimed at raising the EFL learners' metacognitive knowledge with a particular focus on the development of fluency.

Therefore, the present study has taken a step further and adopted this teaching-speaking cycle to provide young EFL learners with opportunities for pre-task planning, task repetition, strategy use, guided support, fluency development, and learner autonomy. The reason for this selection is that previous studies in this domain did not take into consideration the application of this teaching-speaking framework on online platforms and did not examine the development of EFL speaking fluency in particular. Findings indicated that the teaching-speaking framework proposed by Goh and Burns (2012) had a positive and meaningful effect on the young EFL learners' fluency development on an online platform by the end of the intervention. However, the improvement in fluency, excluding all dysfluencies, was not statistically significant, which signals the need for longer periods of intervention and more training in strategy use.

Teachers need to provide the EFL learners with learning contexts or environments in which EFL learners can practice the metacognitive strategies of L2 speaking, receive some guided support, engage in collaborative discussions and talks, and reflect on their learning outcomes. The findings of the present study are both theoretically and pedagogically significant. Theoretically, it contributes to understanding metacognition in language learning, particularly highlighting how heightened metacognitive awareness can enhance speaking proficiency among young learners in a post-pandemic context (Flavell, 1979). By exploring strategies that foster metacognitive skills, the study sheds light on the cognitive processes involved in language acquisition and fluency development, offering a framework that educators can use to support learners effectively (Wenden, 1998). Pedagogically, the findings can inform teaching practices by providing actionable insights into implementing metacognitive training in the classroom. This is crucial as educators strive to adapt to new learning environments following the disruptions caused by the COVID-19 pandemic, ensuring that young EFL learners not only regain lost skills but also thrive in their language learning journeys (Goh & Burns, 2012). Ultimately, the study emphasizes the importance of

integrating metacognitive strategies in language teaching, promoting greater learner autonomy and fluency in speaking (Chou, 2021; Sabnani & Renandya, 2019).

However, the present study has some limitations in terms of examining other language proficiency levels and learning environments. Moreover, some aspects of the EFL learners' linguistic proficiency, such as grammatical accuracy and pronunciation, were not fully improved as a result of undergoing this teaching-speaking cycle, which calls for additional training and more proficient learners to arrive at better results. Thus, future research can include higher-intermediate and advanced-level learners and consider extending the present framework by adding accuracy and pronunciation training to the cycle as well. In addition, a variety of task types and task conditions could be of benefit to the L2 speakers' fluency development.

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## Appendix: Semi-structured interview

You are kindly invited to participate in the interviews. If you like to join the interview, please check (√) the following sentence to show you are interested.

⸺ Yes, I want to participate in the interviews.

**Interview questions:**
1) How did you like your teacher's way of teaching speaking skill?
2) What did you learn during the teaching speaking sessions?
3) What did you learn to do during the planning time for each speaking task?
4) What did you learn to do to check if you did speak well after the speaking task?
5) What did you learn to do when you had problems with words or grammar?
6) What factors do you think prevent you from speaking fluently?
7) How do you think classmates can help each other speak better?

# Institutional Policies and Individual Incentives Affecting TEFL Faculty Members' Research Involvement

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**Abstract**
Faculty members are important stakeholders for any higher education institution, as they play a vital role in advancing both theoretical and practical knowledge while training specialized professionals. Research skills among faculty members are essential for sustaining and developing higher education. To enhance these skills, assessing their attitudes and educational needs in research is critical. To this end, this qualitative research was conducted by ten teaching English as a foreign language (TEFL) faculty members of Teacher Education universities of Iran. The goal was to identify obstacles that hinder faculty members from doing research and facilitators that motivate them to do it to improve their research productivity and cultivate a research-focused culture. Using face-to-face and indirect semi-structured interviews, faculty members' ideas were gathered, transcribed, coded, and analyzed thoroughly with a thematic approach. Identified themes were categorized into two broad categories: personal and social factors. Personal factors comprised participants' attitudes towards understanding research methodology and data analysis techniques, and other issues like motivation and lack of time due to their heavy workload. Social factors consisted of journals' policy, financial resources, promotion and tenure, and access to newly-published materials. The findings highlight the need for focused professional development programs to enhance teacher educators' research abilities and provide required facilities, which will ultimately improve both their teaching/researching practices and teacher education programs.

