

The Relationship between Multiple Intelligences, Gender, and Speaking and Reading Skills: A Case Study of Iraqi EFL Learners

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Research Paper

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Abstract: Considering the paramount role of learners' multiple intelligences in language learning, this study was conducted in an Iraqi EFL context to investigate the relationship between EFL learners' intelligences and speaking and reading skills and determine how gender affects this relationship. The participants were 100 EFL learners in the fifth and sixth grades of two preparatory schools in Wasit, Iraq. The study followed a correlational design and McKenzie's Multiple Intelligences questionnaire and tests of speaking and reading were used as data collection instruments. Data were analyzed using Spearman's rho Correlation and Fisher's Z analyses. The results revealed significant correlations between verbal ($r = 0.55$, $p = 0.00$), logical ($r = 0.39$, $p = 0.00$), interpersonal ($r = 0.32$, $p = 0.00$) and natural ($r = 0.28$, $p = 0.00$) intelligences and speaking skill and verbal ($r = 0.51$, $p = 0.00$), logical ($r = 0.51$, $p = 0.00$), interpersonal ($r = 0.34$, $p = 0.00$), natural ($r = 0.35$, $p = 0.00$), and kinaesthetic ($r = 0.30$, $p = 0.00$) intelligences and reading skill, but no significant relationships between musical, visual, existential, and intrapersonal intelligences and the two skills ($r = 0.01$ to 0.17 ; $p = 0.07$ to 0.88). Moreover, gender had no significant role in the relationship between learners' multiple intelligences and speaking and reading skills ($z = 0.12$ to 0.93 ; $p = 0.15$ to 0.90). The findings provide new support for the available empirical literature on the topic. Based on the findings, educational managers and instructors are recommended to assess EFL learners' multiple intelligences at the beginning of instructional courses and use methods and learning activities that cater to individual learners' intelligence profiles to enhance their motivation and engagement as well as improve learning outcomes.

Keywords: Gender, Iraqi EFL Learners, Multiple Intelligences, Reading, Speaking

Introduction

Initially, intelligence was recognized as a determining factor in education and was viewed as a fixed and unchangeable trait (Dolati & Tahriri, 2017). Howard Gardner's seminal work, *Frames of Mind* (1983), introduced the theory of multiple intelligences (MI) and argued that traditional measures of intelligence, such as IQ, do not capture the full capacity of human cognition. His later work, *Intelligence Reframed* (1999), further developed these ideas, emphasizing the value of adapting educational activities to cater to different intelligences. Gardner (1983) originally hypothesized the presence of at least seven fundamental forms of intelligence: visual-spatial, verbal-linguistic, musical-rhythmic, logical-mathematical, interpersonal, intrapersonal, and bodily-kinaesthetic. Later in 1999, he built an eighth form (naturalistic intelligence) and considered the potential of adding a ninth one (existential intelligence) too. Gardner's (1983) hypothesis of MI aimed to expand the breadth of

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human creativity far beyond the IQ level. He challenged the usefulness of evaluating IQ by removing persons from their normal educational contexts and requesting them to perform solitary activities they had never performed previously and would likely never want to do again. Gardner (1983, 1985) argued that intellect has more to do with the potential to solve issues and create things in a natural environment.

In addition, Gardner's practical description of intellect makes this typically opaque concept more comprehensible. This description emphasizes continuous procedures, issue resolution, and collaboration which are regular school tasks. The concept does not restrict intelligence to a stable quantity that can be quantified (Campbell & Campbell, 1999). Numerous educators assert that multifaceted cognition gives a language or lexicon for recognizing and articulating a wider range of individual aptitude. Various language teaching methods can be aligned with the principles of MI (Richards & Rodgers, 2014). For example, incorporating activities that appeal to different intelligences—such as role-playing for bodily-kinaesthetic learners or using music for musical learners—can enhance language acquisition. Brown (2007) similarly highlights how understanding individual differences in intelligence can inform more effective teaching strategies in language learning.

Several empirical studies have investigated the practical applications of MI in education. Armstrong (2009) and Campbell et al. (2004) provide comprehensive guides on integrating MI into classroom practices, demonstrating how such integration can improve educational outcomes. These resources offer practical strategies for applying Gardner's theory to enhance both speaking and reading skills. For instance, Armstrong (2009) discusses how activities tailored to various intelligences can foster better engagement and understanding among students. Furthermore, studies like Pishghadam and Zabihi (2012) and Saricaoglu and Arikan (2009) explored the relationship between MI and L2 achievement, shedding light on how different cognitive strengths can impact language learning outcomes.

Some studies have focused on how MI impacts linguistic development since the emergence of Gardner's (1983, 1985) revolutionary theory. In general education, Haley's (2001) examination of the concept of learner-centered instruction through the lens of MI, Smith's (2002) exploration of the development and implications of MI, and Viens and Kallenbach's (2004) exploration of the application of MI in adult literacy education are good examples. These studies generally emphasize the importance of addressing the diverse intelligences of learners to create more effective and inclusive instruction and the value of learner-centered, personalized instruction catering to individual learners' unique strengths, needs, and intelligences. Such studies have generally concluded that integrating MI into educational programs can simultaneously improve learners' motivation, participation, and achievement. Most studies have recognized the relationship between MI and language skills (Gen, 2000; Nuttall, 2005; Pishghadam & Zabihi, 2012; Richards & Rodgers, 2014; Saricaoglu & Arikan, 2009; Thornbury, 2005).

Later studies (Al-Ghazu et al., 2022; Ansarin & Khatibi, 2018; Birjandi & Tamjid, 2010; Bowen et al., 2022; Laouameria & Labzouzi, 2025; Grabe & Stoller, 2011; Hajhashemi et al., 2011; Heidaripannah, 2024; Ilyas, 2016; Khosravi & Saeidi, 2014; Kim, 2023; Kumar et al., 2022; Liu, 2009; Naderi et al., 2009; Pishghadam & Zabihi, 2012; Razmjoo, 2008; Rizqiningsih & Hadi, 2019; Sadeghi & Farzizadeh, 2012; Salehi et al., 2024; Sholeh et al., 2025; Thomas & Perwez, 2024; Zafarghandi & Amini, 2019) have also investigated how L2 learners' specific intelligences relate to the growth of language skills. With all the studies conducted on the application of MI in L2 acquisition, there still seems to be some unexplored areas and a lack of consensus on the relationship between learners' specific intelligences and language skills. First, there are some controversies among previous studies as to which intelligences are essential for developing specific L2 skills. Second, the literature is not conclusive regarding the relationship between L2 learners' gender, multiple intelligences, and linguistic development. Third, there is not sufficient empirical evidence about the relationship between L2 learners' MI, gender, and the development of speaking and reading skills in the Iraqi EFL context (Bas, 2016; Loori, 2005; Razmjoo, 2008; Saricaoglu & Arikan, 2009). Accordingly, this study attempted to explore these areas. Thus, this research aimed to fill in these gaps with a specific focus

on how learners' gender affected the relationship between their multiple intelligences and speaking and reading skills. Specifically, it addressed the following research questions:

Research Question One: What is the relationship between Iraqi EFL learners' MI and speaking skill?

