

The Intersection of Gender, Culture, and Metacognitive Reading Strategies in Iranian EFL Education: A Mixed-Methods Analysis in Pursuit of Inclusion and Equity

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ABSTRACT

This mixed-methods study investigated metacognitive reading strategies (MRS) among 178 Iranian EFL learners, focusing on gender and sociocultural dimensions. Utilizing an explanatory sequential design, participants—116 females and 62 males—were randomly sampled from two universities in Neyshabur, Iran. For the quantitative phase, a descriptive-correlational design using the Survey of Reading Strategies (SORS) and the TOEFL iBT reading section was employed. Descriptive analyses indicated subtle gender-based variances in MRS among Iranian EFL learners, with females exhibiting a consistently higher usage ($M = 3.61$) than males ($M = 3.44$). Specifically, in Support Reading Strategies, females ($M = 3.87$) outpaced males ($M = 3.68$) in strategy application, and this trend persisted in Problem-Solving Strategies, with females ($M = 3.72$) demonstrating more frequent usage than males ($M = 3.46$). Similarly, Global Reading Strategies presented a modest gender disparity, favoring female learners ($M = 3.37$) over male learners ($M = 3.26$). Independent samples t -tests revealed gender-specific differences in the overall MRS application, particularly in the subcategories of support and problem-solving strategies ($p < .05$), favoring females. In the qualitative phase, 12 participants were purposively sampled for semi-structured interviews. Thematic analysis identified gender disparities exacerbated particularly by implicit teacher biases and sociocultural factors. The study challenges the efficacy of neutral-seeming teaching approaches, advocating for more equitable and inclusive methods. Future research could explore sociocultural factors such as patriarchal norms, socio-economic status, and cultural expectations about literacy education, thereby offering actionable insights for developing culturally sensitive and equitable pedagogical strategies in diverse EFL contexts.

KEYWORDS

EFL Reading; Gender; Inclusion; Metacognitive Reading Strategies; Sociocultural Theory.

ABSTRAK

Studi metode campuran ini menyelidiki strategi membaca metakognitif (MRS) di antara 178 pelajar EFL Iran, dengan fokus pada dimensi gender dan sosiokultural. Dengan menggunakan desain sekuensial penjelasan, peserta—116 perempuan dan 62 laki-laki—diambil sampelnya secara acak dari dua universitas di Neyshabur, Iran. Untuk fase kuantitatif, digunakan desain deskriptif-korelasi menggunakan Survey of Reading Strategies (SORS) dan bagian membaca TOEFL iBT. Analisis deskriptif menunjukkan variasi MRS berbasis gender yang tidak kentara di kalangan pelajar EFL di Iran, dengan perempuan secara konsisten menunjukkan penggunaan yang lebih tinggi ($M = 3,61$) dibandingkan laki-laki ($M = 3,44$). Secara khusus, dalam Strategi Membaca Dukungan, perempuan ($M = 3,87$) mengungguli laki-laki ($M = 3,68$) dalam penerapan strategi, dan tren ini bertahan dalam Strategi Pemecahan Masalah, dengan perempuan ($M = 3,72$) menunjukkan penggunaan yang lebih sering dibandingkan laki-laki ($M = 3,46$). Demikian pula, Strategi Membaca Global menunjukkan kesenjangan gender yang kecil, dan lebih mengutamakan pembelajar perempuan ($M = 3,37$) dibandingkan pembelajar laki-laki ($M = 3,26$). Uji-t sampel independen mengungkapkan perbedaan spesifik gender dalam penerapan MRS secara keseluruhan, khususnya dalam subkategori strategi dukungan dan pemecahan masalah ($p < 0,05$), yang lebih menguntungkan perempuan. Pada fase kualitatif, 12 peserta diambil sampelnya secara sengaja untuk wawancara semi terstruktur. Analisis tematik mengidentifikasi kesenjangan gender yang diperburuk terutama oleh bias guru dan faktor sosiokultural yang tersirat. Studi ini menantang efektivitas pendekatan pengajaran yang terkesan netral, dan menganjurkan metode yang lebih adil dan inklusif. Penelitian di masa depan dapat mengeksplorasi faktor-faktor sosiokultural seperti norma-norma patriarki, status sosial-ekonomi, dan ekspektasi budaya tentang pendidikan keaksaraan, sehingga menawarkan wawasan yang dapat ditindaklanjuti untuk mengembangkan strategi pedagogi yang sensitif secara budaya dan adil dalam konteks EFL yang beragam.

KATA KUNCI

Membaca EFL; Jenis Kelamin; Inklusi; Strategi Membaca Metakognitif; Teori Sosiokultural.