## 1. INTRODUCTION

Faculty members are the most important resource in any university, and their personal and professional development is the foundation of quality enhancement in the teacher education field (Cocal et al., 2017; Farrell et al., 2021). To meet faculty members' individual and career goals as teachers, scholars, and researchers, they must be proficient, creative, and productive instructors, successful researchers, and effective academicians (Abrugena et al., 2020; Kamel, 2016). Nevertheless, many university professors are incapable of publishing scientific papers (Khatibi, 2024). Moreover, every university has its own mission, objectives, vision, perspective, and values,

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and tries to adhere to its articulated policies. Students who graduate from universities must also be professional, competent, and responsible to the educational and scholarly needs of their society (Darawad et al., 2018). These facts necessitate probing university professors' perceptions and beliefs about their strong points, weaknesses, and deficiencies.

Conducting scientific research has become one of the priorities of every higher education institution (Gamoran, 2023; Iqbal et al., 2018). Universities value faculty members who participate in research projects to meet the growing need for scholarly works and knowledge development. Nevertheless, most faculty members at universities in Iran lack formal training in areas essential to improving their academic performance. These pressures have evolved from the competition between different educational institutions, contemporary curriculum development, and shortcomings in research, teaching, and production (Ghorooneh, 2020; Hegde, 2013). Research shows that this need may be met by developing faculty members' skills and knowledge in areas considered essential to their performance as a teacher, researcher, or administrator (Compton, 2022; Condon et al., 2016). Faculty's professional development can also set the ground for quality improvement in teacher education. As such, faculty members should be assisted in dealing with fast changes in higher education progress, and their attitudes should be assessed thoroughly and continually to know about their needs and meet their goal (Farzi et al., 2021; Leslie et al., 2013; Schmid et al., 2021; Swennen et al., 2010).

Noticing what was mentioned above, this study was done at some of the Teacher Education University branches in Iran to describe the status of its faculty members regarding their attitudes towards doing research, potential obstacles, and to find new solutions for their problems and improve their research skills. The results of identifying and analyzing the faculty members' attitudes, beliefs, and opinions in the realm of research can be used in planning in-service training courses, improving research skills, and enhancing research development at the universities. Professors equipped with strong knowledge of doing research are better mentors and supervisors for their students to work on their theses, dissertations, and course papers. Furthermore, students can enjoy a prolific pedagogical and educational atmosphere due to their professors' expertise and efficiency in doing research. The students also have the opportunity to collaborate and take part in research projects. Therefore, the main purpose of this endeavor was to assess the faculty's attitudes in this area in order to reach a practical and useful guideline that would encourage them to develop their research skills, boost research culture, and promote research productivity in the universities.

## 2. LITERATURE REVIEW

According to Tseng (2022), research can play a vital role in pointing policymakers, civil society, and communities towards a stronger, more sustainable, and just world. However, getting there means building on what we know about what it takes for research to be useful, used, and impactful. University faculty members currently encounter expanding demands to be productive clinicians, creative and effective instructors, and successful inquirers. In their study, Sorcinelli et al. (2006) emphasized that such demands necessitate faculty members acquiring new knowledge, various skills, and abilities in many aspects, including employing technology for doing research, new teaching methods, learning strategies, and mastering new computer-based educational programs. One vision for the profession of faculty development in the research domain focuses on three key themes (Austin & Sorcinelli, 2013; Sorcinelli et al., 2006). First, a call for more emphasis in the field of organizational development to build up leadership abilities in the faculty, and to work with academic leaders, especially chairs and deans, to create supporting environments for good teaching and scholarship. Enhancing skills and aptitudes for organizational development has increasingly become important for the instruction profession. There seems to be a widely held

assumption that the long-term effects of most faculty development activities will bring in some degree of organizational development (Hershock et al., 2023).

Second, Faculty development will be linked to the capacity of the field to engage in more research about best practices that enhance student learning, and to work systematically on a research-based approach in learning and teaching. Finally, enhancing the future of the profession will require new thinking about ideal structures for faculty development and less centralized ways of operating organizationally (Austin & Sorcinelli, 2013).

To evaluate the positive effects of examining teachers' attitudes, Kirkpatrick (1959) evaluation guideline has been widely used in research and practice across disciplines (Aluko, 2014). Kirkpatrick's guideline incorporates four stages: reaction, learning, behavior, and results.

- Stage 1: Reaction refers to participants' satisfaction and their motivation to take further action based on what they learned.
- Stage 2: Learning measures change in participants' knowledge, skills, and attitudes.
- Stage 3: Behavior assesses the ability of participants to apply what they learned.
- Finally, stage 4, results, evaluates changes for other stakeholders, such as students, because of faculty's participation.