Research Question Two: What is the relationship between Iraqi EFL learners' MI and reading comprehension skill?

Research Question Three: What is the role of gender in the relationship between Iraqi EFL learners' multiple intelligences and speaking and reading skills?

Literature Review

Theoretical Framework

Gardner's (1985) MI theory argues that traditional indicators of intelligence do not capture the full range of human cognitive abilities. His theory is foundational for learning English, as it provides a conceptual basis that can be applied to language education. The theory suggests that recognizing and nurturing MI can result in more fruitful instruction. This shift in perspective encourages educators to develop teaching strategies that cater to diverse intellectual strengths, aiming to improve student engagement and learning outcomes across various disciplines, including English language instruction.

MI Theory and Education

The implications of Gardner's MI theory on education are of considerable significance. Traditional educational paradigms often prioritize verbal and logical intelligences, potentially neglecting students with other capabilities. MI theory, on the other side, emphasizes on exploring learners' different intellectual potentials and catering to each individual's unique abilities in order to optimize instruction and learning. Many studies have examined how applying MI impacts instruction.

Three early studies (Haley, 2001; Smith, 2002; Viens & Kallenbach, 2004) focused on MI, its application, and its general benefits. Overall, the three studies concluded that understanding and integrating MI theory into learner-centred instruction can lead to more effective teaching practices. They argued that by addressing the unique intelligences of students, educators can enhance learning outcomes, increase learner engagement, support individual learning needs, and create a more supportive and stimulating educational environment, providing them with practical strategies for incorporating MI theory into their teaching methods. Although these early studies highlighted the value of recognizing learners' MI, they did not investigate how each intelligence relates to specific school subjects including L2 skills. Besides, the studies made no mention of possible gender differences in MI and their effects on learning outcomes.

More recently, Bowen et al. (2022) found significant correlations between specific intellectual abilities and students' preferred learning strategies, underscoring the need for educators to consider these differences when designing curriculum and instructional activities. Adopting a novel approach, Yavich and Rotrisky (2020) investigated the relationship between middle school students' dominant intelligences and their academic achievement in all subjects. The findings revealed that in excellent classes, 81 percent of learners had logical intelligence while in ordinary classes, 48 percent had logical intelligence. Overall, the findings indicated that the intelligence with the highest impact on learners' achievement in all school subjects is the logical-mathematical intelligence. The important conclusion that the researchers drew from the findings was that learners' dominant intelligence can predict their academic achievement.

MI Theory and Language Teaching

Since its introduction by Gardner in 1983, many studies have examined the potential of MI-centered instruction to facilitate L2 acquisition. A review of studies on MI and L2 development sheds more light on how different intellectual abilities affect the growth of L2 skills. Several studies (Al-Ghazu et

al., 2022; Ansarin & Khatibi, 2018; Baş & Beyhan, 2010; Hashimi et al., 2025; Razmjoo, 2008; Rizqiningsih & Hadi, 2019; Sholeh et al., 2025; Yavich & Rotrisky, 2020) have examined the relationship between MI and learning L2 skills. In the same lines, Qiao (2024) reviewed the factors affecting L2 acquisition based on the research conducted by Lightbown and Spada and mentioned L2 learners' multiple intelligences as a key factor in developing language skills. These studies have generally concluded that applying MI theory in L2 teaching provides an effective learning atmosphere and can help educators design more effective and individualized teaching approaches, ultimately enhancing language learning outcomes.

MI research is not limited to general English learning, and it has also focused on the four language skills and their components. For example, speaking is a critical aspect of language involving cognitive, emotional, and social processes. MI theory provides a framework for understanding these processes by highlighting diverse cognitive abilities. The development of speaking skills is influenced by various types of intelligence, mainly linguistic, interpersonal, intrapersonal, bodily-kinaesthetic, and musical intelligences. Research (Armstrong, 2009; Pishghadam & Zabihi, 2012; Saricaoglu & Arikan, 2009) has reported significant correlations between linguistic intelligence and speaking skills.

Empirical studies have referred to the practical applications of MI for speaking instruction. L2 Students can participate in role-plays, simulations, mock interviews, debates, or storytelling exercises, which require verbal communication, understanding social cues, and expressing emotions through body language. Another early study by Gen (2000) indicated that MI-oriented methods optimize learning by catering to different intellectual strengths. Richards and Rodgers (2014) further situated MI within the broader realm of communicative language teaching, highlighting how personalized and varied instructional methods can create more effective learning. The results underscore the value of adjusting teaching to accommodate individual variations among learners, ultimately promoting more inclusive and prosperous language education.

Other early studies research (Armstrong, 2009; Campbell et al., 2004; Haley, 2001; Nolen, 2003) have also found that intrapersonal and bodily-kinaesthetic intelligences have significant effects on L2 speaking and effective communication. Some studies have confirmed the significant positive relationship between musical intelligence and speaking (Harmer, 2007; Thornbury, 2005), spatial intelligence and speaking (Armstrong, 2009; Nuttall, 2005), logical-mathematical intelligence and speaking (Campbell et al., 2004), and naturalistic intelligence and speaking (Nolen, 2003).

In the Iranian EFL context, Razmjoo (2008) explored how different intelligences affect linguistic development. The research found significant correlations between specific intelligences, like verbal and logical intelligences and higher language proficiency. He concluded that integrating the MI framework into English language instruction can yield better teaching practices. In another study, Naderi et al. (2009) explored how MI, motivational orientations and English language learning interact with each other. The study concluded that integrating MI theory and understanding students' motivational orientations into teaching practices can enhance English language learning. Similarly, Hajhashemi et al. (2011) explored the impact of MI on the vocabulary acquisition of EFL students. The findings revealed that linguistic and spatial intelligences have a significant positive effect on vocabulary acquisition.

Another study (Khosravi & Saeidi, 2014) also indicated that students with higher linguistic and logical-mathematical intelligences tend to perform better on reading comprehension tasks. The study concluded that applying MI to reading instruction can improve comprehension skills. Other studies (Aliakbari & Seyed Rezaei, 2014; Ilyas, 2016) also investigated how MI relates to speaking proficiency. The results of these studies showed that linguistic, interpersonal, and intrapersonal intelligences correlate significantly with higher speaking proficiency. They concluded that integrating MI theory into English language instruction can lead to more effective and engaging teaching practices.

Similarly, Nemat Tabrizi (2016) investigated the relationship between EFL learners' MI and reading comprehension skills. The results revealed significant correlations between all types of

intelligence and learners' reading comprehension ability. The most significant predictor of reading ability was verbal-linguistic intelligence followed by spatial and interpersonal intelligences; intrapersonal and kinesthetic intelligences could not predict the learners' reading comprehension ability.

