Effects of Virtual Vs. Blended-Language Instruction on the Development of Listening and Reading Skills by Iranian Intermediate EFL Learners

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Abstract

Recent developments in technology have affected various aspects of human life, including education. These technological advancements have resulted in the introduction of new trends in teaching methodology. These trends include pure online instruction, mixed online and face-to-face instruction (blended), etc. In order to identify the efficacy of such kinds of instruction in comparison with traditional methods, this quasi-experimental study was conducted to explore the effects of virtual vs. blended-language instruction on the development of listening and reading skills by Iranian intermediate EFL learners. To achieve this goal, 60 intermediate EFL learners were selected to participate in two experimental (virtual and blended) and one control (traditional face-to-face) groups. After the provision of the treatments in experimental (reading and listening through virtual and blended methods of instruction) and control (reading and listening through traditional method) groups, a post-test was conducted to measure the attainment of the participants in each language skill. The results revealed that both virtual and blended methods of instruction could lead to better reading and listening performances. However, the difference between the effect of each treatment was more tangible in one skill scores (reading in the virtual group and listening in the blended group). The point worth noting is that the blended group could significantly outperform the other two groups. Comparing the results of all post-tests in reading and listening, it was revealed that blended instruction could result in better reading and listening; however, reading skill was more affected due to the higher mean difference between pre-test and post-test scores. This study has some implications for language teachers in taking advantage of technology in education in a balance with their traditional styles of teaching.

Keywords: blended instruction, EFL learners, listening, reading, virtual instruction

1. Introduction

A great number of courses have been introduced in different countries in order to help EFL learners acquire and use English as a lingua franca (Webb, 2005). Reading and listening are considered to be two primary skills used by individuals to *collect* information about the surrounding environment including the language itself (Webb, 2008). Moreover, these two skills help the learners develop the necessary skills to understand and interpret spoken or written materials (Berrabah, 2014; Wu & Hung, 2022). In other words, there is a complex relationship between listening and reading skills and the mastery of the other two major skills, writing and speaking (Hamouda, 2013). For instance, reading skills can support the development of writing, while listening can help improve speaking skills. This issue is also confirmed and approved in psycholinguistic studies (Mochida & Harrington, 2006; Pammu et al., 2021; Wu & Hung, 2022). The most recent psychological models of language production enforce the dependence of speaking and writing skills on input storage of language models accumulated through listening and reading (Derakhshan & Malmir, 2017; Hamouda, 2013). Proficient speakers of the second languages were the previous movie watchers (listeners) of that language. Moreover, professional writers seem to have been professional readers in advance (Abbasi et al., 2021). Therefore, it seems that, in the current foreign language curriculums, listening and reading skills should be given precedence over speaking and writing skills (Berrabah, 2014).

Noting the crucial role of listening and reading skills in the process of language learning, it seems logical to put emphasis on the teaching methods that can accelerate the development of these skills. During the last two decades, many educators and researchers have applied different forms of technology in order to facilitate the process of language learning and instruction (Abbasi et al., 2021; Iravi & Malmir, 2023; Martin et al., 2016; Paul & Friginal, 2018). Online learning, as a common method of instruction through technology, is a growing educational alternative for adults who cannot attend traditional face-to-face classes due to their time and space limitations (Estevez et al., 2015). Another reason for the popularity of online education is that this type of instruction offers the possibility to attend remote universities, institutes, and classes without having to move to new cities or countries (Alvarado & Calderon, 2013). Moreover, the outbreak of the COVID-19 virus has resulted in the tendency to maintain social distance from others. In fact, in such a context, it is improbable to find individuals preferring face-to-face instruction at the expense of losing health. It seems that these three reasons can justify the replacement of applying new methods of instruction with traditional face-to-face teaching style (Abbasi et al., 2021). However, the efficiency of different types of online instruction over the typical styles of teaching must be explored in various aspects in order to find out their advantages and disadvantages.

