



ORIGINAL RESEARCH PAPER

Self-Efficacy and Self-Regulation in EFL Teachers: The Role of MALL and ICT Engagement

Z. Cheraghi*, A. Derakhshan, F. Moghisseh

English Department, Faculty of Humanities, Shahid Rajaei Teacher Training University, Tehran, Iran

ABSTRACT

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*Corresponding author

✉ z.cheraghi@sru.ac
☎ (+98912) 5383046

Background and Objectives: The rapid advancement of technology has not just significantly transformed, but revolutionized language education by integrating Information and Communication Technology (ICT) and Mobile-Assisted Language Learning (MALL). These tools, far from just enhancing, have completely redefined language learning by making it more interactive and accessible. However, their successful implementation depends on teachers' proficiency and confidence in using them. In Iran, where English as a Foreign Language (EFL) instruction is crucial for students' academic success, understanding the factors influencing teachers' engagement with ICT and MALL is essential. Self-efficacy, or the belief in one's ability to succeed, and self-regulation, which involves goal-setting and monitoring progress, are critical for teachers as they adopt new instructional methods. Recent research indicates that self-efficacy and self-regulation are important for how teachers master their practice. Despite the presence of enough literature on online learning and teaching, however, there is little research examining the relationship between teachers' self-efficacy and self-regulation and their knowledge of MALL and ICT engagement. In this study Self-efficacy and self-regulation were chosen as key constructs in exploring MALL and ICT due to their significant impact on teachers' success in language teaching. This study aims to address the relationship between EFL teachers' knowledge of ICT and MALL with their self-efficacy and self-regulation. The study also sought to explore EFL teachers' attitudes and opinions regarding MALL, ICT knowledge, and their effects on developing teachers' traits.

Materials and Methods: The research employed a mixed-methods design of two phases which enriches the findings, allowing for a more nuanced interpretation of the results and better addressing the complexity of the research question. The quantitative phase involved 120 EFL teachers. They were chosen by convenience sampling from private language centers in Tehran. The participants needed to complete three scales in self-efficacy devised by Smith and Betz's (2000), self-regulation articulated by Miller and Brown (1991), and ICT and MALL engagement (Zylka et al., 2015). The collected data were analyzed using descriptive statistics to identify significant relationships between variables. Moreover, Pearson product-moment correlation coefficient was run to find the correlation coefficient between the variables of the study. The qualitative phase included structured interviews with 20 teachers that were randomly selected to gain deeper insights into their experiences. The qualitative data and interview results were extracted and analyzed manually to identify common themes and patterns in the participants' responses, enriching the overall understanding of their engagement with technology in language instruction.

Findings: The results indicate a positive correlation between teachers' knowledge of ICT and MALL and their self-efficacy and self-regulation. Quantitative analysis revealed that teachers proficient in digital technologies and mobile applications for language learning demonstrated higher confidence and effective self-regulatory strategies. Qualitative insights from structured interviews confirmed teachers' strong understanding of ICT and MALL, highlighting how technology engagement enhanced lesson planning, classroom management, and teaching effectiveness. This combination of quantitative and qualitative data underscores the significant relationship between teachers' technological competencies, self-beliefs, and self-regulatory practices.

Conclusions: The study indicates that teachers' MALL and ICT knowledge is associated with their self-efficacy and self-regulation. It concludes that teachers' use of ICT in teaching

practice can be facilitated by their ICT self-efficacy for instructional purposes. It emphasizes the importance of increasing ICT proficiency among educators and underscores technology's critical role in language instruction. Ongoing professional development should focus on integrating ICT and MALL into practices, boosting teachers' confidence and self-regulation for more effective learning environments. The findings suggest tailored support systems for Iranian EFL teachers to improve language education, ensuring that educators adapt their methods to meet the linguistic demands of the 21st century. The use of convenience sampling and a focus on private language centers in Tehran may restrict the generalizability of the study's results. Future research should aim for a more diverse sample across different locations and educational settings to improve the applicability of the findings.



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مقاله پژوهشی

بررسی رابطه‌ی بین دانش معلمان زبان انگلیسی در زمینه فناوری اطلاعات و ارتباطات و یادگیری زبان به کمک تلفن همراه با خودکارآمدی و خودتنظیمی آن‌ها

زهرا چراغی*، آذر درخشان، فاطمه مقیسه

گروه زبان انگلیسی، دانشکده علوم انسانی، دانشگاه تربیت دبیر شهید رجایی، تهران، ایران

چکیده

پیشینه و اهداف: پیشرفت سریع فناوری نه تنها به طور قابل توجهی آموزش زبان را متحول کرده، بلکه با ادغام فناوری اطلاعات و ارتباطات با یادگیری زبان به کمک تلفن همراه، آن را دچار انقلاب کرده است. این ابزارها نه تنها به بهبود یادگیری زبان کمک می‌کنند، بلکه آن را به طور کامل بازتعریف کرده و آن را تعاملی‌تر و در دسترس‌تر کرده‌اند. با این حال، اجرای موفق این فناوری‌ها به مهارت و اعتماد به نفس معلمان در استفاده از آن‌ها بستگی دارد. در ایران، جایی که آموزش زبان انگلیسی به عنوان زبان خارجی برای موفقیت تحصیلی دانش‌آموزان حیاتی است، درک عواملی که بر درگیری معلمان با فناوری اطلاعات و ارتباطات و یادگیری زبان به کمک تلفن همراه تأثیر می‌گذارد، ضروری است. خودکارآمدی، یا باور به توانایی فرد در موفقیت، و خودتنظیمی، که شامل تعیین هدف و نظارت بر پیشرفت است، برای معلمان هنگام پذیرش روش‌های جدید آموزشی، ضروری است. این مطالعه به بررسی رابطه بین دانش معلمان زبان انگلیسی ایرانی در زمینه فناوری اطلاعات و ارتباطات و یادگیری زبان به کمک تلفن همراه با خودکارآمدی و خودتنظیمی آن‌ها می‌پردازد. هدف این مطالعه، ارائه بینش‌هایی است که می‌تواند برنامه‌های توسعه حرفه‌ای را اطلاع‌رسانی کرده و کیفیت آموزش زبان را ارتقا دهد.

روش‌ها: این تحقیق از یک روش ترکیبی شامل دو مرحله استفاده کرده است. مرحله کمی شامل ۱۲۰ معلم ایرانی زبان انگلیسی از مراکز آموزش زبان خصوصی در تهران بود که پرسشنامه‌های معتبر برخط را در زمینه خودکارآمدی، خودتنظیمی و درگیری با فناوری اطلاعات و ارتباطات و یادگیری زبان به کمک تلفن همراه تکمیل کردند. داده‌های جمع‌آوری شده با استفاده از نرم‌افزارهای آماری تحلیل شدند تا روابط معناداری بین متغیرها شناسایی شود. مرحله کیفی شامل مصاحبه‌های ساختاریافته با ۲۰ معلم بود تا بینش‌های عمیق‌تری از تجربیات آن‌ها به دست آید. این مصاحبه‌ها در یک محیط خصوصی انجام شد و به شرکت‌کنندگان اجازه داد تا افکار خود را در مورد ادغام فناوری در تدریس خود به اشتراک بگذارند.