Rizqiningsih and Hadi (2019) explored the impact of MI-based instruction on the development of EFL learners' speaking skill at a junior high school in Indonesia. The researchers developed a teaching program which considered each individual's specific intelligence in teaching speaking. The findings revealed that MI-based teaching had a significant positive effect on the development of EFL learners' speaking skills. In a particularly relevant study, Al-Ghazu et al. (2022) examined the effect of a multiple intelligences-based instruction on Jordanian EFL learners' speaking development following an experimental design. The findings revealed that MI-based teaching had a significant effect on EFL learners' speaking skills as compared with conventional instruction. Based on the findings, the researchers recommend EFL educators to integrate MI-based instruction into their syllabus for more effective teaching.

In a more recent study, Kim (2023) revisited MI theory within the English language teaching context. The study explored the contemporary applications of MI theory in ELT and evaluated its effectiveness in addressing diverse learner needs. The findings demonstrated that MI-informed approaches can lead to improved learner engagement, higher motivation, and better language proficiency. In the same lines, Liu (2023) offered a comprehensive theoretical review of the interplay between MI and L2 development. The research synthesized existing literature on how MI model can inform L2 acquisition (SLA) practices, providing a robust framework for educators to develop more effective language teaching strategies. Liu (2023) examined the theoretical foundations of MI and its implications for understanding the diverse ways individuals acquire an L2. He situates the review in the modern context of SLA, where personalized and adaptive learning methods are becoming increasingly important. The findings suggest that MI offers valuable insights into learners' unique capabilities in L2 learning, highlighting the potential for tailored instructional approaches to improve learning outcomes.

Thomas and Perwez (2024) examined the impact of Gardner's verbal-linguistic intelligence on the communication ability of IT specialists. The study found that this type of intelligence has a significant effect on the participants' communication skills. More interestingly, it was found that individuals' multiple intelligences remain almost stable even during adulthood. In a similar study, Hashimi et al. (2025) studied the most dominant intelligences of Afghan EFL learners studying English in Paktika Higher Education Institute. They found that interpersonal intelligence was the most dominant intelligence among the learners followed by intrapersonal and linguistic intelligences. Logical, spatial and musical intelligences were the least dominant ones in Afghan EFL learners. The researchers recommend EFL teachers to consider learners' intelligences in teaching English since learners with different intelligences can benefit from tailored instruction.

Another group of studies (Chen & Cheng, 2023; Luo & Huang, 2023; Park, 2023; Zhang, 2022) have explored the impact of contextual and cultural factors on the relationship between MI and L2 learning. For instance, set against the backdrop of contemporary EFL education, Zhang (2022) highlights the importance of situational adaptability. The findings indicate that factors such as institutional support, teacher training, and classroom resources play critical roles in the successful application of MI theory. Park (2023) revealed that cultural norms and values significantly impact learners' preferences for different MI activities and their engagement in the learning process. Chen & Cheng (2023) also suggested that cultural background influences learners' intelligence profiles and their responsiveness to different MI activities. Similarly, Luo and Huang (2023) suggested that cultural values and norms significantly shape learners' intelligence profiles and their engagement with different MI-based activities.

A rather new line of studies have compared the application of MI in different educational contexts. For instance, Van Nguyen (2022) revealed that the effectiveness of MI-based instruction varies across educational systems and is influenced by factors such as curriculum design, teacher

training, and resource availability. The study recommends that educational systems tailor their MI-based strategies to align with their specific contexts and needs to enhance English learning outcomes. Lopez (2024) also indicated significant variations in the development and application of MI across different cultural settings. In the same lines, Kim (2023) conducted cross-cultural comparisons of MI and English language achievement. The findings revealed significant cross-cultural variations in the development of intelligences and their impact on language achievement. The study recommends that educators incorporate cultural considerations into their MI strategies to support diverse learners and optimise language learning outcomes.

Besides speaking, MI theory has also been applied in L2 reading contexts. Reading comprehension is a complicated intellectual practice comprising interpreting texts to derive the writer's message. It requires various cognitive abilities, including phonemic awareness, vocabulary, and comprehension. Reading is influenced by MI, mainly verbal, logical, and spatial intelligence. Research (Laouameria & Labzouzi, 2025; Grabe & Stoller, 2011; Heidariapanah, 2024; Nuttall, 2005; Sholeh et al., 2025) has indicated that multiple intelligences have strong relationships with L2 reading skills and that reading can be enhanced through instruction tailored to learners' intelligences.

Interpersonal intelligence, including abilities such as empathy, social awareness, communication, and collaboration, has also been shown to have significant relationships with reading comprehension. Empirical studies (Armstrong, 2009) have demonstrated the importance of interpersonal intelligence in reading comprehension. Research (Campbell et al., 2004; Nolen, 2003) has also revealed a significant relationship between intrapersonal intelligence, involving understanding oneself, one's emotions, motivations, and inner states, and reading. Furthermore, research (Haley, 2001) has confirmed that a strong relationship exists between bodily-kinaesthetic intelligence and reading comprehension.

Several studies have confirmed the strong relationship between musical intelligence and reading (Armstrong, 2009; Grabe & Stoller, 2011), spatial intelligence and reading (Nuttall, 2005), logical-mathematical intelligence and reading (Campbell et al., 2004; Nuttall, 2005), naturalistic intelligence and reading (Nolen, 2003), and spatial intelligence and reading. Grabe and Stoller (2011) discussed the role of various cognitive abilities in reading comprehension, highlighting how linguistic, logical-mathematical, and spatial intelligence contribute to understanding and interpreting text. Practical applications of MI in reading instruction involve the use of visual aids and graphic organizers which effectively support reading comprehension through spatial intelligence (Grabe & Stoller, 2011), analytical and logical exercises that can enhance logical-mathematical intelligence (Nuttall, 2005), and interactive and collaborative reading activities that can engage multiple intelligences by promoting active participation and discussion. According to Harmer (2007), using methods aligned with different intelligences, such as graphic organizers for spatial intelligence and logic puzzles for logical-mathematical intelligence, can be beneficial for teaching reading. Research on the relationship between multiple intelligences and L2 reading has continued to date, trying to reveal the different dimensions of this relationship. Zafarghandi and Amini (2019) also found significant relationships between EFL learners' intelligences and vocabulary learning strategies. Thus, based on their findings, learners' intelligences can affect their reading skills through influencing their vocabulary learning and retention abilities.

Heidariapanah (2024) investigated the role of L2 learners' MI combined with art education in the reading performance of IELTS candidates. They compared an art-education program with traditional instruction in supporting reading development. The experimental instruction group outperformed the traditional teaching group in the reading post-test. The experimental group's motivation also increased significantly after implementing the MI-based program. Overall, the results indicated that all the participants' MI had significant positive effects their performance on the reading section of the IELTS test. Musical, kinesthetic, visual-spatial intelligences had the highest effect on the learners' reading skills followed by linguistic intelligence. Other intelligences had less impact on the learners' reading ability.