Some researchers have worked on different types of online instruction (Khoshnoud & Karbalaei, 2014; Mahmoudi Dehaki, 2017; Martin et al., 2016) and some others have provided a mixture of traditional styles of teaching and online instruction which is normally referred to as

blended methods of instruction (Alipour, 2020; Hamilton, 2018; Shibley et al., 2011). In these types of instruction online and face-to-face techniques work hand in hand in order to help EFL learners learn the language skills in a more facilitated way. However, new and different types of instruction can propose some challenges. For example, in virtual methods of instruction, teachers and students have to go through online classes in order to provide and receive the intended educational items. As it was observed by the researchers as English teachers as well as their colleagues, the new context of language teaching is more demanding for the teachers. They are not familiar with new technological devices or they cannot keep the face-to-face interaction with the students. The complaints of EFL teachers show that they do not know as much as they think they know about the language teaching techniques and needs of English courses presented in online settings. Even in some cases, they are doubtful about the efficacy of online instruction. This lack of knowledge about the new teaching context and having no clear idea about its consequences have resulted in the disappointment of the teachers (Alipour, 2020). Moreover, EFL learners are encountered with a new learning context which may or may not satisfy their needs. In addition, the literature on the instruction and acquisition of listening and reading skills suggests different techniques to help EFL learners improve their abilities (Hamouda, 2013; Rost, 2002; Sugiyono, 2008). However, a limited number of research has been carried out on the effects of online techniques on learning reading and listening skills. In the next section, some of the studies, conducted in this area, are reviewed.

2. Review of the Related Literature

The pervasive influence of technology on various sectors, from healthcare to finance, entertainment, manufacturing, and travel, has fundamentally transformed the way these industries function (Peeters, 2018). Over the past century, and even more dramatically over the last decade, these sectors have evolved in ways that were once inconceivable (Hamouda, 2013). In parallel with these sweeping changes in other fields, the education sector finds itself at a crossroads, grappling with the pressing question of how to evolve in the digital age to remain relevant and effective.

The rapid and ceaseless pace of technological advancement presents both opportunities and challenges for educational institutions (Hamouda, 2013). On the one hand, there is now unprecedented access to rich multimedia content, the proliferation of online courses, the ubiquity of mobile computing devices with internet access, the growing utility of social networking tools for learning and professional development, and a burgeoning interest in harnessing digital games for personalized learning (Kukulska-Hulme & Shield, 2008).

Conversely, the rapid evolution of educational technologies poses significant challenges for schools. As Fransen (2008) asserts, many institutions find themselves in a perpetual catch-up game as they strive to integrate technology-driven innovations into their teaching and learning programs. While some schools have successfully adapted to these changes, many others lag behind. Moreover, the ever-quickening pace of technological evolution makes it increasingly difficult to determine the

most effective solutions for specific educational contexts. Research efforts often take considerable time, and by the time they yield results, some technologies may have already become obsolete. Paradoxically, certain technological devices may have been introduced into educational programs before undergoing rigorous study of their effectiveness. For instance, the iPad gained popularity in schools almost immediately upon its release, well before comprehensive educational research could be conducted on its impact.

The relentless demand to upgrade technological infrastructure and instructional methods places a constant burden on schools and educational institutes. The nature of these demands has evolved over the past decade, shifting from a focus on audio and video technologies to encompass a wide array of digital tools such as computers, the World Wide Web, mobile phones, and more.

While research on the impact of new technologies on teaching and learning abounds, there is a notable scarcity of large-scale, effective data demonstrating the unequivocal benefits of technology integration in education (Attewell, 2005). Many studies available are funded by the very companies and institutions responsible for developing and promoting the technology, raising concerns about research validity and objectivity. Additionally, the types of studies that yield meaningful insights often require several years to complete, a timeline that lags significantly behind the rapid evolution of technology (Chinnery, 2006).

Amidst these technological advancements, some researchers have advocated for a blended approach to education, combining both online and face-to-face elements (Alipour, 2020; Hamilton, 2018; Shibley et al., 2011). Blended education may involve the use of digital content alongside traditional classroom instruction or collaboration between an online instructor and an in-class teacher to support students. This approach has shown promise in various contexts. For example, Fardy et al. (2012) explored the impact of using computers and the internet on improving English as a Foreign Language (EFL) learners' reading comprehension and motivation. Their findings indicated that computer usage played a significant role in enhancing reading comprehension and motivating students. Ni (2013) conducted a two-year study comparing the performance of EFL learners in online and face-to-face classes in a public administration course. The results suggested that student performance was not significantly influenced by the mode of instruction, but online classes had a slightly higher failure rate, primarily due to dropouts.