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فناوری اطلاعات و ارتباطات یادگیری زبان به کمک تلفن همراه

*نویسنده مسئول

z.cheraghi@sru.ac.ir

۰۹۱۲-۵۳۸۳۰۴۶ (۱)

داده‌های کیفی به صورت متنی درآمده و به صورت موضوعی تحلیل شدند تا الگوها و مضامین مشترک در پاسخ‌های شرکت‌کنندگان شناسایی شوند و درک کلی از درگیری آن‌ها با فناوری در آموزش زبان غنی‌تر شود.

یافته‌ها: نتایج نشان‌دهنده یک همبستگی مثبت بین دانش معلمان در زمینه فناوری اطلاعات و ارتباطات و یادگیری زبان به کمک تلفن همراه و خودکارآمدی و خودتنظیمی آن‌ها است. تحلیل‌های کمی نشان داد که معلمان ماهر در فناوری‌های دیجیتال و برنامه‌های تلفن همراه برای یادگیری زبان، اعتماد به نفس بالاتر و راهبردهای خودتنظیمی مؤثرتری را نشان می‌دهند. بینش‌های کیفی به دست آمده از مصاحبه‌های ساختاریافته این یافته‌ها را بیشتر تأیید کرد و نشان داد که بهره‌مندی از فناوری برنامه‌ریزی درسی، مدیریت کلاس و اثربخشی تدریس را بهبود می‌بخشد. ترکیب داده‌های کمی و کیفی بر رابطه معناداری بین مهارت‌های فناوری معلمان، باورهای خود و شیوه‌های خودتنظیمی، تأیید می‌کند.

نتیجه‌گیری: این مطالعه نتیجه‌گیری می‌کند که افزایش دانش در زمینه فناوری اطلاعات و ارتباطات و یادگیری زبان به کمک تلفن همراه به طور قابل توجهی پیش‌بینی‌کننده خودکارآمدی و خودتنظیمی معلمان زبان انگلیسی است. این موضوع ضرورت پرداختن به موانع یادگیری برخط برای بهبود کیفیت تدریس را تأکید کرده و اهمیت افزایش مهارت‌های فناوری اطلاعات و ارتباطات در میان معلمان زبان انگلیسی را روشن می‌سازد. یافته‌ها نقش حیاتی فناوری در آموزش زبان مدرن و ضرورت توسعه حرفه‌ای مداوم را که بر ادغام فناوری اطلاعات و ارتباطات و یادگیری زبان به کمک تلفن همراه در شیوه‌های آموزشی تمرکز دارد، نشان می‌دهد. با تقویت خودکارآمدی و خودتنظیمی معلمان در استفاده از این فناوری‌ها، مؤسسات آموزشی می‌توانند محیط‌های یادگیری جذاب‌تر و مؤثرتری برای دانش‌آموزان ایجاد کنند. به‌ویژه، این یافته‌ها پیشنهاد می‌کنند که برنامه‌های توسعه حرفه‌ای باید بر افزایش مهارت‌های فناوری معلمان، تقویت باورهای خود و ترویج شیوه‌های خودتنظیمی تمرکز کنند. علاوه بر این، بینش‌های به‌دست‌آمده از این تحقیق می‌تواند به توسعه سیستم‌های حمایتی متناسب برای معلمان زبان انگلیسی ایرانی کمک کند و در نهایت به بهبود آموزش زبان در کشور منجر شود. با پیشرفت فناوری، معلمان باید روش‌های خود را تطبیق دهند تا دانش‌آموزان را برای نیازهای زبانی قرن بیست و یکم آماده کنند.

Introduction

Today, in the context of rapid technological advancements and the increasing connections between learners and teachers, the introduction of modern digital devices into classrooms has paved the way for mobile-assisted language learning (MALL) and computer-mediated communication (CMC). These developments hold a vast potential to significantly impact language learning and teaching [1]. As schools prepare students to live in a technology-infused society and technology-driven workplaces, we must have teachers who are well prepared to support students' learning through the use of technology. It is widely recognized that teachers play a significant role in the classroom integration of ICT [2]. Therefore, while previous research on the integration of ICT has largely focused on students' outcomes, recent studies

have made a significant shift in focus to the growth of teachers' knowledge in this area, keeping the audience informed and up-to-date [3].

A good teacher can improve a student's life. Relationships between teachers and students are essential to their success [4]. Interaction and communication between individuals, as well as interaction with ICT-based instructional tools, may influence knowledge sharing in terms of MALL and ICT engagement and the level of effective factors like self-regulation and self-efficacy [5].

Self-efficacy, characterized as a person's confidence in his ability to regulate his thoughts, feelings, and behaviors and influence an outcome, is a critical component in Banduras' (1997) [6] social cognitive learning theory. Teachers with high self-efficacy are more likely to implement innovative teaching strategies, engage in professional development,

and foster positive learning environments, which ultimately leads to improved student achievement [7]. Conversely, teachers with low self-efficacy may experience increased stress, burnout, and a reluctance to embrace new teaching methodologies [8]. Research has consistently shown that self-efficacy is a strong predictor of teacher performance and job satisfaction, as it influences their motivation to set challenging goals and persist in the face of difficulties [9]. Furthermore, enhancing teachers' self-efficacy can lead to a more positive school climate, as confident teachers are better equipped to inspire and motivate their students [10]. Therefore, fostering self-efficacy among educators should be a priority for school leaders and policymakers aiming to improve educational outcomes [8].

Self-regulation, the ability to manage one's thoughts, feelings, and actions to pursue specific goals, is pivotal in academic success [11]. Research indicates that self-regulation is closely linked to students' achievement and motivation within educational contexts, and this relationship extends beyond students to encompass teachers as well [11]. Cardelle-Elawar et al. (2007) [12] assert that effective teachers exemplify self-regulation, perceiving themselves as educators while maintaining motivation amidst diverse responsibilities, student needs, and changing circumstances. Furthermore, self-regulation enables teachers to cultivate a deeper awareness of instructional methodologies and a more nuanced understanding of their students' requirements and learning experiences [13]. This understanding underscores the importance of self-regulation in fostering a supportive learning environment and in promoting student and teacher effectiveness in educational settings [14].