Laouameria & Labzouzi (2025) investigated the effectiveness of a teaching program based on the theory of MI on improving the reading ability of students with reading difficulties. The results revealed that the MI-based instruction left a significant positive effect on learners' reading skills and the sub-components of reading. In an interesting study, Sholeh et al. (2025) investigated the efficacy of MI-based instruction in improving students' reading ability and literacy in general. The results indicated that MI-based instruction can be an effective solution for helping students deal with their challenges in literacy development, reading ability, and even character development. The authors recommend policy makers in Indonesian education system to integrate MI-based pedagogy into the national curriculum to achieve the desired educational reform.

The Role of Gender in the Relationship between MI, Reading, and Speaking

The role of gender is an important topic in MI and L2 learning studies. Few studies have focused on this aspect of MI in L2 acquisition. A relevant study was carried out by Roohani and Rabiei (2013). The researchers investigated how MI, L2 proficiency, and gender interact with each other in students' use of learning strategies. The results revealed a significant relationship between language learning strategies and MI, but no significant relationship was found between learners' proficiency, gender, and strategy use. Another relevant study (Razmjoo, 2008) on the topic revealed no significant impact of gender on learners' linguistic development and intelligence types. Moreover, none of the intelligences could predict language proficiency. Additionally, Ansarin and Khatibi (2018) examined EFL learners' MI, learning strategies, and gender. The results showed no significant difference for MI across genders. In another study, Hooshyar et al. (2019) investigated the vulnerability of MI two questionnaires, McKenzie's Multiple Intelligences Inventory (MMII) and Multiple Intelligences Developmental Assessment Scales (MIDAS) to gender variance in EFL context. They found no male-gender effect in the MIDAS inventory whereas in MMII, they found significant male effect in logical-mathematical intelligence. Both instruments indicated significant female-gender effects, but the intelligences showing the effect varied. Significant female effects were observed in spatial, musical, kinesthetic and linguistic intelligences in MMII, and in spatial, linguistic and musical intelligences in MIDAS. Thus, the researchers concluded that both MI inventories are affected by the respondents' gender.

In another similar study, Zare-ee et al. (2015) investigated gender variations in self-estimations of MI. The participants themselves rated their own intelligences. The results indicated that female learners tended to rate most of their intelligences significantly higher than males in naturalistic and existential intelligences. Also, Menevis and Ozad (2014) studied the effect of age and gender on learners' MI. They found significant differences between the two genders in verbal, kinaesthetic, existential, musical, interpersonal, intrapersonal, and naturalistic intelligences.

Overall, a thorough study of the literature indicates that, in spite of the flourishing of MI research over the past two centuries, there are still gaps that need to be filled with carefully planned studies. The major gaps include the paucity of empirical studies on the impact of specific intelligences on reading and speaking skills (Bas, 2016; Razmjoo, 2008; Saricaoglu & Arikan, 2009); the lack of sufficient longitudinal studies on how different intelligences influence L2 development (Akbari & Hosseini, 2008; Kezhen, 2017; Saricaoglu & Arikan, 2009) and the paucity of research on how gender affects the relationship between MI and the development of L2 skills, particularly speaking and reading (Al-Hoorie, 2017; Dörnyei & Ryan, 2015; Henry & Cliffordson, 2013).

Method

Research Design and Participants

This study was conducted following a correlational design. It examined the relationships between Iraqi EFL learners' MI and speaking and reading skills. It further investigated how EFL learners' gender affected this relationship.

The participants were 100 elementary level Iraqi EFL students studying English at fifth and sixth grades of two preparatory schools (Al-Mutafawiqin and Al-Rawad Schools) in the city of Wassit, Iraq. The fifth and sixth grades of preparatory school in Iraq's educational system equals almost with the 11th and 12th grades of high school in Iran. They were randomly selected from among a pool of 160 students; even numbers were selected from the list of students in two runs until the sample size reached the total number of 100. Guilford (1954) suggests the minimum number of 200 participants to gain moderate to excellent correlation while Bujang (2024) argues that a minimum number of 149 participants is enough. In this study, for practical reasons, only 100 participants were selected. Besides, the researchers believed that valid correlations could be obtained with this sample size. There were equal number of boys and girls in the sample with ages ranging from 17 to 18. All the participants had the same first language (Arabic) and similar educational backgrounds concerning EFL learning; they had all learned English at schools with no outside of school language education or communication with native English speakers.

Instruments

Four instruments were employed for data collection: The Oxford Quick Placement Test (2009), McKenzie's (1999) MI inventory, a speaking test adopted from Cambridge IELTS Examination Papers (2024), and a reading test. The first instrument was the printed version of OQPT designed and published by Oxford University Press (2009). It was administered to determine the participants' proficiency levels. It consists of 60 multiple choice questions testing the examinees' general language proficiency.

The second instrument was the Arabic version of McKenzie's (1999) MI questionnaire, covering Gardner's intelligence types. It assessed the participants' natural, musical, logical-mathematical, existential, interpersonal, bodily-kinaesthetic, verbal-linguistic, intrapersonal, and visual-spatial intelligences. Ten specific items assess each type of intelligence. Therefore, the maximum score for each intelligence type was 10 and the total MI score was 90. The content validity and reliability of Gardner's MI inventory for use in the cultural context of Arabic were examined and approved by Al-Kalbania and Al-Wahaibia (2015). The researchers assessed the reliability of the MI inventory with 874 high school students in Oman. They conducted an exploratory factor analysis. The internal consistency of the sub-components of the MI inventory was assessed using Cronbach's alpha analysis. The analysis yielded satisfactory reliability indexes for each of the subscales of MI inventory ranging from .502 to .737; the overall Cronbach's alpha for the inventory was .935. The researchers also conducted Exploratory factor analysis (EFA) and Confirmatory factors analysis (CFA) to assess the factor structure of the items of the scale. The results provided strong evidence that the scale enjoyed sound psychometric properties. Thus, Al-Kalbania and Al-Wahaibia (2015) concluded that the Arabic version of MI inventory could be used by school counselors for identifying students' intelligence types.

The third instrument was a reading comprehension test composed of two passages, each followed by 5 comprehension questions. The passages and tests were adopted from the CEFR's example reading tests and the CEFR companion volume published in 2020; this volume provides clear examples of passages and tests corresponding to each proficiency level and several test-producing institutes and organizations such as Cambridge or Goethe institute use them as the source for their reading tests. The test was at the A2 proficiency level based on the principles of the Common European Framework of Reference for Languages (CEFR). It was considered an A2 level test as it consisted of concrete nouns, high frequency adjectives, common topics (animals, forest), mostly simple and compound sentences, basic sentence structures, simple descriptive paragraphs, clear topic sentences, repetition of main information, and simple comprehension questions. To assure validity, first, it was sent to three applied linguistics and assessment specialists and some items were omitted or revised based on their comments. To assure reliability, it was piloted with 30 EFL students with characteristics and proficiency levels similar to the study sample and the Kurder-Richardson Formula 20 (KR-20) reliability analysis was applied to the scores that yielded a reliability index of 0.89.