Xu et al. (2019) conducted a study at a public university in Mexico to examine the impact of a technology-enhanced blended program on English course grades and completion rates. The findings suggested that blended instruction improved student performance and increased enrollment-teacher ratios, making it a cost-effective option.

Alipour (2020) compared the vocabulary improvement of Iranian EFL learners in online, blended, and traditional classes, finding that both online and blended participants outperformed traditional learners. Abbasi et al. (2021) focused on the development of oral production skills through online strategy-based instruction, which was found to have a positive effect on speaking

skills. Jiang et al. (2021) explored the impact of blended learning using Quizlet software on Chinese EFL learners and reported improved listening skills and increased interest in language learning.

Rombot et al. (2021) conducted a study on the effect of blended instruction on the reading comprehension of EFL learners, demonstrating that blended instruction allowed students to review materials at their own pace, leading to improved reading comprehension. Pammu et al. (2021) found that blended instruction using a face-to-face driver model supported by the Schoology platform significantly improved reading comprehension among EFL learners. Yudhana (2021) reported that the blended mode of instruction had a positive impact on the reading comprehension of Thai undergraduate students.

Li (2022) conducted a comprehensive meta-analysis of studies examining the effect of blended instruction on general language performance among EFL learners. The analysis revealed a significant moderate improvement in language performance associated with blended instruction, with several factors such as proficiency levels, intervention periods, geographic areas, and software types affecting the outcomes.

Tao and Gao (2022) reviewed approximately 50 research studies conducted from 2018 to 2022 on various forms of virtual and blended education, highlighting challenges faced by both teachers and students. They underscored the importance of preparing educators for the evolving landscape of online teaching. Wu and Hung (2022) investigated the effect of virtual instruction on the speaking ability, motivation, and learning autonomy of elementary EFL learners, finding improved speech accuracy but no significant changes in pronunciation, fluency, motivation, or autonomy.

The existing body of literature provides valuable insights into the impact of technology, online, blended, and traditional instruction on various aspects of language learning and instruction. However, there remains a gap in the research concerning the effect of these modes of instruction on reading and listening skills, especially within the context of Iranian intermediate EFL learners. To address this gap, this study aims to investigate the impact of online, blended, and traditional language instruction on the acquisition of listening and reading skills among Iranian intermediate EFL learners, guided by a set of research questions that will be explored in the subsequent sections. To realize the research objectives, the following research questions were formulated:

1. Does virtual instruction have a significant effect on developing the reading skills of Iranian intermediate EFL learners?

2. Does virtual instruction have a significant effect on developing the listening skills of Iranian intermediate EFL learners?

3. Does the blended-method of instruction have a significant effect on developing the reading skills of Iranian intermediate EFL learners?

4. Does blended-method of instruction have a significant effect on developing the listening skills of the Iranian intermediate EFL learners?

3. Methodology

3.1. Design

This study was conducted to determine if a specific treatment (providing listening and reading lessons through online and blended instruction) influences the learning outcome. Therefore, a quasi-experimental study with a non-equivalent control group pretest-posttest research design was conducted to collect the required data. Listening and reading lessons provided through online, blended, and traditional methods of face-to-face provision of the concepts were identified as independent variables, and listening and reading skills development were identified as the dependent variables of the study.

3.2. Participants

The participants were chosen out of the Iranian EFL learners studying English at Pegah and Aryan language institutes, Kerman. The number of candidates who took part in the selection process was 120 EFL learners. In order to have a homogeneous selection of the participants, an Oxford Quick Placement Test (OQPT) was administered to the candidates. Sixty students (the ones scoring from 25 to 45) were labeled as intermediate learners. The point worth noting is that the outliers were omitted from the classes (since it was not possible to omit them from the course, their scores were not calculated or analyzed in the study). Since the study was intended to explore the role of online, blended-method, and traditional teaching styles on acquiring listening and reading skills of the learners, the selected participants were randomly divided into two experimental and one control groups (20 participants in each group).