Online instruction is a course designed for learners who do not attend traditional classes

and involves distance learning [15]. Research shows that online instruction, as an active learning environment, is highly advantageous since it can provide learners with various levels or types of cognitive and metacognitive activities during the learning process [16]. It is argued that learners can improve their learning when they are involved in processing and reflecting on the learning content [17]. Notably, a bulk of research was conducted in L2 learning integrated with different aspects of affective and social factors [18]. Despite the presence of enough literature on online learning and teaching, however, there is little research examining the relationship between teachers' self-efficacy and self-regulation and their knowledge of MALL and ICT engagement [19]. There is a need to gather knowledge about how different variables interact and are associated with both teachers' ICT self-efficacy for educational purposes and with the use of ICT in their teaching practice.

Investigating the relationship between Iranian EFL teachers' engagement with MALL and ICT and their self-efficacy and self-regulation stems from the increasing importance of technology in contemporary education. As language teaching evolves in response to digital advancements, understanding how teachers interact with these tools is crucial for fostering effective pedagogical practices. MALL and ICT not only provide innovative avenues for language instruction but also require educators to adapt their teaching methodologies and embrace new learning paradigms. By exploring the interplay between teachers' self-efficacy—their belief in their ability to successfully implement these technologies—and their self-regulation skills, which encompass goal-setting, monitoring, and reflective practices, this research aims to shed light on the factors that contribute to successful technology integration in the classroom.

Ultimately, this study seeks to inform professional development initiatives that empower Iranian EFL teachers to enhance their teaching effectiveness and improve student learning outcomes in an increasingly digital world.

The current study is a comprehensive exploration of the perceptions of EFL teachers on teaching in MALL settings and their familiarity with ICT and MALL. In the context of the increasing importance of online instruction in the era of ICT, the study aimed to examine the relationship between the self-efficacy of EFL teachers and their knowledge of MALL and ICT. However, the study's main focus was to understand the intricate interplay between the variables of MALL, self-efficacy, and self-regulation from the teachers' perspective. The study also sought to determine how EFL teachers' self-regulation and knowledge of MALL and ICT interacted. Finally, the study explored EFL teachers' attitudes and opinions regarding MALL, ICT knowledge, and their effects on developing teachers' traits, adding depth and insight to the research.

The following research questions were attempted to be answered in light of the study's purpose:

RQ1: Is there any relationship between EFL teachers' ICT knowledge and MALL and their self-efficacy?

RQ2: Is there any relationship between EFL teachers' ICT knowledge and MALL and their self-regulation?

RQ3: What are the perceptions of EFL teachers about ICT knowledge and MALL and their improvement in teaching English?

Review of the Related Literature

The integration of Mobile-Assisted Language Learning (MALL) and Information and Communication Technology (ICT) in English as a

Foreign Language (EFL) contexts has garnered significant attention in recent years [1]. This literature review examines the relationship between MALL and ICT engagement with teachers' self-efficacy and self-regulation, drawing on six relevant studies.

Theoretical Background

The relationship between teachers' self-efficacy regarding Information and Communication Technology (ICT) and their actual use of these tools in instructional settings is a critical area of research, particularly as educational environments increasingly integrate technology. Bandura's (1997) framework on self-efficacy highlights the importance of individual beliefs in their capabilities to perform specific tasks, which directly influences their persistence, motivation, and overall performance. Research indicates that enhancing teachers' self-efficacy in using ICT can lead to more frequent and effective technology integration in their teaching practices. For instance, studies by Fanni et al. (2013) and Teo (2014) demonstrate that higher levels of computer self-efficacy correlate with increased confidence in utilizing ICT for educational purposes. Conversely, lower self-efficacy is associated with infrequent use of these technologies [19]. This suggests that teachers who feel competent in their ICT skills are more likely to incorporate these tools into their teaching, thereby enhancing the learning experience for their students. Krumsvik (2014) emphasizes the distinction between general ICT self-efficacy—confidence in using technology—and ICT self-efficacy for instructional purposes, which pertains specifically to using technology effectively in a teaching context [17]. This distinction is important because, as noted by Scherer and Siddiq (2015), while general ICT self-efficacy may be a prerequisite for instructional self-efficacy, it does not guarantee

effective pedagogical application. Teachers need both the skills and the confidence to integrate technology into their teaching effectively. Moreover, Bandura identifies four key influences on self-efficacy beliefs: vicarious experiences, verbal persuasion, physiological arousal, and mastery experiences. In this context, collegial collaboration can provide vicarious experiences through observing peers successfully using ICT, as well as verbal support that reinforces teachers' confidence. Conversely, a lack of support or facilitation from school management can hinder the development of ICT self-efficacy for instructional purposes. In summary, there is a clear link between teachers' general ICT self-efficacy and their confidence in using these tools for instructional purposes. Additionally, contextual factors such as collegial support and administrative facilitation play significant roles in shaping teachers' beliefs and practices regarding technology use in education. Future research should continue to explore these relationships to develop effective professional development programs that enhance teachers' competencies and confidence in integrating ICT into their teaching [15].

The integration of Information and Communication Technology (ICT) and Mobile-Assisted Language Learning (MALL) into English as a Foreign Language (EFL) education has become increasingly significant, particularly in the context of Iranian education. MALL, which uses mobile technologies for language learning, offers unique opportunities to enhance student engagement and facilitate learning beyond traditional classroom environments. Research indicates that MALL can promote collaborative learning, foster self-study, and increase learners' motivation and self-efficacy, making it a valuable tool in modern language education [20]. Despite the potential benefits of MALL, Iranian EFL teachers often encounter challenges

in its implementation. Dashtestani (2013) found that many teachers moderately understand MALL and ICT but need more skills and confidence to integrate these technologies into their teaching practices effectively [21]. This gap in technological proficiency highlights the importance of self-efficacy, which refers to teachers' beliefs in their capabilities to execute tasks effectively. Self-efficacy has been linked to positive teaching outcomes, including increased motivation and student engagement [22]. Self-regulation, another critical factor, involves teachers' abilities to set goals, monitor their progress, and adjust their strategies in response to challenges. Research indicates that self-regulated teachers are more likely to adopt innovative teaching methods and engage in continuous professional development [23]. The relationship between EFL teachers' self-efficacy, self-regulation, and engagement with ICT and MALL is pivotal for understanding how to enhance language instruction in Iran. By investigating these interconnections, this study aims to provide insights that can inform professional development programs and educational policies, ultimately improving the quality of EFL education.

Previous Research

Kukulska-Hulme and Shield (2008) explored the implications of mobile learning for language education, emphasizing the potential of mobile technologies to enhance language learning experiences. Their study found that teachers who engaged with MALL reported increased self-efficacy in their teaching practices. The researchers highlighted that mobile tools not only facilitated access to language resources but also fostered a sense of autonomy among teachers, thereby enhancing their self-regulation skills. The findings suggested that teachers who embraced mobile technologies

were more confident in their ability to integrate these tools into their pedagogy [24].