The last instrument was a speaking test including 10 general questions and 8 questions adopted from the speaking section of the academic module of Cambridge IELTS Examination Papers 19 published by Cambridge University Press and Assessment (2024). The test started with general questions like "What's your name?" and "What do you do?" and ended with more difficult ones like "Can you find food from many different countries where you live?" It was composed of three sections. Section one asked general and personal questions. Section two assigned topics to the participants and asked them to talk about them for 2 minutes. The third section asked them to elaborate on the topic of section two. Completing the test took 15 to 20 minutes. The criteria for correctness were accuracy, fluency, pronunciation, vocabulary, structure, and content (task response). Before administration, the test was sent to three assessment experts and was revised based on their comments. Then, it was piloted with 20 students with characteristics similar to the study sample. The reliability of the test was calculated using the Kurder–Richardson Formula 20 (KR-20) reliability analysis yielding a reliability index of 0.80.

The students' performance on the test was scored on a range of 1 to 20. Each student's performance was assessed by three expert raters and their average score was considered the final score. The inter-rater reliability was calculated using Cohen's Kappa coefficient analysis that yielded a reliability index of 0.83 ($k = 0.83$) which shows a high percent of agreement among the rates.

Procedure

The data were collected in the fall semester of the academic year 2024-2025. The participants were recruited from among students at two preparatory schools (high schools) in Wassit, Iraq using the OQPT; students scoring within the range of one standard deviation below or above the mean were selected as the study sample. First, the researcher informed the participants of the objectives of the study and obtained informed consent from all of them. Then, McKenzie's (1999) MI inventory (the Arabic translation) and the reading and speaking tests were administered in different sessions. The participants' MI, speaking, and reading scores were calculated and recorded. Finally, statistical analyses were applied to the data to address the research questions.

Data Analysis

Version 29 of IBM SPSS software was used for data analysis. More specifically, to explore research questions 1 and 2, the correlation coefficients between the students' MI and speaking and reading scores were analyzed using Spearman's rho correlation analysis. To explore research question 3, the correlation coefficients between male and female EFL learners' MI and speaking and reading skills were compared using Fisher's Z analysis. The results of the analysis determined if gender affected the relationship between their MI and speaking and reading scores.

Results

Normality Test

Before analyzing the data to address the research questions, the normality of distribution of the data was checked. According to Kolmogorov-Smirnov Test for goodness of fit results depicted in Table 1, the data were not normally distributed for all the variables since the p value was lower than .05 ($p < 0.05$) in all cases.

Table 1*Kolmogorov-Smirnov Analysis for Normality of the Data on MI Scale and Reading and Speaking Tests*

Variables	Statistic	df	Sig.
Verbal intelligence	0.24	100	0.000
Logical intelligence	0.19	100	0.000
Interpersonal intelligence	0.16	100	0.000
Natural intelligence	0.21	100	0.000
Kinaesthetic intelligence	0.20	100	0.000
Musical intelligence	0.21	100	0.000
Visual	0.20	100	0.000
Existential	0.20	100	0.000
Intrapersonal	0.22	100	0.000
Reading Test	0.17	100	0.000
Speaking Test	0.15	100	0.000

P is significant at .05 level.

Since the data distribution was not normal ($p < 0.05$) for all the variables, Pearson's correlation analysis could not be applied on the data. Thus, Spearman's rho correlation analysis was applied on the data to assess the degree of correlation between the participants' MI and their speaking and reading scores (Hatch & Lazaraton, 1991).

Research Question One

Research question one asked: *What is the relationship between Iraqi EFL learners' MI and speaking skill?* Table 2 depicts the participants' multiple intelligence, and speaking and reading scores.

Table 2*Descriptive Statistics, Participants' Performance on MI Scale, and Reading and Speaking Scores*

		N	Mean	Std. Deviation	Std. Error Mean
Multiple intelligences	verbal	100	65.70	12.08	1.21
	logical	100	56.30	13.23	1.32
	interpersonal	100	58.00	12.87	1.29
	natural	100	47.80	10.88	1.09
	kinaesthetic	100	43.50	9.78	0.98
	musical	100	40.70	9.67	0.97
	visual	100	38.30	9.11	0.91
	existential	100	34.30	9.67	0.97
	intrapersonal	100	34.20	10.75	1.07
	Reading	100	6.96	1.21	0.12
Speaking	100	15.25	1.89	0.19	

As Table 2 illustrates, the highest scores, in descending order, belonged to verbal, logical, interpersonal, natural, kinaesthetic, musical, visual, existential, and intrapersonal intelligences. The maximum score belonged to verbal intelligence with a mean of 65.70 and the minimum score belonged to intrapersonal intelligence with a mean of 34.20; thus, the difference between the highest and the lowest intelligence scores was 31.5 ($65.7 - 34.2 = 31.5$) showing a considerable dispersion among the intelligences. Regarding language tests, the students' mean reading score was 6.96 out of the total score of 10 and the mean speaking score was 15.25 out of a total score of 20.

To estimate the correlation coefficient between the learners' MI and speaking skill, Spearman's rho analysis was applied on the data. As Table 3 shows, there were significant correlations between verbal, logical, interpersonal, and natural intelligences and speaking skill ($p <$

.05); there were no significant correlations between the students' kinaesthetic, musical, visual, existential, and intrapersonal intelligences and speaking skill ($p > .05$). The highest correlations were found between verbal, logical, and interpersonal intelligences and speaking skill with correlation coefficient values of 0.55, 0.39, and 0.32 respectively.

Table 3

Correlations Between EFL Learners' Multiple Intelligences and Speaking Skill

Intelligences	Correlation Coefficient	N	Sig. (2-tailed)
Verbal	0.55	100	0.00
Logical	0.39	100	0.00
Interpersonal	0.32	100	0.00
Natural	0.28	100	0.00
Kinaesthetic	0.11	100	0.23
Musical	0.06	100	0.54
Visual	-0.03	100	0.75
Existential	0.05	100	0.59
Intrapersonal	0.01	100	0.88

P is significant at .05 level.

Based on the results of the correlation analysis depicted in Table 3, the first null hypothesis stating "There is no relationship between Iraqi preparatory school EFL learners' multiple intelligences and their speaking skill," was rejected for the relationship between EFL learners' verbal ($r = 0.55$, $p = 0.00$), logical ($r = 0.39$, $p = 0.00$), interpersonal ($r = 0.32$, $p = 0.00$), and natural ($r = 0.28$, $p = 0.00$) intelligences and speaking, but accepted for the relationship between their kinaesthetic ($r = 0.11$, $p = 0.23$), musical ($r = 0.06$, $p = 0.54$), visual ($r = 0.03$, $p = 0.75$), existential ($r = 0.05$, $p = 0.59$), and intrapersonal ($r = 0.01$, $p = 0.88$) intelligences and speaking.