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INTRODUCTION

In an era marked by the pervasive influence of English as a global lingua franca (Rao, 2019), the necessity for learners of English as a foreign language (EFL) to develop a comprehensive set of language skills has been accentuated (Al-khresheh & Al Basheer Ben Ali, 2023). Among these, reading emerges as a cardinal literacy skill, integral to not just language acquisition but also to broader educational outcomes (Al-Mekhlafi, 2018). Indeed, academic success is inexorably linked with proficient reading skills (Meniado, 2016). Reading, particularly of academic texts, is not a passive but an interactive cognitive process, requiring a range of strategies for effective comprehension (Mokhtari & Sheorey, 2002). Consequently, scholarly attention has been increasingly channeled toward understanding metacognitive reading strategies (MRS)—approaches whereby readers actively monitor and regulate their comprehension processes (Alsheikh & Mokhtari, 2011).

Research has underscored the role of metacognitive awareness in enhancing reading comprehension across various educational contexts (Algraini, 2022; Anderson, 2002; Carrell et al., 1989; Khellab et al., 2022; Mokhtari & Reichard, 2002). In light of this, proficiency in MRS becomes particularly crucial for EFL learners situated in culturally diverse settings, such as Iran. Despite an expanding body of literature in this domain, there remains a pressing need to address research lacunae and contextual nuances, especially with respect to Iranian EFL learners.

The investigation of reading strategies has historically been approached from a cognitive perspective, emphasizing individual mental processes (Ghafar Samar & Dehqan, 2012). Yet, this perspective can be limiting when considering the broader, socially embedded nature of learning. This is where sociocultural theory, a concept rooted in the intersection of sociology and psychology, becomes pertinent. Originating from the work of Soviet psychologist Lev Vygotsky, sociocultural theory asserts that learning transcends individual cognition, necessitating a social context where interaction with peers or expert teachers plays a pivotal role (Zuengler & Miller, 2006). Vygotsky's framework posits that human development, including cognitive and learning processes, is significantly influenced by social interactions and the cultural milieu (Lantolf & Thorne, 2006). This perspective challenges the traditional view of learning as an isolated endeavor, highlighting the significance of societal structures, cultural norms, and interpersonal dynamics in shaping cognitive functions.

In applying this theory to the Iranian EFL context, the potential impact of Iran's patriarchal societal structure on gender dynamics becomes a crucial consideration. Vygotsky's emphasis on the role of social interaction in mental development suggests that the nature and extent of these interactions could vary significantly between genders, influenced by cultural and societal norms. Such a framework provides a lens to explore how the sociocultural environment in Iran might differentially affect the use of metacognitive reading strategies among male and female learners. It raises pertinent questions about the influence of gender-based roles, expectations, and interactions in educational settings on the development and application of these strategies. This line of inquiry aligns with the broader aim of understanding the intersection of gender, sociocultural context, and learning strategies, thereby contributing to a more nuanced and inclusive understanding of metacognitive strategy use among Iranian EFL learners.

Adding another layer of complexity is the pedagogical milieu. For example, teachers' instructional strategies can inadvertently perpetuate implicit biases that affect gender behaviors in academic reading contexts (Louiza & Fadhila, 2022). This is particularly germane

as educators wield significant influence over learners' adoption and utilization of reading strategies. In this regard, our research aims to contribute to the discourse on diversity, equity, inclusion, and accessibility (DEIA) by examining gender-specific disparities and sociocultural nuances in the employment of MRS among Iranian EFL learners. The current investigation contends that a deep comprehension of these variables is essential for adapting instructional strategies to meet the diverse needs and lived experiences of this particular cohort of learners.

Extant literature on MRS predominantly concentrated on their correlation with reading comprehension, as evidenced by studies from Anderson (2002), Carrell et al. (1989), Dhanapala (2010), Köse & Günes (2021), Mokhtari & Reichard (2002), Rastegar et al. (2017), Sutiyo (2019), Tavakoli (2014), and Zhang & Seepho (2013). These investigations have been instrumental in delineating the cognitive underpinnings of MRS, affirming their pivotal role in enhancing reading comprehension across diverse learner populations. However, while these studies provide a robust foundation, they often do not delve into the intricate dynamics of gender and culture within the context of MRS application, particularly among non-Western EFL learners. This oversight is compounded by a significant limitation in the existing body of work, which lies in its disproportionate focus on native English speakers or learners from a variety of cultural backgrounds, thereby sidelining specific populations like Iranian EFL learners (Zhang, 2019).

Similarly, research exploring gender differences in the utilization of MRS, such as those conducted by Deliany & Cahyono (2020), Lee (2012), Mahasneh et al. (2016), Poole (2009), Rianto (2021b), Sasani et al. (2018), and Shikano (2013), has significantly advanced our understanding of how male and female learners may divergently approach reading strategies. Yet, these studies frequently overlook the broader sociocultural milieu that might influence these gendered practices, especially within specific educational contexts like Iran, where cultural and societal norms profoundly impact educational experiences and outcomes.