Tondeur et al. (2017) investigated the role of ICT in teacher education and its impact on self-efficacy and self-regulation. Their study revealed that teachers who received training in ICT integration exhibited higher levels of self-efficacy compared to those who did not. The authors argued that effective ICT training equips teachers with the necessary skills to utilize technology in their classrooms, which in turn enhances their self-regulatory abilities. The study emphasized the importance of ongoing professional development to sustain teachers' engagement with ICT and improve their instructional practices [25].

Zheng et al. (2016) conducted a meta-analysis examining the relationship between teachers' technological pedagogical content knowledge (TPACK) and their self-efficacy in using technology for language instruction. The results indicated a strong positive correlation between TPACK and self-efficacy. Teachers with higher TPACK were more likely to engage with MALL and ICT tools effectively, which contributed to improved self-regulation in lesson planning and execution. This study underscored the necessity of integrating technology training into teacher education programs to bolster both self-efficacy and self-regulation [26].

Baker and McCulloch (2020) focused on the impact of mobile applications on EFL teachers' professional development and self-efficacy. Their qualitative study highlighted that teachers who utilized mobile applications for language teaching felt more competent in their instructional strategies. The findings suggested that MALL not only enhanced teachers' engagement with technology but also fostered a reflective practice that improved their self-regulation skills. The authors concluded that mobile applications serve as valuable resources

for professional growth, leading to increased confidence in teaching [27].

Deng and Tavares (2019) examined the relationship between teachers' ICT usage and their self-efficacy in a large-scale survey involving EFL educators. Their results indicated that frequent ICT use was positively associated with higher self-efficacy levels. The study also found that teachers who engaged with MALL reported better self-regulatory practices, such as goal-setting and self-monitoring of their teaching performance. The authors emphasized the need for supportive school environments that encourage ICT adoption to enhance teachers' confidence and regulatory capabilities [28].

Hwang and Chang (2018) investigated the effects of mobile learning environments on EFL teachers' self-efficacy and motivation. Their experimental study revealed that teachers who participated in mobile learning workshops showed significant improvements in both self-efficacy and self-regulation compared to a control group. The authors concluded that structured exposure to MALL could empower teachers, enabling them to adopt innovative teaching methodologies while fostering a growth mindset towards technology integration [27].

In recent years, the integration of Mobile-Assisted Language Learning (MALL) and Information and Communication Technology (ICT) has gained traction in the context of English as a Foreign Language (EFL) teaching in Iran. Research indicates that MALL can significantly enhance language learning by providing learners with flexible and accessible resources, thus fostering a more engaging learning environment. Iranian EFL teachers' engagement with MALL and ICT is crucial, as it not only impacts their teaching effectiveness but also influences students' learning outcomes. Studies have shown that teachers'

self-efficacy—their belief in their ability to effectively use technology—plays a vital role in their willingness to adopt these tools. In the Iranian context, where traditional teaching methods have been predominant, enhancing teachers' self-efficacy regarding MALL and ICT is essential for successful technology integration in language instruction (Gholami Zarei, 2019). Moreover, self-regulation, which refers to an individual's ability to manage their own learning processes, is another critical factor influencing Iranian EFL teachers' engagement with MALL and ICT [29]. Research by Panahandeh and Khoshsaligheh (2018) highlights that teachers who demonstrate higher levels of self-regulation are more likely to engage with innovative technologies and adapt their teaching practices accordingly. This interplay between self-efficacy, self-regulation, and technology engagement suggests that professional development programs aimed at Iranian EFL teachers should focus on enhancing both their confidence in using MALL and ICT and their ability to self-regulate their learning and teaching processes. By fostering these attributes, educators can improve their pedagogical practices and better support their students' language acquisition in an increasingly digital world [30].

The reviewed literature consistently indicates a positive relationship between MALL and ICT engagement with EFL teachers' self-efficacy and self-regulation. These studies underscore the importance of professional development, training, and supportive environments in enhancing teachers' confidence and regulatory skills when integrating technology into language instruction. As the educational landscape continues to evolve, further research is needed to explore these relationships within diverse cultural contexts, particularly focusing on Iranian EFL educators.

Method

Participants

The study focused on the entire EFL teaching staff of private language schools in Tehran, Iran, comprising a sample of 120 EFL teachers selected through convenience sampling. They were contacted through their institutions. The participating teachers were informed about the study's purpose and assured that their personal information would be kept confidential, with only their anonymous comments used in any eventual publication. Demographic data were collected through the initial questionnaire, revealing that 35.3% of the teachers were male and 64.7% were female. Regarding academic qualifications, 61.8% held a Master's degree, 14.7% had a Bachelor's degree, 8.8% were PhD holders, and 14.7% were PhD candidates. Additionally, 85.3% of the teachers had majored in English Language Teaching (ELT), 8.8% in translation studies, and 6.7% in fields unrelated to English teaching. The questionnaire also gathered information on teaching experience, indicating that more than half of the participants had fewer than ten years of teaching experience, while 41% had over ten years. Overall, the teachers had a minimum of four years of experience teaching English, with ages ranging from 26 to 59.

From the total, 85.3% of the teachers had majored in ELT, 8.8% in translation studies, and 6.7% were majoring in fields not related to English teaching (See Figure 1).

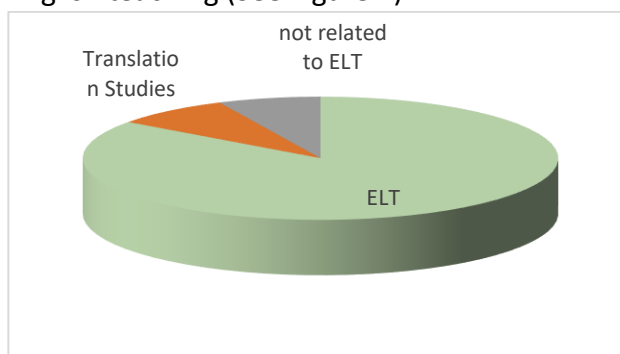


Fig. 1: Rates of majors

Materials and Instruments

Self-efficacy Scale

The first instrument used was the social self-efficacy scale (PSSE) developed by Smith and Betz in 2000 [26]. This comprehensive questionnaire consists of a 25-item 5-point Likert scale and covers a wide range of social situations, such as making friends and giving and receiving help. Smith and Betz (2000) [25] found that the PSSE scale had a single-factor structure. The total score on the scale ranges from 25 to 125, with higher scores indicating higher levels of social self-efficacy. The reliability of the scale was estimated to be 0.84 using Cronbach's alpha.

Self-regulation Questionnaire

The Self-Regulation Questionnaire (SRQ) was utilized in this study to assess the seven sub-processes of self-regulation as defined by Miller and Brown (1991) [31]. This 63-item self-report instrument is designed to evaluate the following sub-processes: receiving relevant information, evaluating that information against norms, triggering change, searching for options, formulating a plan, implementing the plan, and assessing the plan's effectiveness. Each of the seven subscales contains nine items, with participants responding on a five-point Likert scale ranging from strongly disagree to agree strongly. The scoring and interpretation process of the SRQ is clear and straightforward. Total scores indicate self-regulatory capacity, with scores above 239 reflecting high capacity, scores between 214-238 indicating moderate capacity, and scores below 213 suggesting low capacity. The SRQ demonstrates excellent reliability, with a Cronbach's alpha of 0.81 and a high test-retest reliability index of $r = .94$ ($p < .0001$), confirming its effectiveness as a measurement tool for self-regulatory skills (Aubrey, Brown, & Miller, 1994) [31].