Research Question Two

The second research question asked: *What is the relationship between Iraqi preparatory school EFL learners' multiple intelligences and reading skill?* Table 4 depicts the participants' MI and reading scores. To address this question, Spearman's rho correlation analysis was applied on the data collected on the two variables. As Table 4 illustrates, there were significant correlations between EFL learners' verbal ($r = 0.51$, $p = 0.00$), logical ($r = 0.51$, $p = 0.00$), interpersonal ($r = 0.34$, $p = 0.00$), natural ($r = 0.35$, $p = 0.00$), and kinaesthetic ($r = 0.30$, $p = 0.00$) intelligences and reading skill; however, there were no significant correlations between their musical ($r = 0.17$, $p = 0.07$), visual ($r = 0.04$, $p = 0.63$), existential ($r = 0.11$, $p = 0.26$), and intrapersonal ($r = 0.09$, $p = 0.34$) intelligences and reading skill.

Table 4

Correlations Between EFL Learners' Multiple Intelligences and Reading

Intelligences	Correlation Coefficient	N	Sig. (2-tailed)
Verbal	0.51	100	0.00
Logical	0.51	100	0.00
Interpersonal	0.34	100	0.00
Natural	0.35	100	0.00
Kinaesthetic	0.30	100	0.00
Musical	0.17	100	0.07
Visual	0.04	100	0.63
Existential	0.11	100	0.26
Intrapersonal	0.09	100	0.34

P is significant at .05 level.

The highest correlation coefficients were observed between the students' verbal and logical intelligences and reading comprehension, both with a correlation value of 0.51. There were moderately significant correlations between the students' interpersonal, natural, and kinaesthetic intelligences and reading skill with correlation indexes of 0.34, 0.35, and 0.30, respectively. There were no significant correlations between their musical, visual, existential, and intrapersonal intelligences and reading skill ($p > .05$).

Based on the results of correlation analysis depicted in Table 4, the second null hypothesis stating "there is no relationship between Iraqi preparatory school EFL learners' multiple intelligences and their reading comprehension skill," was rejected for the relationship between the learners' verbal, logical, interpersonal, natural, and kinaesthetic intelligences and reading ($p < .05$), but accepted for the relationship between their musical, visual, existential, and intrapersonal intelligences and reading skill ($p > .05$). Regarding the relationship between learners' MI and speaking and reading skills, the only difference was that their speaking skill correlated with verbal, logical, interpersonal, and natural intelligences while their reading skill, besides these four intelligences, correlated with kinaesthetic intelligence too.

Research Question Three

Research question three asked: "What is the role of sex (male and female) in the relationship between Iraqi EFL learners' multiple intelligences and speaking and reading skills?" Fisher's Z analysis was applied on the data to address this question. Tables 5 illustrates the results of the analysis comparing the correlation coefficient values between male and female EFL students' multiple intelligences and their speaking and reading skills. As the results of the analysis show, sex had no significant effect on the relationship between EFL learners' MI and speaking and reading skills ($p > .05$).

Table 5

Correlations and Fisher's Z Analyses between EFL Learners' MI and Speaking and Reading Skills by Gender

Spearman's rho Correlations and Fisher's Z for Speaking Skill by Sex								
Intelligences	Male			Female			Fisher's Z	
	Correlation Coefficient	N	Sig. (2-tailed)	Correlation Coefficient	N	Sig. (2-tailed)	z	Sig. (2-tailed)
Verbal	0.58	50	0.00	0.49	50	0.00	0.65	0.51
Logical	0.34	50	0.01	0.43	50	0.00	-0.48	0.63
Interpersonal	0.35	50	0.01	0.28	50	0.04	0.35	0.72
Natural	0.35	50	0.01	0.24	50	0.08	0.57	0.56
Kinaesthetic	0.10	50	0.48	0.14	50	0.32	-0.21	0.83
Musical	0.14	50	0.32	-0.14	50	0.30	1.43	0.15
Visual	0.10	50	0.47	-0.14	50	0.31	1.21	0.22
Existential	0.18	50	0.21	-0.09	50	0.53	1.32	0.18
Intrapersonal	0.13	50	0.34	-0.11	50	0.44	1.21	0.22

Spearman's rho Correlations and Fisher's Z for Reading Skill by Sex								
Intelligences	Male			Female			Fisher's Z	
	Correlation Coefficient	N	Sig. (2-tailed)	Correlation Coefficient	N	Sig. (2-tailed)	z	Sig. (2-tailed)
Verbal	0.46	50	0.00	0.55	50	0.00	0.59	0.55
Logical	0.55	50	0.00	0.48	50	0.00	0.49	0.62
Interpersonal	0.33	50	0.01	0.34	50	0.01	0.04	0.96
Natural	0.26	50	0.06	0.42	50	0.00	0.89	0.37
Kinaesthetic	0.29	50	0.03	0.31	50	0.02	0.12	0.90
Musical	0.30	50	0.02	0.05	50	0.69	1.27	0.20
Visual	0.13	50	0.37	0.02	50	0.89	0.73	0.46
Existential	0.14	50	0.31	0.05	50	0.70	0.44	0.66
Intrapersonal	0.19	50	0.17	0.00	50	0.96	0.93	0.35

P is significant at .05 level.

As Tables 4.8 and 4.9 depict, the p value for Fisher's Z analysis was higher than the significance level ($p > .05$) for all intelligence types in both speaking and reading skills. This means that EFL learners' gender played no significant role in the relationship between their MI and speaking and reading skills. Therefore, the third null hypothesis stating "*sex has no significant effect on the relationship between Iraqi EFL learners' multiple intelligences and speaking and reading skills,*" was accepted. This shows that the relationship between EFL learners' MI and speaking and reading skills is independent of the sex factor.

Discussion

This study investigated the relationship between Iraqi preparatory school EFL learners' MI and reading and speaking skills and how gender affected this relationship. The findings revealed strong positive relationships between the learners' verbal, logical, interpersonal, and natural intelligences and speaking and reading. Besides, a strong relationship was observed between their kinaesthetic intelligence and reading. It was also revealed that learners' gender did not significantly affect the relationship between their MI and speaking and reading skills. Thus, EFL learners' development of speaking and reading skills is, at least partly, related to their verbal, logical, interpersonal, natural, and kinaesthetic intelligences.

The findings add to our understanding of the relationship between L2 learners' MI and linguistic development. In addition, they provide empirical evidence for the hypothesis that L2 learners' gender does not affect the relationship between their MI and speaking and reading skills. Based on the findings, EFL learners' problems in learning speaking and reading skills might partly be attributed to their verbal, logical, interpersonal, natural, and kinaesthetic intelligences, but not to their genders. The findings add to our knowledge of the causes of EFL students' problems in learning English in general. Additionally, they provide initial empirical evidence in support of the hypothesis that EFL learners' intelligences do not vary significantly across genders.

The findings can be discussed from different perspectives. First, it can be hypothesized that learners with high verbal-linguistic intelligence often excel in verbal communication, showing a sharp sensitivity to word meanings, sounds, and rhythms. The findings provide new empirical support for the literature (Nemat Tabrizi, 2016; Pishghadam & Zabihi, 2012; Razmjoo, 2008; Sabet & Kiaee, 2016; Thomas & Perwez, 2024) that individuals with higher verbal intelligence perform better in speaking and oral presentation. Confirming the explanation proposed in previous studies, learners with higher verbal intelligence can organize their thoughts and feelings more coherently and present them more effectively. Similarly, the findings support the argument stated in the literature that students with high linguistic intelligence are more successful in speaking tasks and communication in general.