This study pioneers an exploration at the intersection of gender, culture, and metacognitive reading strategies within the Iranian EFL context—a domain that has been notably overlooked. By adopting a mixed-methods approach, it uniquely investigates how gender and cultural contexts might play a role in the adoption and effectiveness of MRS, bridging the gap between cognitive analyses and sociocultural perspectives. The innovation of this study lies in its synthesis of gender and culture with metacognitive strategies, marking a significant departure from existing literature that has treated these elements in isolation. It aims to catalyze a shift towards more equitable and culturally responsive teaching methods, making a substantial contribution to applied linguistics and setting a new direction for future research to integrate DEIA principles in language education. Through this work, we endeavor to enrich the pedagogical landscape, advocating for an educational paradigm that is inclusive and sensitive to the diversity of learners' backgrounds. To achieve these multi-faceted objectives, the study poses the following research questions:

RQ 1) Is there any significant difference in the application of metacognitive reading strategies among Iranian EFL learners in terms of gender?

RQ 2) How do male and female Iranian EFL learners experience and perceive equitable access and treatment in terms of gender in their reading development in the classroom?

METHOD

Research Design

This study employed an explanatory sequential mixed-methods design, guided by the framework of Ivankova et al. (2006). The selected design aimed to cultivate a nuanced understanding of metacognitive reading strategies (MRS) among Iranian EFL learners, with a specialized focus on gender. The initial quantitative phase utilized a descriptive-correlational design (Cook et al., 2002) to statistically profile this utilization. Subsequently, the qualitative phase engaged a multiple-case design (Stake, 2005), with case selection informed by the quantitative outcomes to enhance the interpretive validity of the research (Maxwell, 2012). To fortify the study's validity and reliability, a method of data triangulation was adopted (Denzin, 2017). Within this framework, both quantitative and qualitative findings were subjected to cross-verification using a within-method validation technique (Cohen & Crabtree, 2008).

Participants

A diverse cohort of 178 participants was randomly chosen, incorporating 116 female and 62 male students from two universities in Neyshabur, Iran: Islamic Azad University of Neyshabur (IAUN) and the University of Neyshabur (U of N). The participants encompassed both undergraduate and graduate students pursuing studies in the fields of English language teaching, translation, and literature. The age spectrum of the participants varied from 18 to 38 years ($M = 22.86$, $SD = 4.29$).

Sampling Methods

For the purposes of this study, two divergent sampling methodologies were employed, corresponding with the quantitative and qualitative research paradigms.

In the quantitative phase, a probabilistic sampling approach was deployed, adhering to random sampling techniques. Specifically, 178 participants were recruited from a total population pool of 329 Iranian EFL students across two universities: IAUN and U of N. The sample size was determined based on Krejcie and Morgan's (1970) sample size table, justified by its ability to statistically power the study for generalizable outcomes. It should be noted that the choice of 178 participants was not arbitrary but based on rigorous statistical power analysis, a requisite step that underscores the scientific validity of the study (Cohen et al., 2002). The utility of random sampling in this study resides in its capacity to furnish a highly representative subset of the original population, thereby increasing the potential for the generalization of findings (Cook et al., 2002; Kothari, 2004).

Conversely, for the qualitative strand of the study, a purposive sampling technique, steered by predefined inclusion and exclusion criteria, was utilized. Inclusion criteria were established to select participants with substantive experience in employing MRS and varying degrees of proficiency as measured by the TOEFL reading comprehension test. Exclusion criteria were delineated to exclude participants who had not been involved in formal general English learning within the preceding two years. These criteria were not arbitrary but founded upon theoretical considerations that align with the overarching research questions (Patton, 2014; Tongco, 2007).

To ensure gender equity and account for various levels of language proficiency, two male and two female participants from each proficiency tier were selected for in-depth interviews. The rationale behind this type of selection stems from the study's intrinsic focus on exploring gendered experiences and perceptions in the EFL reading classroom, an approach that aligns

seamlessly with the research question concerning equitable access and treatment (Creswell & Creswell, 2017).

It is pertinent to mention that while the sampling strategies employed were rigorous and methodically planned, inherent limitations regarding generalizability do exist. Readers are advised to exercise caution when extrapolating the results.

Instruments

Reading Comprehension Section of the TOEFL iBT Test

The TOEFL iBT (Reading Comprehension Test Section) was employed in this investigation as a metric for evaluating the participants' reading comprehension competency. The TOEFL test, globally acclaimed as a reliable and valid evaluator of reading proficiency among English as a Foreign Language (EFL) learners, commands considerable recognition and regard (Warfield et al., 2013). The reading score interpretation provided by the Educational Testing Service (ETS) ranges as follows: Below Low-Intermediate (0-3), Low-Intermediate (4-17), High-Intermediate (18-23), and Advanced (24-30).