Knowledge of ICT

To explore EFL teachers' knowledge of Information and Communication Technology (ICT) and Mobile-Assisted Language Learning (MALL), the ICT Engagement Questionnaire developed by Zylka et al. (2015) [32] was employed. This scale, which comprises 36 items designed to assess various dimensions of ICT engagement, is particularly effective due to its use of a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The total score can range from 36 to 180, with a reported reliability coefficient of 0.79, indicating acceptable internal consistency. The questionnaire is grounded in self-determination theory and evaluates four fundamental constructs: Interest in ICT, Perceived ICT competence, Perceived Autonomy in ICT usage, and ICT as a topic in social interaction. For instance, items such as "I enjoy learning about new technologies" assess Interest in ICT, while "I feel confident using different ICT tools" evaluate Perceived ICT competence. Understanding these constructs is essential for enhancing teachers' engagement with ICT, which is crucial for effective teaching in today's digital age. By measuring these dimensions, the questionnaire provides valuable insights into teachers' readiness to integrate technology into their pedagogical practices, ultimately fostering a more dynamic and interactive learning environment.

Structured Interview

To investigate EFL teachers' attitudes regarding their knowledge of ICT and MALL and its influence on their teaching practices, a semi-structured interview was conducted with 20 teachers who were randomly selected from a pool of 120 teachers who completed the questionnaires. Among the 20 EFL teachers, 13 held a Master's degree in English, 5 had a Bachelor's degree, and 2 were PhD candidates,

all with teaching experience ranging from 5 to 15 years. The sample included 11 males and 9 females. The interview comprised four questions designed to explore teachers' perspectives on whether their knowledge of ICT and MALL could influence their methods of teaching English to learners, and these questions were formulated based on the objectives of the study. For qualitative data analysis, a thematic analysis approach was employed to identify and interpret patterns within the interview responses. The recorded interviews were transcribed verbatim, and the transcripts were systematically coded to categorize the data into meaningful themes. Data saturation was reached when no new themes or insights emerged from the interviews, indicating that the data collection had sufficiently captured the range of teachers' attitudes and experiences. This iterative process allowed for a deeper exploration of the participants' views, ultimately enriching the findings of the study. The questions of the interview were as follows:

Do you believe in the usefulness of MALL (mobile-assisted language learning) instruction for Iranian EFL students? Why?

If you are engaged in MALL instruction, what activities are practiced in your class?

What are the obstacles to implementing MALL instruction in Iran?

Do you have any other suggestions regarding the use of MALL instruction in the EFL teaching area?

Procedures

Over two months, the researcher collected data on 120 EFL teachers through various questionnaires (self-regulation, self-efficacy, and knowledge of ICT) at a private institute in Tehran, Iran. The questionnaires were delivered to the teachers via e-mail or WhatsApp, allowing respondents ample time to complete

and return them. The researcher gathered and scored the returned questionnaires, utilizing SPSS version 21 (Statistical Package for the Social Sciences) to interpret the statistically gathered data. In the qualitative phase, a sample of 20 EFL teachers, selected for their diversity in gender and years of experience, participated in semi-structured interviews to explore whether their knowledge of ICT and Computer-Assisted Language Learning (CALL) influences their teaching practices. These interviews, conducted either in person or via video conferencing, lasted approximately 45-60 minutes and were audio-recorded with participants' consent. The reason for carrying out this interview was explained to all the participating teachers. It was explicitly stated that their personal information was not to be shared with anyone, and only their anonymous responses were used in any possible reporting of this study. The interview data were transcribed verbatim and analyzed using thematic analysis, where the researcher generated initial codes, collated them into potential themes, and refined these themes to accurately capture the essence of the data. The findings were presented as descriptive extracts, providing rich insights into teachers' perceptions and experiences regarding the impact of ICT and CALL knowledge on their teaching approaches. This qualitative analysis complemented the quantitative findings, offering a comprehensive understanding of EFL teachers' self-regulation, self-efficacy, knowledge of ICT, and how these factors shape their teaching practices in the Iranian context.

Data Analysis

The Statistical Package for Social Science (SPSS) version 21 was the cornerstone of the data analysis, used to estimate questionnaire scores and establish links between variables. A variety of statistical analyses were employed, including

descriptive statistics (mean, standard deviation, standard error of the mean) to summarize the data and inferential statistics to generalize the findings. Pearson product-moment correlation coefficient determined the correlation between variables, while skewness and kurtosis ratios verified data normality. Correlational analyses were conducted based on variable nature and study design, and multivariate regression analysis predicted EFL teachers' knowledge of ICT and MALL based on their self-efficacy and self-regulation. Qualitative data analysis, using thematic analysis, was conducted on the interviewees' verbatim-transcribed responses to gain deeper insights into teachers' perspectives. Open coding generated initial codes, which were categorized into broader themes representing underlying concepts related to the influence of ICT and MALL knowledge on teaching practices. The interview results were extracted and analyzed manually, and for the aim of reliability, 30% of the data was rechecked and reanalyzed independently by a second researcher (a PhD graduate of TEFL) who was informed about the purpose of the study by the researcher. The field of study of this expert was discourse analysis, and she was familiar with the data analysis phase. The second rater coded 30% of the data, taken randomly from the corpus, and finally, the inter-rater reliability was reported to be 0.95. To reduce researcher bias, intercoder agreement was established by involving a second researcher to independently code a subset of the data, with discrepancies discussed and resolved. This rigorous approach to qualitative data analysis complemented the quantitative findings, providing a comprehensive understanding of the factors influencing EFL teachers' instructional methods.

Results and findings

The results section presents a comprehensive analysis of the relationship between Iranian EFL teachers' engagement with MALL and ICT and their self-efficacy and self-regulation. SPSS version 21 was used for data analysis, employing descriptive and inferential statistics, Pearson product-moment correlation, and multivariate regression. Qualitative data from semi-structured interviews were transcribed verbatim and analyzed using thematic analysis, with open coding and intercoder agreement to ensure objectivity. This rigorous methodological approach provided a nuanced understanding of the factors influencing EFL teachers' instructional methods, highlighting the interplay between technology engagement and personal efficacy in language education.

Research Question One

The first research question focused on exploring whether there is any relationship between EFL teachers' knowledge of ICT and MALL and their self-efficacy.

The detailed descriptive statistics in Table 1 provide a comprehensive view of EFL teachers' self-efficacy, self-regulation, and knowledge of ICT and MALL, ensuring that the audience is well-informed.