## Empirical Studies

Regarding more recent empirical studies published in the field, Algahtani et al. (2020) assessed and identified faculty needs and important skills. This study, provided information addressing the needs of, or gaps between, current and desired conditions in medical education in Saudi Arabia. The study also identified the most important elements (i.e., personal improvement) of faculty-perceived effectiveness for success in educational research. The last part of the study followed the same purpose which identified the most important components of research-based skills and abilities. According to the results, authors declared that in their study, critical thinking was not mentioned by participants. Critical thinking that is learning to think independently and to develop one's own opinions supported by existing evidence is one of the basic elements among the teachers. On the other hand, in Algahtani et al.'s (2020) study, knowledge of education, a discipline that is concerned with methods of teaching and learning in schools or school-like environments, was mentioned. Also, ethical considerations were not considered to be important. It is noticeable that in their research, ethical considerations were defined as a set of principles that guide the research designs and practices and strictly control all actions and decisions. These principles include voluntary participation, informed consent, anonymity, confidentiality, potential for harm, and results communication. They stated that all these factors were noticeable in the process of legal and sound research.

Regarding categorizing faculty members' academic needs, Hosseinzadeh et al. (2020) showed that the educational needs of the faculty members in research can be classified into some topics. Moreover, from a gender difference perspective, women reported higher education needs compared to men. In line with this line of research, focusing on the educational needs assessment of faculty members, Shafaei-Khanghah et al. (2017) found that, based on the prioritization of the needs within the clinical and basic academic members, the greatest need was related to writing scientific texts in English. In addition, the lowest priorities among the clinical and social science faculty members who participated in the study were familiarity with English journals (26.8%) and the use of electronic resources (27.7%). The most important needs perceived by teacher educators in their study were "ability to understand research methodology" and "data analysis skills". Two main themes, "knowledge of the education system" and "knowledge of ethical considerations," were perceived as the least significant competencies to develop research-based abilities. Their finding also showed that a comprehensive research empowerment framework for teacher educators

would involve several key considerations. These would include the goals of the program, the specific components of the program, the potential challenges, barriers to implementing the program, and strategies for overcoming these challenges.

The effects of joint efforts and common projects were examined by MacPhail et al. (2018), who claimed that university professors need to heighten the level of collaboration and cooperation with their colleagues in other institutes. Its benefits are twofold. They can share resources, knowledge, and skills with other researchers, and they can join a common project and contribute to a joint effort to share responsibilities and speed up the process of conducting the research, writing, and editing the final report. Moreover, Jafari et al. (2020) and Guraya and Chen (2019) highlighted the importance of developing the personal and professional development of faculty members. They believed that reinforcing the abilities and skills of professors equals more productivity and prolific universities that, in turn, lead to training more potent and confident students.

In another relevant study, Compton (2022) examined the attitudes of faculty members who spent their early, mid, and late career years and were charged with educating both graduate and undergraduate students involved in a research enterprise. His study investigated the factors influencing university professors to give opportunities to their students to join research projects. He also addressed the faculty's approach to managing their time and resources to organize their scholarly and professional lives for collaborating research projects and dealing with relevant issues such as heavy teaching loads. Finally, he studied financial and institutional factors hampering or facilitating faculty. The findings showed that first, the faculty of health science was more willing to do research than the humanities science faculty. The most important individual factors were their gender and disciplines. Also, there was a close relationship between funding success and their performance; Finally, a hierarchical regression model accounted for 62.3% of the variance in the faculty research motivation measure.

In a recently-published study, Vígh (2024), through action research, examined the development of research skills through research-focused microteaching lessons among pre-service teacher educators. Participants were 45 pre-service teacher students whose research skills, research reports, experiences, and individual differences were examined using statistical and content analysis. The findings showed that participants performed much better at analyzing lessons than identifying research purposes, formulating research questions, or even reviewing the literature.

Similarly, Gamoran (2023) studied the factors affecting research project participation in universities and found that a barrier to the flourishing of research-practice partnerships in education is institutional challenges of the university faculty because most universities are not structured to encourage and promote partnership-oriented research. He believed that these challenges decrease the interests of faculty committed to partnerships with university norms and structures and can discourage participation. Simultaneously, universities often encounter external pressures to encourage more engagement with their communities; on the other hand, many faculty members consider such engagement inconsistent with their predefined roles as teachers, not researchers.