Survey of Reading Strategies (SORS)

The Survey of Reading Strategies (SORS) by Mokhtari and Sheorey (2002), an adaptation from the Metacognitive Awareness of Reading Strategies Inventory (MARSI) (Mokhtari & Reichard, 2002), was used to measure the metacognitive awareness and perceived utilization of reading strategies among Iranian EFL learners. Designed for high school, college, and university ESL/EFL students, SORS is considered an insightful tool to comprehend reading comprehension problems, modify assessment procedures, and improve reading instruction (Rabadi et al., 2020).

The SORS questionnaire is comprised of 30 items, classified into three primary domains. The first, Support Reading Strategies, includes nine items addressing different supporting tactics, such as reference materials and note-taking. The second, Problem-Solving Strategies, has eight items focusing on approaches used when reading complex material. The third, Global Reading Strategies, consists of 13 items that encapsulate various methods for global text analysis.

Each item in SORS is rated on a 5-point Likert Scale, ranging from "I never or almost never do this" to "I always or almost always do this." The scoring is straightforward, with aggregated scores across all items. Based on the guidelines by Oxford and Burry-Stock (1995), three levels of reading strategy utilization were established: high (mean of 3.5 or above), moderate (mean of 2.5 to 3.49), and low (mean of 2.49 or lower) (Mokhtari & Sheorey, 2002).

In this study, the reliability of SORS was reaffirmed, and its validity was ascertained. The internal consistency reliability coefficients for support reading strategies ($\alpha = 0.82$), problem-solving strategies ($\alpha = 0.85$), global reading strategies ($\alpha = 0.87$), and the total reliability scale ($\alpha = 0.92$) all fall within the generally accepted range for Cronbach's alpha of 0.70, signifying satisfactory internal consistency (Tavakol & Dennick, 2011).

Semi-structured Interview

Open-ended semi-structured interviews served as a focal instrument to explore participants' experiences, attitudes, and perceptions concerning equitable access and treatment in their reading development within classroom settings. This methodological approach was grounded in extant literature, signifying its efficacy in investigating complex social constructs

(Rubin & Rubin, 2012; Turner & Hagstrom-Schmidt, 2022). The semi-structured nature of the interviews accorded flexibility, allowing the interviewer to adapt the sequence of queries to suit the organic flow of conversation, thereby enhancing the depth and authenticity of responses (Boyce & Neale, 2006; Mertens, 2009).

In alignment with the second research question, an initial pool of 10 interview questions was crafted by the researcher. These questions were subjected to expert validation, involving two assistant professors specialized in EFL education. Following their recommendations, the list was pruned to a set of five questions. Subsequently, these refined questions were piloted with a sample of nine participants, selected for their willingness to offer critical feedback on question clarity, timing, and relevance. This iterative process led to minor lexical modifications to improve clarity and comprehension. The revised set of questions was once again vetted by the aforementioned experts to ensure alignment with the study's objectives. Validation for the interview questions was achieved through content analysis, which conferred both validity and reliability on the instrument.

To further fortify the validity and reliability of the qualitative data, rigor was maintained through a dual strategy of member checking and peer debriefing. Member checking enabled participants to verify and validate the accuracy of transcriptions and initial interpretations. Peer debriefing acted as an additional layer of scrutiny, where independent experts evaluated the robustness and neutrality of the data interpretation.

Data Collection

This study initiated its quantitative data collection with a pool of 329 EFL students from IAUN and U of N. Collaborating with university authorities, all students were invited to participate in the first phase due to logistical challenges associated with administering the instruments only to randomly selected students within individual classes. The TOEFL reading comprehension test, consisting of 30 multiple-choice questions with a time limit of 54 minutes, and the Survey of Reading Strategies (SORS) by Mokhtari and Sheorey (2002), which took 10-15 minutes, were administered from October to December 2022, primarily during morning hours to minimize fatigue.

In the second phase, 178 participants were randomly selected from the initial pool using a random number generator, and then stratified by TOEFL scores into low, intermediate, and high proficiency levels. Confidentiality was upheld through numerical identifiers.

For the qualitative portion, purposive sampling was oriented toward exploring the intersection of gender and metacognitive strategy use across different proficiency levels. Two participants from each proficiency stratum among the 178 quantitative participants were selected based on specific inclusion and exclusion criteria. Semi-structured interviews were conducted between February and March 2023, with audio recordings captured for future analysis. Each interview lasted approximately 15-20 minutes.

Ethical procedures, including the articulation of study objectives, were communicated explicitly to interviewees, aligning with the study's broader goals of comprehending metacognitive reading strategies, particularly in terms of gender.