Table 1: Descriptive Statistics of EFL Teachers' Knowledge of ICT and MALL, Self-efficacy, and Self-regulation

	N	Mean	Std. Deviation
Knowledge of ICT and MALL	120	164.35	3.45
Self-efficacy	120	83.14	4.56
Self-regulation	120	179.28	4.12

As Table 1 demonstrates, the teachers' mean in the knowledge of ICT is 164.3 with an SD of 3.4, and the mean of these teachers in self-efficacy is 83.1 with an SD of 4.5. The mean of these teachers in self-regulation is 179.2 with an SD of 4.12.

Before conducting the correlational analyses, it was crucial to check the related assumptions. To run a correlational analysis, it was necessary to ensure that certain assumptions were met; one of these was the linearity assumption. To check the linearity of the relation, the researcher visually inspected the data by creating a scatterplot, as shown in Figure 1. These findings are of significant importance and will contribute to our understanding of ICT and self-efficacy in teaching.

The inspection of Figure 2 shows that there was no kind of non-linear relationship between the scores on knowledge of ICT and MALL and self-efficacy, such as a U-shaped or curvilinear distribution. Moreover, the distribution was not funnel-shaped, i.e., wide at one end and narrow

at the other; therefore, the assumption of homoscedasticity was met. The other assumption is that the data should be normally distributed. To this end, the researcher ran the test of normality in both the knowledge of ICT and the self-efficacy of EFL teachers. Table 2 shows the result of the test of normality related to the EFL teachers.

Table 2 illustrates the p-value in the EFL teachers' knowledge of ICT and MALL, which is higher than the significance level (.05), indicating a typical data distribution. Another significant tool in our study was the self-efficacy scale, the results of which are presented in Table 3, providing further insights into our research.

As indicated in Table 3, since the p value is higher than the significance level (.05), it can be concluded that the data is normally distributed. To assess Research Question 1, a Pearson correlation analysis was conducted. Table 4 indicates the results of the correlation analysis between EFL teachers' knowledge of ICT and MALL and their self-efficacy.

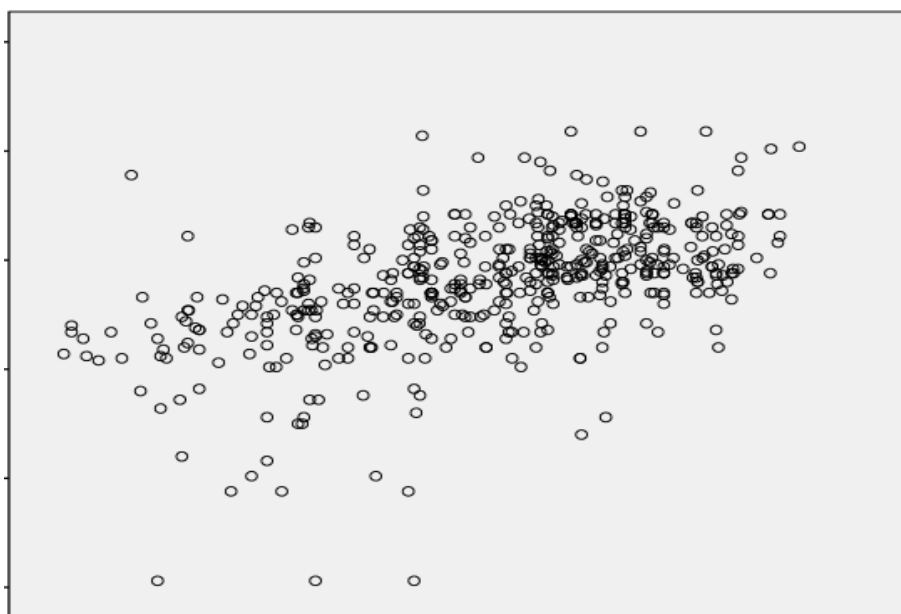


Fig. 2: Scatterplot of EFL teachers' knowledge of ICT and MALL and self-efficacy

Table 2: Tests of Normality for EFL Teachers' Knowledge of ICT and MALL

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
EFL Teachers' Knowledge of ICT and MALL	.127	120	.071	.953	120	.058

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 3: Tests of Normality for EFL Teachers' Self-efficacy

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Self-efficacy	.062	120	.200*	.982	120	.531

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 4: Correlation between EFL Teachers' Knowledge of ICT and MALL and Self-efficacy

		Self-efficacy	Knowledge of ICT and MALL
Knowledge of ICT and MALL	Pearson Correlation	1	.732
	Sig. (2-tailed)		.000
	N	120	120
Self-efficacy	Pearson Correlation	.732	1
	Sig. (2-tailed)	.000	
	N	120	120

The results of the Pearson correlation analysis showed that the EFL teachers' knowledge of ICT and MALL correlated positively and highly with their self-efficacy, $r = .73$, $p < .05$. This finding has inspiring practical implications, suggesting that enhancing teachers' knowledge of ICT and MALL can significantly boost their self-efficacy. The R-squared value equals 0.73, indicating that the teachers' knowledge of ICT and MALL can predict their self-efficacy by up to 49 percent. Therefore, the first null hypothesis, which claimed "There is no significant relationship

between EFL teachers' knowledge of ICT and MALL and their self-efficacy," was rejected, opening up new possibilities for improving EFL teaching practices.

Research Question Two

The second research question focused on exploring whether there is any relationship between EFL teachers' knowledge of ICT and MALL and their self-regulation. A series of statistics was run. Table 5 shows the descriptive

statistics regarding EFL teachers' knowledge of ICT and MALL and their self-regulation.

Table 5: Descriptive Statistics of EFL Teachers' Knowledge of ICT and MALL, and Self-regulation

	N	Mean	Std. Deviation
Knowledge of ICT and MALL	120	164.35	3.45
Self-regulation	120	179.28	4.12

Table 5 shows that the teachers' mean in ICT knowledge is 164.3 with an SD of 3.4. The mean of these teachers in self-regulation is 179.2, with an SD of 4.1. As previously mentioned, we ensured that the related assumptions were checked before running the correlational analyses. One of these assumptions is the linearity assumption, which we meticulously verified. The first step was to examine the linearity of the relation in knowledge of ICT, MALL, and self-regulation (See Figure 2).

Figure 3 examination confirms the absence of a non-linear relationship between ICT and MALL knowledge scores and self-regulation, thereby validating the homoscedasticity assumption. The normality test was then conducted on ICT knowledge and EFL teachers'

self-regulation. Table 2 presents the normality test results for EFL teachers' understanding of ICT and MALL, confirming the normal distribution. The same test was performed for self-regulation, with Table 6 displaying the results.

As indicated in Table 6, since the p-value is higher than the significance level (.05), it can be concluded that the data is usually distributed in the test of self-regulation, so that a Pearson correlation can be conducted. Table 7 indicates the results of the correlation analysis between EFL teachers' knowledge of ICT and MALL and their self-regulation.