In a qualitative case study, Risan (2025) examined three teacher educators' attitudes towards conducting research. The data was collected by interviewing these educators and observing their campus-based activities. The findings showed that the three educators considered research as a self-evident expectation associated with higher education. They also explain that these expectations are vague and implicit; thus, they have not been provided with instructions on how to get involved in academic research activities. The findings also demonstrated how expectations of being research-based faculty challenged and enabled these educators' sense of authority in

higher education. For them, trying to be research-based faculty provided them with the authority that they needed to legitimate their work as an educator.

Noticing what was told above, to the best of our knowledge, no existing study has specifically examined the attitudes of TEFL faculty members and their outcomes within Teacher Education Universities in Iran. While there is a wealth of well-researched studies in other disciplines, the objectives for teacher education faculty, who are already specialists in their field, should be more clearly defined and tailored to their needs. Therefore, this study addresses the following research questions:

1. What are the personal factors in TEFL faculty members' attitudes towards conducting research at Teacher Education Universities of Iran?

2. What are the social factors in TEFL faculty members' attitudes towards conducting research at Teacher Education Universities of Iran?

## 3. METHODOLOGY AND DESIGN

### Participants

Given the exploratory nature of the study, a qualitative approach was adopted to delve deeply into the participants' beliefs and attitudes towards the issue (Ary et al., 2019). The study population consisted of all TEFL faculty members of Teacher Education Universities in Iran. The samples, which were purposefully selected, consisted of ten University faculty members who were aged from 31 to 48 years (M=39.5). Their degree was Ph.D. in Teaching English as a Foreign Language (TEFL), and they were tenured professors in teacher education universities in Iran. Among them, five were males and five were females. All of them had experience in publishing scientific papers in top-tier journals. Their teaching experience ranged from five to 23 years. They were born and raised in Iran, where they lived most of their life. In their self-evaluation reports, all indicated near-native English proficiency in all four skills: writing, reading, listening, and speaking. The purpose of the study was distinctly explained to participants, and they consented to participate in this study.

### Instrument

#### *Semi-structured Interviews*

Semi-structured interviews were conducted to learn about participants' attitudes and perceptions towards the investigated issue and portray their thoughts and mindsets deeply and elaborately (Ary et al., 2019). To do this, they were asked six open-ended questions, and the interviews were in their L1 (Persian), which were later translated into English. Questions were selected, noticing previous literature, and attempts were made to cover all aspects of the issue (see Appendix).

### Procedure

Faculty members from five main colleges were invited to participate in semi-structured interviews, conducted either face-to-face or via telephone. Telephone interviews were included to accommodate geographic diversity and potential accessibility limitations for some participants. Each interview lasted approximately 60 minutes and was recorded, transcribed, labeled, and stored on the second researcher's computer. The interview questions were pilot tested with a scientist experienced in qualitative methods, as well as with a teacher educator. Probes and follow-up questions were employed during the interviews to explore issues in greater depth and to ensure the interviewer's understanding of the gathered information (Ary et al., 2019). Examples of the open-ended questions from the interview guide can be found in Appendix.

## Data Analysis

Thematic analysis (Creswell & Creswell, 2017) was inductively employed to identify the key themes in the data. The researchers read and re-read the transcriptions to thoroughly understand the underlying concepts. During this process, initial codes were assigned to the data, which were subsequently classified into categories. These categories ultimately formed the final themes used to compose the results section. Besides, selected quotes were included to provide additional evidence. To assess the credibility of the data analysis, member checking was performed; a draft of the written report was shared with the participants for their approval (Creswell & Clark, 2017). All participants confirmed the content and granted permission to use their quotes anonymously. A few also provided additional explanations and details. Furthermore, an experienced qualitative researcher independently coded the data. An inter-rater reliability score of 0.85 was achieved, which is considered acceptable (Cohen et al., 2018). Finally, the completed report was sent to a colleague, who was asked to review it and provide comments to improve its quality. Comments were addressed to the report, and the final report was edited and proofread.

## 4. RESULTS

Based on the data gathered and after analyzing it, factors that affect faculty members towards conducting research were divided into two broad themes: personal and social factors. Social factors, in turn, were divided into two subthemes: journal policies and institutional support.