The strong positive correlation between logical intelligence and speaking can be explained on the grounds that, as Gardner (1985) puts it, logical-mathematical intelligence enhances speaking by enabling L2 speakers to organize their thoughts systematically, identify logical connections, and present arguments persuasively. This finding also supports those of past studies (Hashimi et al., 2025; Razmjoo, 2008; Thornbury, 2005) reporting that activities involving problem-solving, analysis, and logical reasoning help learners develop their speaking abilities by encouraging them to think critically and articulate their thoughts clearly. As with the strong relationship between natural intelligence and speaking, the findings provide evidence for the hypothesis that naturalistic intelligence can affect L2 speaking ability by providing learners with a profound understanding of the natural world and the capacity to communicate this knowledge effectively.

With regard to the significant correlation between kinaesthetic intelligence and speaking skill, the findings support Haley's (2001) argument that incorporating movement and physical activities into language lessons can enhance L2 learners' speaking skills. The results confirm her finding that students using gestures and body language to support verbal communication are more effective in conveying their messages. The findings also support those of Armstrong (2009) showing that students who incorporate physical movement and expressive gestures into their speech are more engaging and

persuasive speakers. As with musical, visual, existential, and intrapersonal intelligences, the findings do not support Thornbury's (2005) argument for the benefits of using songs and chants in language teaching. Further, the findings run against his results that students who engage in musical activities can better remember and reproduce language patterns, improving speaking fluency and accuracy. Besides, the findings do not support earlier research findings (Armstrong, 2009; Campbell et al., 2004; Nuttall, 2005) that individuals with high spatial intelligence are often better at using visual aids and organizing their presentations logically.

An important consideration regarding the findings is that the results of this study are local rather than global; that is, the findings might apply only to the Iraqi EFL context and in other contexts, the study might yield different results. The findings also indicate that there is no difference between EFL learners' speaking and reading skills in terms of the relationship between their MI and language skills. Regarding the strong relationship between learners' verbal-linguistic intelligence and reading, the findings support those of past studies (Laouameria & Labzouzi, 2025; Grabe & Stoller, 2011; Heidariapanah, 2024; Sholeh et al., 2025) that linguistic intelligence facilitates reading processes, including decoding, comprehension, and critical analysis and that learners with high linguistic intelligence better recognize words, understand their meanings, and grasp texts' overall structure and content.

As with the significant relationship between learners' logical-mathematical intelligence and reading, the findings support the conclusion of past studies (Campbell et al., 2004; Laouameria & Labzouzi, 2025; Grabe & Stoller, 2011; Heidariapanah, 2024; Nuttall, 2005; Sholeh et al., 2025) that individuals with high logical-mathematical intelligence are better at analyzing texts, identifying main ideas and supporting details, and constructing logical interpretations. Considering the strong relationship between interpersonal intelligence and reading, the results support the findings of past research (Armstrong, 2009; Hashimi et al., 2025; Nemat Tabrizi, 2016) that interpersonal intelligence enhances reading experience by facilitating discussions and collaborative learning. Besides, the results confirm their finding that students with high interpersonal intelligence benefit from group reading activities, such as book clubs and literature circles, where they can share their perspectives, discuss characters and themes, and gain insights from peers.

The strong relationship observed between learners' natural intelligence and reading ability is in line with the findings of past studies (Armstrong, 2009; Nolen, 2003) reporting that individuals with high naturalistic intelligence are often effective readers on environmental and nature topics. As with the strong relationship between kinaesthetic intelligence and reading, the findings support the argument proposed by previous studies (Armstrong, 2009; Nolen, 2003) that incorporating movement and physical activities into reading lessons can enhance comprehension and engagement. The findings confirm the hypothesis that students who use gestures and body language can read more effectively and understand and interpret texts better. The findings particularly support Armstrong's (2009) emphasis on the role of bodily-kinaesthetic intelligence in experiential learning and add new empirical support to his finding that students who engage in physical activities are more engaged and motivated to read.

However, the findings do not support the results of past research referring to the relationship between language learners' musical, visual, existential, and intrapersonal intelligences and their reading skill. More specifically, the findings are not in line with those of past studies (Laouameria & Labzouzi, 2025; Grabe & Stoller, 2011; Heidariapanah, 2024) arguing for the strong relationship between musical and visual intelligences and reading. It must be noted that the strong positive relationship between EFL learners' verbal, logical, interpersonal, natural, and kinaesthetic intelligences and reading skills found in this study relate to the EFL context in Iraq and might not be generalizable to other cultural and linguistic contexts.

In line with Zhang (2022), it should be observed that while MI theory offers significant potentials for enhancing EFL learning, its effectiveness depends on careful consideration of contextual variables. Thus, successful application of MI theory needs tailored professional development and resource allocation to support MI-based teaching in diverse EFL contexts. Also, the

study highlights the importance of cultural influences in implementing MI in language teaching as suggested by recent studies (Al-Ghazu et al., 2022; Chen & Cheng, 2023; Laouameria & Labzouzi, 2025; Heidaripناه, 2024; Hooshyar et al., 2019; Luo & Huang, 2023; Park, 2023; Sholeh et al., 2025; Thomas & Perwez, 2024) recommending educators to consider cultural factors when designing MI-based curricula to enhance English learning outcomes.

As the results revealed, the participants' gender did not significantly affect the relationship between their MI and speaking and reading skills. This can be assumed as an evidential basis for the hypothesis that EFL learners' MI and speaking and reading skills are independent from their genders. Thus, learners' speaking and reading skills might not be enhanced through focusing on gender differences.

Few studies in the literature have focused on the effect of gender on the relationship between EFL learners' MI and language skills. First, the findings provide strong empirical evidence in support of Razmjoo's (2008) finding that gender has no significant effect on L2 learners' proficiency and intelligence types. The results also support Ansarin and Khatibi's (2018) study revealing no significant difference for multiple intelligences across genders. However, the findings contradict those of Menevis and Ozad (2014) who reported significant differences between the two genders in almost all intelligence types. This difference between the findings of the two studies might be due to diverse cultural and educational contexts of Cyprus and Iraq.