The results of the Pearson correlation analysis showed that the EFL teachers' knowledge of ICT and MALL correlated positively and highly with their self-regulation, $r = .79$, $p < .05$. It can be concluded that there is a positive relationship between the teachers' knowledge of ICT and MALL and their self-regulation. Based on the results, the R-squared value equals 0.79. This means that the teachers' knowledge of ICT and MALL can predict their self-regulation by up to 62 percent. Therefore, the second null hypothesis, which claimed "There is no significant relationship between EFL teachers' knowledge of ICT and MALL and their self-regulation," was rejected.

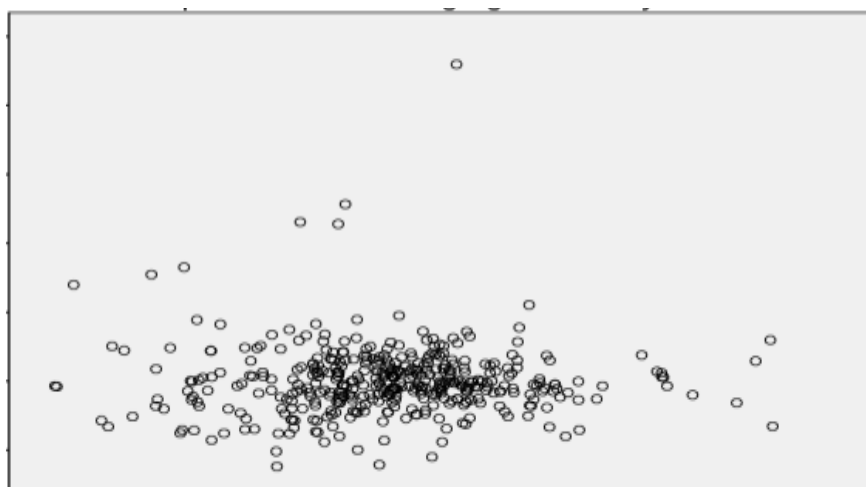


Fig. 3: Scatterplot of knowledge of ICT and MALL, and self-regulation

Table 6: Tests of Normality for EFL Teachers' Self-regulation

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Self-regulation	.073	120	.200*	.874	120	.642

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 7: Correlation between EFL Teachers' Knowledge of ICT and MALL and Self-regulation

		Self-regulation	Knowledge of ICT and MALL
Knowledge of ICT and MALL	Pearson Correlation	1	.791
	Sig. (2-tailed)		.000
	N	120	120
Self-regulation	Pearson Correlation	.791	1
	Sig. (2-tailed)	.000	
	N	120	120

Research Question Three

Finally, the last research question aimed to explore the perceptions of EFL teachers about knowledge of ICT and MALL and their improvement in teaching English. To investigate EFL teachers' attitudes regarding knowledge of ICT and MALL by teachers and its influence on teaching English to learners, a semi-structured interview was employed with 20 teachers using a set of questions. The interview's questions aimed to probe teachers' attitudes on why MALL instruction is helpful for Iranian EFL students. Almost all of the teachers (19 out of 20 teachers =90%) believed that MALL is useful for L2 students and mentioned different reasons for its effectiveness. The first reason expressed by most of the teachers was the increased variety of education options. The answers to interview questions were elaborated on in the following extracts:

The investigation into the effectiveness of MALL for L2 students highlights several advantages, including increased educational options and flexibility, as students can engage in courses without the constraints of transportation and rigid schedules. MALL allows students to pursue the same range of degrees as traditional education while studying at their convenience from any location with internet access. Teachers noted that MALL enhances interaction through innovative teaching techniques, such as interactive videos and whiteboards, which foster student engagement and allow for review of recorded sessions. However, some teachers expressed concerns about low interaction levels in MALL environments, citing technical issues and a lack of engagement as potential drawbacks. Various skills, including reading and listening, are practiced through MALL, with teachers utilizing

games, photos, and podcasts to cater to different learning styles. Despite its benefits, low internet access emerged as a significant obstacle to implementing MALL in Iran, attributed to high filtering and censorship. Teachers suggested that a blended approach, integrating MALL with traditional classrooms, could mitigate these challenges by enhancing interaction and providing alternative access to resources, thereby creating a more inclusive and effective learning environment. Overall, the findings underscore the potential of MALL in EFL instruction while also addressing the need for improved infrastructure and teaching strategies to maximize its effectiveness.

Discussion

The objectives of the current study, which hold significant implications for the field of language teaching and technology, were as follows:

- a. To investigate the relationship between Iranian EFL teachers' self-efficacy, self-regulation, and their knowledge of ICT and MALL.
- b. To examine EFL teachers' attitudes about using MALL-based instruction in L2 classes.

The data analysis, conducted with meticulous attention to detail and the findings revealed the existence of relationships (with different strengths) among the variables under the study. To answer research questions, the researcher employed Pearson correlation and multiple regression. The findings revealed a positive relationship between Iranian EFL teachers' knowledge of ICT and MALL and their self-efficacy as well as their self-regulation.

One justification for the relationship between the teachers' knowledge of ICT and MALL and their self-regulation and self-efficacy was the fact that the new and different instructional setting and the fun nature of MALL-based classes made teachers and learners more motivated and active in teaching English.

This increase in motivation leads to an increase in self-regulation, self-efficacy, and other related personality traits [33]. This is consistent with other research that found that environments with technology-enhanced learning are superior to those without these features in promoting self-regulated learning [34].

The instructors' experience with computers, information technology, and the internet in the Iranian EFL context may justify such significant findings. As a result, teachers may have relied too heavily on MALL-based instruction, which can boost teachers' self-efficacy. Furthermore, the over-reliance on online courses helps teachers to regulate themselves, and the development and use of self-regulated learning behaviors are context-dependent [35]. Indeed, when teachers scaffold students' learning and educate them to self-regulate before a task, students are more likely to ask for help and co-regulate with the teacher [36]. The potential learning benefits, including those from blended learning instruction in learning English, underscore the value of efforts to build self-efficacy and self-regulation [37].

Online classrooms facilitate and require the teachers' self-regulation and self-efficacy [37]. The self-regulation component is essential for web-based instruction since teachers become more accountable for their instruction, more intrinsically motivated, and more challenging due to their high self-efficacy and suitable self-regulated techniques [38]. Moreover, teachers can actively control their motivation, behavior, or cognition, achieving teaching objectives and doing better [39]. Self-regulated learning is not a fixed trait, and teachers can improve their motivation and learning strategies when effective teaching environments are provided [40]. Online learning highly demands teachers' self-efficacy and self-regulatory skills, making it particularly difficult for those with lower levels of these skills [41].