## Personal Factors

Based on the results obtained, the most significant personal factor influencing academic performance is general language proficiency. This includes skills in academic writing, which are essential for composing final research reports, as well as proficiency in writing scholarly papers, including designing, structuring, grammar rules, punctuation, and adherence to APA guidelines. Most participants highlighted these aspects as key factors in the first steps of doing research. Additionally, some others stated that they faced challenges in finding and selecting appropriate journals that align with the specific aims and scope of their disciplines. Moreover, they expressed that the process of submitting papers and corresponding with editors and reviewers requires specific knowledge and skills that some faculty members did not possess. As a participant mentioned:

> I think that mastery of the English language helps a lot. Scientific mastery in our research field and awareness of theories and practice are essential. Since we are interested in finding the relationships between teaching and learning constructs, defining and measuring variables, posing correct research questions, and [formulating] hypotheses make it easy to write a scientific paper (Excerpt 3, Participant No. 5).

As the second personal factor, inconsistency between faculty members' disciplines and their students and institutional needs is noteworthy based on the frequency of happening. Some of the participants declared that their research domain is not consistent with their institution's research policy or their students' educational needs. In addition, inquiries need adequate computer science knowledge for searching databases, knowing about impact factors and other metrics of journals, formatting manuscripts according to journals' guidelines, and so on.

The third personal factor was extrinsic motivation for getting a job promotion and professional academic reputation. Faculty members' privilege usually depends on their teaching and research quality. Many universities set the criteria for job promotion on a scoring system based on the number and quality of published works by their faculty members. As an interviewee said:

The problem here is that there is no support for the real researcher. The research that has been carried out so far has not solved any problems of Teacher Education University itself. The research was carried out only for the sake of research and its privileges, such as getting promotion or tenure, not for solving the current problems of the university. The first point is solving the problems of the university itself and by the researchers in the field (Excerpt 3, Participant No. 8).

Another participant stated that:

As a researcher, I think I must first completely know my students' needs and the university where I work; I should know about the students' problems and have the mindset that I can do research work to solve the problems of my own students and then all the students in the country and even in the world (Excerpt 5, Participant No. 2).

Regarding personal knowledge, one of the interviewees stated:

Maybe half of my colleagues do not know what writing an article is like and how to communicate its results. They do not know about different journals and their requirements. We always tell our students that they should be lifelong learners. There is nothing wrong with learning. There are a lot of famous professors who always attend in-service training courses. However, the level of these classes should be appropriate to the academic level of the faculty members. Not too basic and not too advanced (Excerpt 2, Participant No. 6).

## Social Factors

### Journal Policies

Some of the social factors go back to the policies of journals. For example, subjective peer reviewing without any clear criteria, unfair rejections due to hiring incompetent and irrelevant referees by journals are some factors that participants categorized as social factors. In addition, some relationships, patronage, favoritism, lobbying, pulling strings, ghost and honorary authors may affect the fairness of the process of accepting and publishing papers. Furthermore, among the factors that are effective in facilitating the research process are the cooperation and assistance among university officials, the journal, and the author. Some of the participants declared that the refereeing process is too long in many journals, and it is disappointing for them to wait for more than one year to get published. Indeed, when their articles get published, much of the data and findings are outdated, expired, and practically useless. Some other participants mentioned a lack of a specified journal as a venue to publish their scholarly works. For example, a participant mentioned that:

The long time it takes for an article to be reviewed is disappointing. Sometimes, it takes a year or two, and then it is rejected with a single sentence that "your article is not compatible with this journal in terms of content." This is actually due to the shortage of journals in specialized fields; sometimes in the field of education we cannot find a suitable journal to publish our works (Excerpt 1, Participant No. 1).

Participants also believed that the use of inefficient and inexperienced referees unfamiliar with the field can hinder the research process. Additionally, they thought that a lack of awareness about journals' policies and processes may be problematic. As one of them mentioned:

> My colleagues mainly believe that our responsibility at Teacher Education Universities is not researching at all, that is, they merely do educational job and do not know many of the basic points of research and they are not willing to learn it. Research, like anything else, requires knowledge and ability, and it cannot be done haphazardly. It requires a close association with different domestic and international journals, dealing with different editors and reviewers, and being patient and diligent (Excerpt 10, Participant No. 1).