Data Analysis

Utilizing SPSS Version 26, the quantitative data underwent an initial data sanitization phase to amend inconsistencies and inaccuracies, thereby ensuring the integrity of subsequent analyses. Preliminary tests, including Kolmogorov-Smirnov and Shapiro-Wilk for normality

and Levene's test for homogeneity of variances, were performed on the data, segmented by reading proficiency levels and gender.

Descriptive statistics were subsequently employed to provide an overview, aiding in answering the first research question. Inferential methods, namely Independent Samples t-test, were used to examine gender-based differences.

For the qualitative data, NVivo 10 facilitated thematic analysis, aligning with its established versatility (Guest et al., 2012). This method is particularly effective for identifying recurring themes, patterns, and concepts, which are integral in the understanding of experiences and perceptions of equitable gender treatment in reading class environments among EFL learners, echoing the principles outlined by Creswell & Clark (2007). Initial categorization of emergent themes was followed by rigorous evaluation to form a coherent thematic framework responsive to the study's objectives.

FINDINGS AND DISCUSSION

Quantitative Findings

Research Question 1: Analysis on Gender Differences in Metacognitive Reading Strategies Use by t-Test

Table 1 presents the independent samples t-test results and descriptive statistics addressing research question one, which investigates gender differences in metacognitive reading strategy (MRS) usage among Iranian EFL learners.

Table 1: Descriptive Statistics and Independent Samples t-test for Gender Differences in Metacognitive Reading Strategies Use

Factors	Gender	<i>n</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	Sig.
Support Reading Strategies	Male	62	3.68	0.73	91.96	-1.91	.05
	Female	116	3.87	0.49			
Problem-Solving Strategies	Male	62	3.46	0.70	99.51	-2.48	.01
	Female	116	3.72	0.53			
Global Reading Strategies	Male	62	3.26	0.58	176	-1.27	.20
	Female	116	3.37	0.51			
Total (Overall MRS)	Male	62	3.44	0.58	93.21	-2.09	.03
	Female	116	3.61	0.40			

Note. MRS: Metacognitive reading strategies

The analysis revealed diverse levels of significance concerning strategy utilization based on gender. For support reading strategies, the t-test suggests a difference approaching significance between males ($M = 3.68$, $SD = 0.73$) and females ($M = 3.87$, $SD = 0.49$), $t(91.96) = -1.91$, $p = .05$. On the other hand, problem-solving strategies did exhibit a statistically significant difference, with males ($M = 3.46$, $SD = 0.70$) scoring lower than females ($M = 3.72$, $SD = 0.53$), $t(99.51) = -2.48$, $p = .01$. Yet, Global reading strategies did not show a significant gender-based difference, $t(176) = -1.27$, $p = .20$. Finally, the overall MRS was found to

than males do" (interviewee 5). Another respondent added that "female students often engage in more discussions about the text" (interviewee 7). Finally, in the high proficiency group, more nuanced gender-based variations were reported in reading engagement; male students read more passively unless directly prompted, whereas female students were observed to engage in "dialogic reading" by asking questions and sharing insights (interviewees 9 & 11).

Teacher Bias and Encouragement

In the low proficiency group, the consensus was that teachers provide equitable treatment to all students. For instance, interviewee 1 reported that the teacher "gives us all the same materials and exercises," and interviewee 4 mentioned that "no one is left out." In contrast, participants in the intermediate proficiency group noted implicit teacher biases. Interviewee 6 felt that while the teaching was gender-neutral, "peer pressure could make female students less enthusiastic about reading." Interviewee 7 observed, "Teachers often praise male students more for their analytical skills." Lastly, high-proficiency respondents highlighted the influence of latent gender stereotypes. A male participant mentioned the existence of an "undercurrent of gender stereotyping" and being "indirectly steered toward focusing on logical and argumentative skills over language arts."

Sociocultural Influences on Reading Strategies

For the low proficiency group, both social factors and personal interests were cited as contributing to the difference in reading habits between genders. Interviewee 1 indicated that females "like to discuss the reading more," whereas the other three respondents in this proficiency group admitted that variations might arise from diverging interests but were not prominent in their experience. Participants in the intermediate proficiency group suggested that societal norms impact reading strategies, such as the perception that men should be 'logical' and women 'emotional' (interviewees 5 & 8). The high proficiency group concurred, pointing out societal and educational factors as the main catalysts for reading habits. Participants noted that men might be "socialized to seek quick solutions," whereas females emphasized "social conditioning" and "early educational experiences" (interviewees 9, 11 & 12). Specifically, Interviewee 10 (female) stated, "We sometimes feel that we need to show off our abilities by getting better grades." She continued, "It's not only the boys who have the skills and abilities; we can even perform better."