It is also worth mentioning that the selected participants were both male and female aged from 16 to 22. Moreover, the participants were surveyed regarding their linguistic background such as their L1, prior studies in English, and residence in English-speaking countries. All these pieces of demographic information were derived from the demographic info paper provided to the candidates together with the OQPT. Through the investigation, the homogeneity of the participants was proved.

3.3. Instruments and Materials

The research instruments employed to collect the data for this study were two English reading comprehension tests (pre-test and post-test), and two English listening comprehension tests (pre-test and post-test). Each instrument is described below:

3.3.1.Pre- and post-tests

In order to assess the performance and improvement of the participants in the two experimental and one control groups, the students needed to be exposed to some tests at the beginning and at the end of the term. The intended tests were concerned with the reading comprehension and listening ability of the participants. These tests were developed by the researcher and the treatment teachers working in the mentioned institutes, in collaboration, to assess the achievement of the students.

3.3.2.Reading Comprehension Tests

Both reading tests included four reading comprehension texts. Each text was followed by five multiple-choice items, and the participants were supposed to choose the best choice from among four options. The tests were derived from the assessments provided by the authors of Touch Stone Book 3 (McCarthy et al., 2006); therefore, they could be considered reliable tests. In fact, a couple of assessment papers developed by the authors of the book were reviewed and eight reading comprehension texts were selected. Then, the selected items were randomly assigned to pre-test and post-test. The first reading test in the pre-test dealt with Arabic as a historical lingua franca. The other three tests were concerned with tourism, the history of Shiraz, and English as a foreign language. On the other hand, the reading comprehension post-test items were concerned with the homeschooling of children, human beings as social creatures, the International Committee of the Red Cross, and the friendship between a boy and a dog. However, in order to get sure about the homogeneity of the tests, the difficulty level of both tests was checked before the administration of the tests using the difficulty level formula proposed by Farhady et al. (1994). The difficulty level of reading pre-test and post-test were 50%, and 48%, respectively.

3.3.3.Listening Comprehension Tests

The listening pre-test was also composed of four texts played by an audio file. Each listening text was followed by five multiple-choice items, and the participants were supposed to choose the correct answer from the three provided options. The difficulty level of the listening tests was also checked before the administration of the tests. The listening comprehension pre-tests were chosen from the audio files provided in Touch Stone Book 3 (McCarthy et al., 2006) and included some topics such as Egypt Travel Guide, Neither Lender nor a Borrower, Black Friday, and Chinese New Year. The post-tests were structurally the same as the pre-test items (four texts followed by five three-option multiple-choice items); however, the topics were different (Accommodation, Biofuels, and Environment, English as a National Foreign Language, and Active Villagers). The difficulty level of listening pre-test and post-test were 47% and 52%. Therefore, both tests were roughly of the same difficulty level. These monologues were presented to the students by the compact disc

provided to the teachers by the university. It is worth noting that the teachers were provided with the scripts so that they could read them to the students if they faced some problems with the audio hardware.

3.3.4. Instructional Materials

In addition to the testing instruments, the students were supposed to use a kind of electronic device (mostly their cell phones) that could be connected to WhatsApp -the online social network- in order to participate in the online classes and play the listening audios and read the reading materials. Twenty listening audios and 20 reading texts were presented to the students during the treatment. These reading and listening tasks were the ones available in the textbook. The students participating in online and blended-method groups received these materials through online sources. On the other hand, the ones participating in face-to-face classes were exposed to the intended materials in their classroom. The educational materials were taken from the Touchstone series (Touchstone 3) published by Cambridge University Press. Touchstone has an online version as well as a print version. Both paper and online versions are equal in content and objectives. The online version includes a strong instructional component to provide the students with an experience very similar to having a teacher explaining concepts in front of them. Additionally, it has plenty of activities (workbook, video activities, reviews, and games). Moreover, each unit has four lessons in order to develop four major skills.