## *Institutional Support*

Some participants believed that there were challenges in research practice because universities cannot encourage and inspire their researchers sufficiently. Although most of them felt pressure from their universities for more contributions in publishing scholarly works, there were no rewards or any financial encouragement to motivate them. They asserted that universities should change their policies and provide more support for their faculty members because it could be a strong external incentive for doing institutional research. Furthermore, doing research itself includes a high cost that should be covered by universities. Additionally, some of the interviewees were reluctant to participate in the research activity due to their heavy teaching workload and extra responsibilities other than teaching and researching that universities place on them. Lack of access to advanced computers, equipment, high-speed internet, lack of access to newly-published papers and those that are published in subscription-based journals, and finally, lack of institutional technical support that is provided in research centers in universities are among the obstacles that participants referred to as institutional factors. A participant mentioned an important point in this way:

> I think my university can invite expert researchers from other universities to help us work jointly on research projects. We need faster computers and unlimited access to databases and research resources. Sometimes, it takes me 15 minutes to search for a topic and download a paper (Excerpt 4, Participant No. 10).

Another participant pointed to taking extra courses provided by universities and put it in this way:

> In some cases, a research area that is specific to our country's educational problems is not researched adequately, and all of us need to know about our students' needs, background, and problems to adhere to the relevant research areas. Considering the current specialization of the faculty members, for example, it should be mandatory for them to participate in conferences, seminars, and workshops held in their own fields of expertise to get more knowledge about their Iranian learners' problems (Excerpt 6, Participant No. 4).

Concerning the heavy workload and financial problems, an interviewee said:

> A flagging economy forces most of us to have a side job that prevents us from taking the time to conduct research. Many university lecturers accept official

responsibilities that are not related to their expertise. I think this is one of the main problems that prevents professors from personal and professional development. Of course, some professors are interested in taking multiple positions other than their expertise because the financial support that they receive for articles is not sufficient to encourage them to do more research work. These obstacles must be removed so that a professor can really do what he or she wants to do, both in teaching and in research areas (Excerpt 2, Participant No. 7).

## 5. DISCUSSION AND CONCLUSION

The present study aimed at identifying and investigating faculty members' attitudes towards conducting research at Teacher Education Universities of Iran so that academic needs and priorities can be detected and utilized to improve research skills of faculty members and enhance research development at the University. The following research questions were addressed in this study: "What are individual factors in TEFL faculty members' attitudes towards conducting research at Teacher Education Universities of Iran?" "What are social factors in TEFL faculty members' attitudes towards conducting research at Teacher Education Universities of Iran?"

Noticing the obtained data and findings of the study, it can be claimed that faculty members' attitude towards conducting research was relatively positive, and they were mostly willing to participate in such activities; however, they mentioned many barriers in this realm that impede their progress. Some hindrances were due to their own language proficiency and professional abilities and skills, and others were associated with social factors and journals' policies, along with institutional support. Most professors defined training needs as the gap between the desired and the current situation in the research field and other job requirements as a university teacher. Providing facilities for doing scientific research and removing impediments were mentioned to be one of the responsibilities of all universities that believe in the value of skillful human resources.

Despite the fact that many university professors take several courses on "research design, methodology, and academic writing" in their master's and doctoral programs, their abilities and skills remain untapped and inactive since they usually do not activate them through actual practice of writing scholarly reports and submitting them to journals. One potential challenge in doing research for teacher educators is resistance or a lack of interest among faculty members. To overcome this challenge, it may be necessary to develop a compelling case for the benefits of engaging in research and scholarship, such as increased job satisfaction, professional recognition, and improved teaching effectiveness. Another potential challenge is the unavailability of resources, such as funding, time, and support from the institutions' leadership. Strategies for addressing these challenges could include seeking external funding sources, creating time-release policies for faculty members to engage in research and scholarship, and building partnerships with other institutions or organizations to share resources and expertise.

In terms of institutional support for faculty members, a range of activities, such as workshops, seminars, and webinars, can be held. These could cover topics such as research design, data collection and analysis, academic writing, and publication strategies. These extra programs can also include opportunities for teacher educators to participate in real research projects, either individually or in collaboration with their colleagues. As a result, a culture of research and scholarship will be promoted among the faculty members that motivates them to view research as an integral part of their professional development and teaching practice. Collaborating with other professors in other universities can involve creating opportunities for them to share the new findings with colleagues and present them at conferences, and publishing them in reputable journals. This, in turn, can lead to improved teaching effectiveness, as teacher educators will be better able to identify and address the needs of their students.

Additionally, results showed that engaging in research and scholarship can contribute to the advancement of knowledge in the field of education, leading to new insights and innovations in teaching and learning. By promoting research as an integral part of professional development and teaching practice, teacher educators are encouraged to view research as a valuable and meaningful activity. This can lead to increased collaboration and sharing of knowledge among faculty members, as well as increased recognition and visibility for the institution as a whole. All in all, conducting research by the faculty members may enhance the quality of teaching and learning, promote a culture of research and scholarship, and contribute to the advancement of knowledge in the field of education. By providing university professors with the tools and skills they need to engage in research, universities may make ensure that they are better prepared to meet the needs of their students and contribute to the ongoing development of the field of education.