Instructional Neutrality

In the low proficiency group, participants unanimously found reading instructions to be gender-neutral, emphasizing that "strategies were more about how well you know English than what gender you are" (interviewees 1 & 3). However, the intermediate proficiency group began to question this universality. According to participants in this category, the instructions, although neutral on the surface, might not be universally effective. Interviewee 6 said, "The instructions are ostensibly neutral, but that doesn't mean they are equally effective for everyone." This was corroborated by respondent 7, who observed that "instructions themselves are neutral but may not account for gender-specific learning needs or styles". In the high proficiency group, the conversation shifted toward societal influences. Participants mentioned that although reading instructions might appear gender-neutral, their effectiveness is mediated by social norms and biases, a perspective shared across genders (interviewees 9 & 11).

Discussion

Research Question 1

The aim of the first research question was to assess gender-related variations in the application of metacognitive reading strategies among Iranian EFL learners. In summary, our study revealed statistically significant differences in the overall usage of Metacognitive Reading Strategies (MRS) and, more specifically, in support reading strategies and problem-solving strategies. Females demonstrated higher employment of these strategies compared to males, whereas the difference in the usage of global reading strategies did not reach statistical significance, albeit females displayed a marginally higher average usage.

Furthermore, our results concur with the extant literature, with specific alignment to studies by Lee (2012), Sheorey and Mokhtari (2001), Poole (2009), and Rianto (2021b). These studies similarly underscore that females tend to utilize MRS more frequently than males. Conversely, our study challenges the findings of Mahasneh et al. (2016), Shikano (2013), Sasani et al. (2018), and Deliany and Cahyono (2020), prompting a critical reconsideration of gender as a deterministic factor in the deployment of MRS.

It is crucial to adopt a nuanced understanding of these gender disparities, as articulated by Cekiso (2016) and Oda and Abdul-Kadhim (2017). A multitude of contextual variables, from pedagogical approaches and curriculum structures to sociocultural dynamics and systemic gender biases, can impinge on reading comprehension from different angles.

Sociocultural Considerations

Patriarchal Society. Interestingly, the Iranian context is largely patriarchal, often imposing traditional gender roles that permeate educational settings. These societal norms are crucial touchpoints for understanding the intersectionality in DEIA (Diversity, Equity, Inclusion, Accessibility) contexts. Contrastingly, our findings subvert these normative frameworks, revealing that females, who might conventionally be considered marginalized in such a setting, demonstrate a higher usage of MRS. Hence, in environments where women may face restricted access to resources due to systemic inequities, our data suggest that females may have cultivated unique metacognitive strategies as coping mechanisms, potentially as a form of self-empowerment and inclusion, especially in the classroom environments.

Social Expectations. Correspondingly, the cultural landscape might inadvertently encourage females to invest more rigorously in language learning, viewing it as a form of empowerment. This behavior can be seen as a response to societal expectations, which, although perhaps unintentionally, promote inequities. Consequently, given the higher use of MRS among females in our study, it is plausible to consider this as either a coping strategy or an empowerment mechanism within a patriarchal construct, shedding light on mechanisms for fostering gender equity and inclusion.

Importantly, the partially sociocultural orientation of our study regarding the gender disparities in using MRS invites us to question the sociocultural paradigms that inform such behaviors. Significantly, we cannot overlook the deeply rooted cultural narratives that often predispose females to introspective and reflective learning methods, which might include higher usage of MRS. Therefore, these gender roles undoubtedly may influence reading behaviors and preferences, warranting further investigation into how they shape educational experiences.

Research Question 2

The second research question aims to delve into the qualitative aspects of how male and female Iranian EFL learners experience and perceive equitable access and treatment in their reading development within classroom settings. To this end, open-ended semi-structured interviews were conducted with 12 participants who were purposively sampled—2 males and 2 females from each proficiency level (low, intermediate, and high). Four main themes emerged from the data: Gender-Based Reading Engagement, Teacher Bias and Encouragement, Sociocultural Influences on Reading Strategies, and Instructional Neutrality. While the themes do touch upon proficiency levels, it is imperative to clarify that the core focus of this section remains on gender-related experiences and perceptions. This qualitative facet of the study complements and enriches the quantitative insights garnered from answering the first research question, too.

The analysis commences with the interviews, unveiling a complex matrix of gender-based reading engagement behaviors that evolve across the spectrum of learners' proficiency levels. Notably, learners in the low proficiency category reported a largely gender-neutral environment with regard to reading engagement. This observation suggests that at the foundational levels of language learning, engagement strategies might be more universally applied, possibly due to a shared focus on acquiring basic reading skills among all learners regardless of gender.

In stark contrast, significant gender disparities become pronounced at higher proficiency levels, indicating that as learners' reading skills mature, gendered patterns of engagement emerge more distinctly. This shift may be attributed to increased confidence and the development of more personalized reading strategies that reflect broader sociocultural influences on gender roles. A male participant from the high proficiency category articulates this phenomenon:

“Females in my class are more interactive with the text, often asking 'why' and 'how,' which leads to discussions. Males usually keep to themselves, only speaking up when needed. It seems like it's about how we're raised—girls are encouraged to collaborate, while boys might feel they should figure things out alone. It's interesting to see how this plays out in our learning”.