3.4. Validity and Reliability of the Tests

The listening and reading comprehension tests were derived from the original assessment copies of the Touch Stone Book. Therefore, the validity and reliability of the items have been checked by the authors. Yet, in order to increase the value of the assessment tools, a pilot study was conducted to find the probable problems of the tests and the scoring rubric. Ten intermediate students from the same institutes participated in all these pilot studies. In order to validate the researcher-made tests two language teaching experts were asked to check for the relevance as well as appropriateness of the items. Necessary revisions based on the experts' ideas were made so that the tests were accepted valid enough.

Considering reliability, Cronbach's alpha formula is the most common measure of internal consistency. Cronbach's alpha analysis for the listening tests (pre-test, post-test, and delayed post-test) was $\alpha=0.877$, $\alpha=0.812$, $\alpha=0.791$ the same value for reading tests was $\alpha=0.749$, $\alpha=0.806$, $\alpha=0.750$ revealing a satisfactory reliability.

3.5. Procedure

The data collection procedure was conducted at Pegah and Aryan language institutes, in Kerman, according to the course timetable provided by these educational centers. The researcher,

first, explained all aspects of the tests to the principals and the instructors and answered the questions raised by them. After ensuring that there were no ambiguities, the treatment started. The participants were divided into the three designed groups, and all of them were scheduled to take a listening and reading pre-test at the first and second sessions of the term. The face-to-face, blended-method, and online classes were taught by the instructors working in the two mentioned institutes. Students, in all three conditions, were exposed to the same content and had the same learning objectives. As mentioned before, the instructional material was *The Touchstone English Course* from Cambridge University Press.

Students in the face-to-face classes received instruction in the classroom 4 hours a week for 10 weeks for a total of 40 hours of instruction, plus 4 hours for the mid-term and final exams. The class format included lectures, group works, individual timed activities, in-class workshops, contests, games, presentations, and class discussions. Online students were instructed to spend the same hours studying the learning management system proposed by the book. Each online unit had an instructional section, workbook exercises, video activities, interactive games, unit tests, and discussion forums. Students were required to go to the unit discussion forum to post a point and reply to other students' points, based on the instructions that the teacher had given in the group and forum developed in the social networks. The students participating in blended-method sessions were exposed to the online instructions for 32 hours (sixteen two-hour online sessions). Four sessions were set for the students to attend face-to-face classes and they could also see their teachers in the office (in the language institute) in person.

One week after the last instructional session, a listening post-test and a reading post-test with a difficulty level similar to the pre-tests were administered to the participants in the groups. Finally, the collected papers were scored and the raw data was provided to the analyst for conducting statistical analyses.

4. Results

4.1. The Effect of Virtual Instruction on Reading Skills

The first research question, in this study was concerned with the effect of virtual instruction on developing the reading skill of Iranian intermediate EFL learners. As mentioned before, a pre-test and a post-test were administered among the participants in virtual group, before and after the provision of treatment. Descriptive results revealed that the participants in the virtual group (the first experimental group) had an improvement in their scores from the pre-test (M=8.750, SD=3.625) to the post-test (M=12.650, SD=3.674). However, the significance of the improvement needed to be approved by another table. In order to measure the improvement of the participants in the virtual group, the pre-test and post-test scores were compared by conducting a paired-sample t-test. Table 4.1 shows the paired samples t-test results for identifying the significance of the difference between the pre-test and post-test scores of the virtual group.

Table 4.1

Paired Sample T-Test for the Reading Tests in Virtual Group

| | Paired Differences | | | | | | | |
| | | | | 95% Confidence Interval of the Difference | | | | |
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1 prereading -post-reading	-3.900	5.349	1.196	-6.403	-1.396	-3.260	19	.004

The obtained results, presented in Table 4.1, show that there was a significant difference between the pre-test (M=8.75, SD=3.62) and post-test (M=12.65, SD=3.67), t (19) =3.26, p=0.004 *(two-tailed)*. The mean increase of the obtained scores was 3.900 with a 95% confidence interval ranging from 6.40 to 1.39. The eta squared statistic (0.76) indicated a large effect size.