The finding also demonstrated that to have successful teachers/researchers, with a strong emphasis on hands-on training and practical application, they should be provided with opportunities to engage in scholarly activities and research projects. Moreover, opportunities for mentorship and collaboration with other faculty members should be prepared for them. Providing resources and support to help faculty members overcome the challenges and barriers to engaging in research, such as a lack of fast computers, technological equipment, and financial support, are considered essential duties for universities.

Our results were congruent with Risan (2025), who reported positive attitudes of participants and a favorable atmosphere of the university's context in supporting scholastic activities. The obtained results of this inquiry are also consistent with Shafaei-Khanghah et al. (2017) and Vígh (2024) in which the most important inhibiting factors of faculty participation in research project were claimed to be personal issues such as English writing skills, lack of knowledge about various methods and data analysis techniques, and lack of familiarity with suitable journals. The results also confirm those obtained by MacPhail et al. (2018) who accentuated the role of collaboration and cooperation in conducting academic research.

On the other hand, Algahtani et al. (2020), Hosseinzadeh et al. (2020), and Compton (2022), among other factors, examined the effects of gender and discipline on the faculty members' attitudes towards conducting research. These factors were not taken into account in the present study. Moreover, Algahtani et al. (2020) emphasized the role of ethical considerations in conducting research and collecting data and reported that the majority of researchers are not aware of the importance of these considerations. In his opinion, this factor should gain more attention and specific instruction should be provided to raise awareness of faculty members in this realm.

## Conclusive Implications and Suggestions for Further Studies

Investigating and assessing faculty members' attitudes, beliefs, and perceptions towards different educational and professional issues is indispensable for the development of higher education and sustainable development. Human resources' attitudes towards their potential weaknesses and strengths in their organizations pave the way for individual and common growth and development of talents and capabilities of employees, and lead to qualitative and quantitative performance improvement. Therefore, human resources at any level of the organization's categories, whether simple or high-level complex jobs, require assessment to help them develop their qualities by training, learning, and acquiring new knowledge and skills.

With a qualitative approach and interviewing ten faculty members of Teacher Education Universities of Iran, this study attempted to dig into its participants' thoughts, beliefs, attitudes, and opinions towards conducting research in the context of Iran's universities. Qualitative data were gathered and analyzed thematically and findings emphatically confirmed the effectiveness and positive impact of probing and investigating faculty members' postures and perspectives

regarding one of their serious challenges in their career in higher education. Findings show that there is no unified and standard framework for faculty members' efforts on their scholastic activities and their participation in research, and it is often accomplished voluntarily by their own choice. On the other hand, although such activities need adequate budget, resources, administrative efforts, enthusiastic support, commitment, contribution, time, and space, most of the researchers rarely receive sufficient assistance from their university's research centers. Additionally, some researchers have difficulties with finding suitable journals, dealing with their requirements, paying publishing fees, and so forth.

In the present study, our study population was directly or indirectly involved in research activities and had the experience of publishing journal articles. Changes in some institutional policies and providing more financial resources, opportunities for collaboration, and guiding and directing unsystematic efforts by professionals and experts can increase the potential of publishing scholastic works. Policymakers and responsible managers can adopt particular research initiatives to remove the obstacles and increase the active engagement of their academic personnel. The results of this study could be the basis for similar attempts in future comparative studies and policy formulations that may promote institutions' research instruction to achieve their organizational objectives to meet national and international needs for academic development and knowledge dissemination.

## Implications of the Study

After analyzing the data qualitatively, the researcher ended up with two main themes. The central theme of personal factors included concepts such as understanding research design and methodology, applying research findings to practice, data collection and analysis skills, communicating the findings with other colleagues, collaboration, and time management skills. According to what the interviewees said, there were also social factors such as supportive institutional culture, access to financial support, and professional development opportunities. Moreover, heavy workload, limited funding, lack of collaborative research opportunities, and lack of professional development opportunities were among the inhibiting factors. Since teacher educators play a vital role in shaping the quality of teacher education programs, the study's findings can highlight the need for promoting research skills among teacher educators, which can in turn enhance the quality of teacher education. Teacher educators who possess robust research skills can engage in evidence-based practices, contribute to educational research, and promote innovation in teaching methods.