This participant's reflection not only exemplifies the proactive engagement strategies such as dialogic reading observed among females but also highlights the more passive engagement tendencies of males. The divergent approaches suggest that gendered socialization practices outside the classroom—encouraging collaboration among females and independence among males—seep into the learning environment, probably influencing how learners interact with text and each other.

These firsthand observations are echoed in the quantitative findings of the first research question, which revealed a higher usage of metacognitive reading strategies (MRS) by females. This convergence of qualitative and quantitative data underscores a critical insight: gender might influence not just the frequency but also the type of engagement strategies employed by learners. It implies that metacognitive strategies, and how they are valued and used, are probably filtered through a gendered lens shaped by societal norms and expectations.

This qualitative data offers a framework that contextualizes our statistical findings and urges educators to adapt teaching strategies to gender nuances. It prompts a reevaluation of methods to foster inclusivity and responsiveness, enhancing engagement for all learners. The study underscores the need for a pedagogical shift that bridges gender disparities, promoting equity in the learning environment.

Shifting our attention to the role of pedagogical approaches, implicit and explicit instructional methods clearly might impact gender behaviors in reading. In the low proficiency group, perceptions of equitable treatment by teachers were prominent. However, as learners advance, implicit biases start to manifest. Intriguingly, an intermediate proficiency female student captured the essence of these biases, noting:

“[...] you know, I've kind of noticed something. It seems like when guys in class answer something really well or analyze a piece of text, they get a lot of praise, like 'Great analysis!' or something. It kind of makes you think twice, doesn't it? For us girls, it feels like we need to work extra hard to get that kind of attention. It's not like teachers do it on purpose, but it happens. And it does make you wonder sometimes if you're good enough, even when you know you've nailed it”.

This direct testimony highlights the nuanced yet significant biases from teachers noted among the intermediate proficiency group. Participants reported instances of teachers praising male students more for their analytical skills, which could inadvertently reinforce existing gender stereotypes and power imbalances in the classroom. This phenomenon merits critical examination, particularly because it connects to our previous quantitative outcomes of the first research question, wherein females displayed higher usage of metacognitive reading strategies (MRS). The narrative provided by the student corroborates research by Moss-Racusin et al. (2012), arguing that implicit gender biases might influence pedagogical approaches.

Further, this preferential treatment towards male students might trigger a compensatory drive among female students. Feeling the implicit pressure to match the 'male standard,' they may engage more rigorously with MRS, aiming to prove their intellectual capability and break free from stereotypical molds. This behavioral adaptation could partly explain the higher MRS usage among females, serving as a form of resistance against systemic biases. While this hypothesis requires empirical verification, it introduces a critical layer of complexity to our understanding of how pedagogical practices interact with gender equity and inclusion issues. By highlighting these dynamics, we underscore the need for more mindful and equitable instructional strategies that recognize and mitigate unconscious biases, promoting a learning environment where all students feel equally valued and encouraged.

The findings also highlight how sociocultural influences on reading strategies vary significantly across different proficiency levels, underscoring the complex relationship between societal norms, gender, and reading habits. Early on, in the lower proficiency group, a divergence in reading interests between genders emerges, hinting at the influence of both personal inclinations and social conditioning in shaping these preferences. As learners' proficiency increases, the weight of societal expectations begins to loom larger, subtly steering

their approach to reading. A high proficiency female student succinctly captures this evolution of influence, stating:

“Well, I think it starts with what we see around us, you know? Like, in our society, there’s an unspoken rule about what roles men and women are expected to play. It's not just about being 'logical' or 'emotional'; it's deeper... Men might lean towards analyzing texts because that's seen as a strong, logical thing to do. Women, on the other hand, are often encouraged to explore the emotional depth of stories, to connect on a personal level. It's subtle, but it's there. It shapes our preferences and even our confidence in approaching different texts”.

This reflection not only illustrates the nuanced ways in which societal norms might influence reading strategies but also highlights the internalization of these norms among learners, particularly as they advance in proficiency. By the time learners reach the high proficiency group, the impact of these societal expectations is unmistakable. The participants' acknowledgment of stereotypical gender roles—men being 'logical' and women 'emotional'—reveals a deeper layer of societal and educational conditioning. Specifically, the female participants' sense of having to prove their intellectual capabilities, competing within a traditionally male-dominated academic sphere, underscores the pressures exerted by a patriarchal society. This drive among high proficiency female learners to utilize MRS more extensively suggests a strategic response to these societal expectations, leveraging these strategies as a tool to assert their competence and challenge the status quo.