Overall, the findings provide strong evidence for the almost shared finding of past studies (Akbari & Hosseini, 2008; Al-Ghazu et al., 2022; Laouameria & Labzouzi, 2025; Grabe & Stoller, 2011; Hajhashemi, 2011; Heidaripناه, 2024; Salehi et al., 2024; Sholeh et al., 2025; Rahimi & Abedini, 2009; Thomas & Perwez, 2024; Zafarghandi & Amini, 2019) that incorporating MI theory into English language teaching can lead to more effective and engaging instruction, improving language skills by catering to their unique intellectual strengths. Besides, the findings support past researchers' (Ansarin & Khatibi, 2018; Bař, 2008; Bař & Beyhan, 2010; Birjandi & Tamjid, 2010; Laouameria & Labzouzi, 2025; Hajhashemi et al., 2011; Heidaripناه, 2024; Liu, 2009; Naderi et al., 2009; Sadeghi & Farzizadeh, 2012; Sholeh et al., 2025) urge for identifying learners' individual differences and designing learner-centered instructional plans meeting individual learning needs leading to enhanced engagement, motivation, and learning outcomes. More specifically, the findings provide empirical evidence for Khosravi and Saedi's (2014) and Laouameria & Labzouzi (2025) conclusion that by addressing the unique intelligences of students, teachers can create more effective and personalized reading activities, ultimately enhancing students' reading and overall language proficiency.

Conclusions

This study revealed significant positive relationships between Iraqi EFL learners' verbal, logical, interpersonal, natural, and to some extent, kinaesthetic intelligences and speaking and reading skills. Furthermore, it indicated that this relationship is not affected by learners' gender. This study adds unique contributions to the literature. The findings provide new support for the available empirical literature (Al-Ghazu et al., 2022; Al-Hoorie, 2017; Bowen et al., 2022; Chen & Cheng, 2023; Laouameria & Labzouzi, 2025; Henry & Cliffordson, 2013; Heidaripناه, 2024; Kezhen, 2017; Khosravi & Saedi, 2014; Kim, 2023; Liu, 2023; Luo & Huang, 2023; Park, 2023; Salehi et al., 2024; Sholeh et al., 2025; Thomas & Perwez, 2024; Van Nguyen, 2022; Zafarghandi & Amini, 2019; Zhang, 2022) on the relationship between L2 learners' MI and linguistic development. It provides convincing evidence for the argument proposed by earlier studies (Akbari & Hosseini, 2008; Al-Hoorie, 2017; Armstrong, 2009; Hooshyar et al., 2019; Laouameria & Labzouzi, 2025; Kim, 2023; Liu, 2009; Park, 2023; Richards & Rodgers, 2014; Thomas & Perwez, 2024) that exploring, recognizing, and integrating L2 learners' unique intelligences into language instruction can simultaneously enhance their motivation, engagement, and leaning outcomes.

The findings establish a solid basis for curriculum planners, syllabus designers, educational managers, and L2 teachers to make plans for carefully assessing language learners' unique intellectual competencies and designing lessons and learning activities involving all types of intelligences. Based

on the results, educators, particularly in the Iraqi EFL context, can enhance their students' speaking and reading skills by integrating instructional activities that cater to learners' specific intelligences.

As Heidaripanah (2024) and Sholeh et al. (2025) note, integration of EFL learners' MI into language instruction has impacts far beyond learning speaking and reading. Considering learners' unique intelligences has the potential to make learners more interested, thereby increasing their motivation. In fact, MI-oriented language instruction is a multi-dimensional undertaking involving cognitive, affective, and social aspects of L2 learners.

The instructional value of this study lies in the fact that its results can be used for developing individual learning plans catering to learners' specific intelligences, learning strategies, and needs. For instance, learners who enjoy high interpersonal intelligence should engage in activities that require them have communicative practice with their peers to enhance their speaking skill. Similarly, learners with a high logical intelligence should practice with texts that need reasoning and making inferences from texts. This approach to language teaching is in contrast with traditional approaches usually followed in Iraq's preparatory schools and colleges, treating all learners equally and teaching all learners using the same methods and techniques. The results call Iraqi EFL teachers to make plans for identifying each learner's unique cognitive abilities and preparing learning activities that match with individual learners' specific intelligences and learning styles.

The results have further practical implications for improving EFL instruction, particularly speaking and reading in Iraq. First, the results highlight the need for assessing EFL learners' intelligences at the beginning of instructional courses and designing instructional procedures catering to individual learners' unique cognitive abilities in order to optimize learning outcomes (Kim, 2023). Integrating MI theory in EFL instructional programs can simultaneously enhance student motivation and engagement and improve learning (Bowen et al., 2022). This is particularly recommended to educators and policy-makers in Iraq's EFL contexts since MI-based teaching strategies can significantly improve the effectiveness of English language instruction. In line with 21st century researchers' argument for learner-centered education, the results provide sound evidence to recommend curriculum planners, syllabus designers, and EFL teachers to carefully evaluate language learners' MI and prepare instructional materials and activities catering to individual learners' unique potentials to optimize learning outcomes.

Also, in line with recent comparative studies (Van Nguyen, 2022) arguing for the differential effectiveness of MI-based instruction in different educational contexts, educators should tailor their MI-based strategies to align with their specific cultural and educational contexts and needs to enhance English learning outcomes. Furthermore, care must be taken in interpreting the results of the study with regard to traditional and online settings since this study was conducted in a traditional classroom setting. Online and traditional learning environments might require distinct MI-based approaches to maximize their effectiveness.

Considering the strong positive relationship between verbal, logical, interpersonal, natural, and kinaesthetic intelligences and speaking and reading skills, educators are recommended to include various activities catering to these intelligences to improve learners' speaking and reading. To enhance speaking, EFL teachers can use role-playing and simulations which are effective strategies for enhancing speaking skills through multiple intelligences. These activities engage linguistic, interpersonal, and kinaesthetic intelligence by allowing students to practice language in realistic scenarios. Teachers can also use collaborative projects and group activities fostering interpersonal intelligence. They can incorporate multimedia and technology into speaking instruction to engage multiple intelligences. Using audio-visual materials, language learning apps, and interactive whiteboards can enhance linguistic and spatial intelligences.

To enhance reading, EFL teachers are advised to use visual storytelling, interactive reading exercises, and analytical discussions for diverse student engagement. As Grabe & Stoller (2011) argue, visual aids and graphic organizers effectively support reading comprehension through spatial intelligence. Teachers can use diagrams, mind maps, and flowcharts to help students visualize the structure of texts and the relationships between ideas. EFL teachers can incorporate analytical and

logical exercises into reading instruction to engage logical-mathematical intelligence. Strategies such as literature circles, jigsaw reading, and reciprocal teaching encourage students to work together to understand and analyze texts.

Furthermore, EFL teachers are suggested to consider learners' intelligences independently from their genders. They can plan instructional procedures and learning activities for all EFL students irrespective of their genders. Despite its valuable contributions to research on L2 acquisition and pedagogy, this research has some limitations. First, the participants were Iraqi preparatory school EFL learners and this might limit the generalizability of the findings to learners from other proficiency levels or cultural and linguistic backgrounds. Besides, the sample size and participant selection processes might have limited the representativeness of the population under study. The research included learners from two specific preparatory schools from the city of Wasit in Iraq, which might not reflect the diversity of the entire Iraqi EFL learners' population. Furthermore, data on the participants' intelligences were collected using self-report questionnaires where students might have overestimated or underestimated their specific cognitive abilities. This can, to some extent, jeopardize the internal validity of the findings.

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Declaration of Conflicting Interest

The authors declare that they have no conflict of interests that could have affected the results reported in this study.

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