4.2. The Effect of Virtual Instruction on Listening Skills

The second research question dealt with the effect of virtual instruction on developing the listening skills of Iranian intermediate EFL learners. Descriptive statistics showed that the participants in the virtual group had an improvement in their scores from the pre-test (M=7.750, SD=2.731) to the post-test (M=10.750, SD=4.024). In order to measure the listening improvement of the participants in the virtual group, the pre-test and post-test scores were compared by conducting another paired-samples t-test. The obtained results from these two listening tests are represented in Table 4.2.

Table 4.2

Paired Sample T-Test for the Listening Tests in Virtual Group

| | Paired Differences | | | | | | | |
| | | | | 95% Confidence Interval of the Difference | | | | |
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1 pre-listening – post-listening	-3.000	3.893	.870	-4.822	-1.177	-3.446	19	.003

The numerical findings, obtained by conducting paired samples t-test, show that the difference between listening pre- and post-test scores in the virtual group was statistically significant, pre-test (M=7.75, SD=2.73) and post-test (M=10.75, SD=4.02), t(19) =3.44, p=0.003 *(two-tailed)*. The mean increase of the obtained scores was 3.000 with a 95% confidence interval ranging from 4.82 to 1.17. The eta squared statistic (0.74) indicated a large effect size.

4.3. The Effect of Blended Instruction on Reading Skills

The blended group was also provided with a pre-test and a post-test to determine their improvement. The third research question was concerned with the effect of blended instruction on

developing the reading skill of Iranian intermediate EFL learners. As was demonstrated in descriptive findings, the participants in the blended group also had an improvement in their reading scores from the pre-test (M=9.050, SD=2.999) to the post-test (M=14.700, SD=3.096). Table 4.3 reveals the paired samples t-test results for identifying the significance of the difference between reading pre-test and post-test scores of the blended group.

The results, presented in Table 4.3, show that there was a statistically significant difference between the pre-test (M=9.05, SD=2.99) and post-test (M=14.70, SD=3.09), t(19)=6.41, p≤.000 (two-tailed). The mean increase of the obtained scores was 5.650 with a 95% confidence interval ranging from 7.49 to 3.80. The eta squared statistic (0.81) indicated a large effect size.

Table 4.3

Paired Sample T-Test for the Reading Tests in Blended Group

| | | Paired Differences | | | | | | | |
| | | | | | 95% Confidence Interval of the Difference | | | | |
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	prereading – post-reading	-5.650	3.937	.880	-7.492	-3.807	-6.417	19	.000

4.4. The Effect of Blended Instruction on Listening Skills

In line with the fourth research question, in order to demonstrate the listening performance and improvement of the group proposed to the blended instruction, the last paired-sample t-test was conducted. The participants in the blended group had an improvement in their scores from the pre-test (M=8.200, SD=2.912) to the post-test (M=14.400, SD=3.267). The significance of the difference between pre-test and post-test scores is revealed in Table 4.4.

Table 4.4

Paired Sample T-Test for the Listening Tests in Blended Group

| | | Paired Differences | | | | | | | |
| | | | | | 95% Confidence Interval of the Difference | | | | |
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	pre-listening–post-listening	-6.200	4.225	.944	-8.177	-4.222	-6.562	19	.000

The statistical findings that were obtained, by conducting paired samples t-test, show that the difference between pre- and post-test scores in the blended group was significant, (M =8.20, SD = 2.91) and post-test (M=14.40, SD=3.26), t(19) =6.56, p ≤ 000. The mean increase of the obtained scores was 6.200 with a 95% confidence interval ranging from 8.17 to 4.22. The eta squared statistic (0.86) indicated a large effect size.

On the other hand, paired samples t-tests conducted on the scores of the participants in control group could not reveal any significant improvement in neither listening (pre-test (M=7.70,

SD=2.84) and post-test (M=8.25, SD=2.80), $t(19)$=0.545, p=0.59 (two-tailed)) nor reading (pre-test (M=9.450, SD=2.96) and post-test (M=9.65, SD=3.15), $t(19)$=0.21, p=0.83 (two-tailed)).