These insights, aligning with the study's quantitative findings, underscore the critical role of societal expectations in shaping the reading strategies of female learners, especially those at higher proficiency levels. It prompts a reevaluation of how DEIA (Diversity, Equity, Inclusion, Accessibility) factors, within the context of an Iranian patriarchal society, may influence the development and implementation of EFL learners' metacognitive reading strategies. The nuanced understanding gleaned from this analysis highlights the urgency of adopting educational practices that are not only aware of these sociocultural influences but are also committed to mitigating their potentially limiting effects on learners' engagement and achievements.

Concluding this line of inquiry, we delve into the concept of instructional neutrality, which unveils the limitations of a one-size-fits-all pedagogical approach. Although instructions may be presented as 'neutral,' their effectiveness was found to vary when mediated by sociocultural factors, thus intersecting with DEIA considerations. This echoes critiques by scholars like hooks (2014) and Gay (2018), who have questioned the supposed neutrality of instructional practices, advocating instead for a more inclusive and context-specific approach to education.

Limitations of the Study

The outcomes of this study ought to be considered with an understanding of its inherent limitations. As noted by Plonsky (2023), the study's emphasis on a specific cultural and educational environment may hinder the transferability of its results to other settings and populations in second/additional language research. This underscores the necessity of

exercising caution when extrapolating the present study's outcomes to diverse educational contexts, particularly those that differ significantly in cultural or linguistic backgrounds.

Moreover, the methodology, relying on qualitative interviews may introduce subjectivity and recall biases, compounded by the researcher's role, which can skew data authenticity and interpretation due to personal biases and preparation levels, as highlighted by Chenail (2011). Self-reported surveys further compound these issues, potentially leading to response bias and inaccuracies stemming from participants' desire to present themselves favorably or their inability to accurately recall past events. Such limitations necessitate a cautious interpretation of data derived from these methods (Tourangeau et al., 2000).

Finally, the uneven gender distribution of participants (116 females versus 62 males) and the constrained scope of qualitative interviews ($n = 12$) present notable challenges. The skewed gender ratio risks introducing bias, potentially leading to gender-specific interpretations that may not fully reflect the broader population. Additionally, the limited qualitative exploration may not adequately capture the diversity of learner experiences and perceptions, thus impacting the interpretive richness and comprehensiveness of the findings.

These aspects underscore the importance of cautious interpretation of the study's conclusions and highlight the necessity for future research to extend investigations across varied cultural and educational settings, refine methodologies to mitigate biases, and employ more diverse and representative samples.

CONCLUSION

In the rapidly globalizing world, the role of English as a lingua franca is increasingly significant, making the acquisition of English language skills crucial for learners worldwide. This study, situated in the Iranian EFL context, sought to explore the nuanced interplay of gender in the application of metacognitive reading strategies (MRS). It did so not only from a cognitive perspective but also considered the implications from a sociocultural standpoint. Employing an explanatory sequential mixed-methods design, the study engaged 178 participants—116 females and 62 males—from two universities in Neyshabur, Iran. Quantitative data revealed significant variances in MRS application in terms of gender, with females demonstrating a higher rate of MRS usage compared to their male counterparts. Qualitative data corroborated these findings, especially by highlighting the role of implicit teacher biases and sociocultural factors, including the patriarchal norms and social expectations in Iran, in exacerbating gender disparities in MRS usage. The study challenges the efficacy of ostensibly neutral pedagogical approaches, calling for more targeted, equitable, and inclusive practices. The findings underscore the need for educators to be cognizant of their implicit biases and the sociocultural factors that influence MRS usage among learners. While the study offers valuable insights, it is not without limitations. The sample size, although statistically powered, was skewed toward low-proficiency learners and exhibited a higher proportion of females, which may serve as potential confounding factors.

Future research could explore how sociocultural factors like patriarchal norms, socio-economic status, and cultural expectations influence language and literacy development, particularly in reading skills. Comparative studies could determine if the gender disparities seen in Iranian EFL learners are also prevalent in other cultural contexts. A focused analysis on specific metacognitive strategies would reveal their susceptibility to gender and cultural influences. Additionally, investigating the impact of e-book-based learning on the application

of MRS, especially in terms of gender differences, could provide valuable insights into how digital reading formats influence EFL learners. Research in technology-enhanced language learning could assess how digital platforms, including e-books, affect gender disparities in MRS usage. Finally, examining the impact of socio-economic factors and educational policies on MRS application will provide insights for creating more equitable EFL learning environments.

This research enriches the discourse on diversity, equity, inclusion, and accessibility (DEIA) in applied linguistics by emphasizing the need for developing culturally sensitive and equitable pedagogical strategies. In conclusion, this study serves as a clarion call for educators and policymakers to foster more equitable and inclusive learning environments, thereby ensuring that all learners, irrespective of their gender, can fully engage in the process of language acquisition.

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