Regarding the implications of the study, it is noticeable that institutions can greatly benefit from the findings of this study by learning what particular skills, abilities, and resources are required by the faculty, so that supporting and extra programs can be targeted to address those needs, resulting in effective utilization of limited resources. The current study also has several implications for the field of education in general and for the necessity of faculty members' personal and professional development in particular. The findings of the study informed personal and professional development programs for teacher educators. It highlights the importance of providing training and support to teacher educators to develop their research skills. This can help them stay updated with the latest research trends, enhance their teaching practices, and contribute to the improvement of teacher education programs. Another implication is related to material development. The study can inform material development for teacher education programs. By identifying the specific research skills that are necessary for teacher educators, the study can help in designing courses and modules that focus on developing these skills. This can ensure that teacher educators are adequately prepared to conduct research and mentor prospective teachers effectively.

By emphasizing the importance of research skills for teacher educators, the study can help foster a research culture within the field of teacher education. It can encourage teacher educators to actively participate in research activities, collaborate with other researchers, and contribute to the growing body of knowledge in education. This can lead to the continuous improvement of teacher education programs and practices. The study's findings also encourage ongoing evaluation and improvement of universities to provide more research opportunities for faculty members. Institutions can use the study as a benchmark to design and prepare programs and plans for enhancing their teachers' research skills and identify areas for improvement. This can promote a culture of self-reflection and continuous professional development among teacher educators. In addition, the implications of this study highlight the importance of changing some policies of journals and development programs, which can positively impact the quality of institutes and journals' performance and contribute to the advancement of the field.

## Suggestions for Further Studies and Limitations

Here are a few suggestions for further studies related to the realm of faculty members' attitudes. Devoting more time to the research and conducting a longitudinal study to explore other issues on teacher educators' research productivity, teaching practices, and professional development may lead to more significant results. Furthermore, through comparative studies, researchers can compare the different attitudes of different faculty members of various majors. Other data collection methods, such as quantitative or mixed methods, can be employed to explore the experiences and perceptions of professors who will participate in the studies to gain more insights into the participants' strengths, challenges, and areas for further research. As another suggestion, other researchers can evaluate specific strategies that are adopted by professors to overcome personal or social factors affecting their participation in scholarly studies. The costs, requirements, and effectiveness of specific strategies employed, such as mentorship programs, action research projects, or collaborative research initiatives, can be assessed to determine their impact on participants' skills and capacity.

Contextual variations in different educational contexts (e.g., different provinces, institutions, or disciplines) can be taken into account to explore how contextual factors influence the faculty members' attitudes. The positive or negative impacts of different attitudes on student learning is another line of research in this area. It is recommended to investigate how the teachers' attitudes directly or indirectly influence learners' learning outcomes by examining the instructional practices and pedagogical approaches adopted by professors who have different or maybe conflicting perceptions and beliefs. These are just a few suggestions to consider for further studies. The specific research questions and methodologies would depend on the purpose of the study and the researchers' interests.

Concerning the limitations of the study, initially, the scope of the research introduces limitations. The research is concerned with faculty members of Teacher Education Universities. As the nature of qualitative research necessitates, this project was run with only ten participants. Therefore, the results cannot be generalized to other populations. We determined to examine the issue deeply and thoroughly and thus we chose qualitative research design. Nevertheless, the results can be transferred to similar cases with caution.

Another limitation of the study is that financial constraints prevent us from conducting a detailed analysis of data in more universities all around the country. In other words, the sample was limited to teacher educators at Teacher Education University, and financial limitations prohibited us from studying the issue on a larger scale. The results of the present study might be affected by its small sample size. Moreover, the finding of this project is limited to the academic

context and issues. There were no concerns for other vital issues like education, entrepreneurship, and interdisciplinary studies.

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## Appendix

### Interview Questions

1. Please elaborate on the abilities, proficiencies, qualities, and skills of successful researchers who are teacher educators.
2. How are teacher educators empowered to be skillful and proficient researchers?
3. What aspect should be taken into account as components of a comprehensive research empowerment program for faculty members? How are these components interrelated?
4. What are the essential requirements for becoming a successful teacher/researcher?
5. What factors have contributed to success in doing research as a teacher educator (facilitative factors which promote activities or strategies that you do to keep yourself a proficient researcher and academician)?
6. What factors have impeded success in doing research as a teacher educator (debilitative factors which demote activities or strategies that you do to keep yourself a proficient researcher and academician)?