5. Discussion and Conclusions

This section offers a comprehensive discussion and interpretation of the results obtained in the present study while considering the relevant findings from other recent research works. By addressing various aspects, we gain a more comprehensive understanding of the impact of different instructional modes on language skills development.

The first research question focused on the impact of virtual instruction on reading skills among intermediate-level Iranian EFL learners. The results of this study revealed significant improvements in reading skills in the virtual instruction group, consistent with findings from studies such as Fardy et al. (2012) and Paul and Friginal (2018). However, what sets this study apart is the true online nature of the instruction, emphasizing the effectiveness of fully online instruction in enhancing reading skills. Abbasi et al. (2021) contributed valuable insights by highlighting the beneficial effect of strategy-based online training on speaking skills among Iranian middle school students. This underscores the potential benefits of incorporating specific strategies into online instruction to foster speaking proficiency, which complements the focus on reading skills in this study.

Similarly, the second research question explored the influence of virtual instruction, this time on listening comprehension. The findings showed significant enhancements in listening comprehension, aligning with previous research by Mahmoudi Dehaki (2017). The emphasis on pure online instruction highlights the potential of virtual environments in fostering listening skills development. Jiang et al. (2021) added to this discussion by investigating the impact of online and blended learning using Quizlet software on Chinese EFL learners. Their mixed-method study not only confirmed the advantages of blended instruction but also noted a shift in attitudes and interests from negativity toward language learning to a positive outlook. This suggests that technology-enhanced instruction can positively influence learner motivation and engagement, contributing to improved listening skills.

The third research question delved into the impact of blended instruction on reading comprehension. The results demonstrated significant improvements in reading comprehension in the blended instruction group, consistent with the findings of Ghazizadeh and Fatemipour (2017). The ability for learners to review materials at their own pace in a blended setting underscores the advantages of this approach. Rombot et al. (2021) conducted an outstanding study on the effect of blended instruction on the reading comprehension of elementary EFL learners, further supporting the benefits of this approach. Their research with fifth-grade EFL students highlighted that learners could acquire reading knowledge at their own pace and according to their abilities in a blended

setting. This complements the findings in this study and underscores the potential of blended instruction in enhancing reading skills.

The fourth research question examined the effect of blended instruction on listening comprehension. Once again, the findings indicated a significant improvement, contrary to the results of Caruso et al. (2017). These variations emphasize the influence of assessment methods on instructional outcomes and the importance of considering diverse research findings. Pammu et al. (2021) contributed to this discussion by exploring the effect of blended instruction on EFL learners' reading comprehension at literal and interpretative levels. Their research demonstrated that students taught using a blended learning model exhibited significant improvements in reading performance. This highlights the potential of blending face-to-face instruction with online platforms, which aligns with the focus on blended instruction in this study. Yudhana (2021) carried out a study to identify the potential effect of the blended mode of instruction on the reading comprehension of EFL learners, emphasizing that blended instruction can significantly improve reading comprehension.

Innovatively, this study contributes to the ongoing discourse on language education by showcasing the potential of fully online instruction, which distinguishes it from previous research that often employed technology as a supplementary tool. The findings support a paradigm shift in language education, emphasizing the role of virtual environments in achieving language learning objectives. Furthermore, this study delved into the specific effects of each treatment on individual language skills, offering valuable insights for educators. By tailoring instruction methods to target specific language skills effectively, language instructors can maximize the benefits of virtual and blended learning. Considering recent research works, such as Abbasi et al. (2021), Jiang et al. (2021), Rombot et al. (2021), Pammu et al. (2021), Yudhana (2021), Li (2022), Tao and Gao (2022), and Wu and Hung (2022), we observe a growing body of evidence supporting the effectiveness of various instructional modes in enhancing language skills. These studies highlight the potential of technology and innovative teaching methods in language education.

In conclusion, this research aligns with prior findings and offers innovative insights into the evolving landscape of language education. By emphasizing the effectiveness of purely online instruction and its specific effects on language skills, it contributes to the ongoing discourse on language education in the digital age.

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