One reason for the results can be the widespread role of online teaching and e-learning tools that have been developed worldwide, and Iran was no exception. The teachers were already familiar with ICT and technology, and this awareness enabled the teachers to reach the standards of modern and up-to-date teachers. To the researcher's knowledge, there is no study to report on the e-learning literacy of EFL teachers. However, some researchers have examined the relationship between teacher job efficacy and computer literacy. Alabi and Yisa (2013) [42] looked into how computer literacy affected teachers' ability to perform their jobs effectively, and they discovered a strong link between the two. This is in line with the findings of Akinnubi et al. (2012) [43], who found a strong relationship between online literacy and teachers' ability to do their jobs effectively.

As the results of the data analysis revealed, teachers knew MALL, and their self-regulation and self-efficacy increased due to an increase in ICT and MALL knowledge. Another reason for the high e-learning literacy of EFL teachers can be the situations that COVID-19 exposed the teachers. They were obliged to increase e-learning literacy as soon as possible. The COVID-19 epidemic has altered our perception of the universe in the twenty-first century. Every department and field is impacted. New fashions and trends are developing to thrive in this environment. Even while teachers have grown accustomed to the old teaching methods in face-to-face lectures, they are reluctant to accept any change because it would require some urgent innovations and improvements. Although old methods have value, in this crisis, there is no other option but to adapt to the changing environment and accept change, which will raise levels of self-efficacy and self-regulation.

The results of interviews with the teachers showed that teachers' knowledge in ICT and MALL was high enough in a context like Iran, where low internet access was one of the significant drawbacks in virtual classrooms that caused lots of problems, such as wasting time and lowering the interaction level. However, due to the teachers' ICT knowledge, they mentioned some solutions and suggestions, such as the use of flipped classes and the use of simultaneous online and traditional environments. The findings are consistent with Lee, Kang, Kim, Hong, and Sonya's study from 2023 [44], which attempted to evaluate how remote laboratory courses would be affected by "social separation" caused by the COVID-19 pandemic [44]. According to the authors, there are several obstacles to creating virtual schools, such as a lack of internet connectivity nationwide and few resources available to a broad community during such outbreaks. These results highlight the need to promote human interaction, essential for student learning and practice. One way to achieve this is through the use of 'interactive technology', which includes tools and platforms that facilitate real-time communication, collaboration, and feedback, thereby enhancing the learning experience in online social work classes [45]. To build and implement the systems for virtual classrooms, one needs appropriate training in this technology and thorough program preparation, which are requirements that need to be included in teaching training courses in Iran.

The current study indicated that the interplay between Iranian EFL teachers' self-efficacy, self-regulation, and their knowledge of ICT and MALL is crucial for fostering a more effective language teaching environment. The positive correlations identified suggest that enhancing teachers' familiarity with technology can lead to improved self-efficacy and self-regulation, which are essential for the

successful implementation of MALL-based instruction. The findings align with existing literature that emphasizes the importance of technology in education. As noted, environments enriched with technological tools not only engage learners but also empower teachers to adopt innovative pedagogical strategies. This is particularly relevant in the Iranian EFL context, where traditional teaching methods have often dominated. The shift towards MALL and ICT integration offers a promising avenue for revitalizing language instruction and promoting a more dynamic learning atmosphere. Furthermore, the results underscore the necessity for professional development programs aimed at improving teachers' ICT competencies. Such initiatives can help bridge the gap between traditional teaching practices and modern educational demands, ultimately enhancing both teacher and student outcomes. By equipping teachers with the necessary skills and knowledge to navigate digital tools, educational institutions can cultivate a workforce that is both confident and capable in implementing MALL-based instruction. The study's findings also highlight the significance of self-regulation as a critical component of effective teaching practices in online environments. Teachers who can manage their own learning and adapt their instructional strategies are more likely to foster an environment conducive to student engagement and success. This suggests that teacher training programs should not only focus on technological skills but also emphasize the development of self-regulatory strategies to enhance teaching effectiveness. In conclusion, the current study contributes to the growing body of research on MALL and ICT in language education by providing insights into the relationships between self-efficacy, self-regulation, and technological knowledge among Iranian EFL teachers. It calls for a concerted

effort to enhance teachers' technological competencies and self-regulatory skills through targeted professional development initiatives. By doing so, educators can better meet the challenges of modern language teaching and ultimately improve student learning outcomes in an increasingly digital world. Future research could further explore the long-term effects of these interventions on both teacher performance and student achievement, as well as investigate the specific challenges faced by teachers in integrating MALL and ICT into their classrooms.

To sum up, Online teaching approaches assist in facilitating learning-teaching processes, but it is necessary to assess the benefits and drawbacks of technology and realize its full potential. Disasters and pandemics like COVID-19 make the situation very chaotic and tense; therefore, it is necessary to thoroughly and diligently analyze technology. This underscores the seriousness and gravity of the problem and the need for a comprehensive understanding of technology during such crises [46]. The use of convenience sampling and a focus on private language centers in Tehran may restrict the generalizability of the study's results. Future research should aim for a more diverse sample across different locations and educational settings to improve the applicability of the findings.

Conclusions

The results of this study indicate a positive correlation between teachers' knowledge of ICT and MALL and their self-efficacy and self-regulation. Quantitative analysis revealed that teachers proficient in digital technologies and mobile applications for language learning demonstrated higher confidence and effective self-regulatory strategies. Qualitative insights from structured interviews confirmed teachers'

strong understanding of ICT and MALL, highlighting how technology engagement enhanced lesson planning, classroom management, and teaching effectiveness. This combination of quantitative and qualitative data underscores the significant relationship between teachers' technological competencies, self-beliefs, and self-regulatory practices.

Overall, learning almost anything online is a fresh and intriguing process. It has positively impacted the lives of both teachers and kids [47]. The quality of education has increased due to the expanding use of technology in the classroom, especially in the COVID-19 era. Although MALL-based training will have a more significant impact in the future, the study found that it cannot replace conventional face-to-face classroom instruction. Making the whole transition to online learning might take time and effort. We must recognize the benefits of virtual learning environments in light of what EFL teachers have stated. As a result, it's essential to understand the obstacles to accepting online learning and take the required steps to remove them.

The findings of this present study have significant implications for EFL teachers who want to apply an effective method in teaching English skills and sub-skills in the conditions we experienced during the Coronavirus pandemic. At times like this, MALL-based classrooms can address the unavailability of traditional classrooms. Teachers can use MALL-based education in their classes to supplement their courses. Online classes can also be used in disabled students' classrooms. One of the standard features of students with disabilities is their passiveness. With the assistance of MALL-based instruction, teachers, especially those with high ICT knowledge, could encourage students' active participation in the classroom since those teachers are successful in both cognitive and affective factors. A teacher who

knows how to work with computers, search for data, find resources easily, or present them with new technology will feel more confident and even broaden their goals in teaching. The findings could be helpful for syllabus designers to make homogeneous classification plans and supplement their courses with different tasks and reliable and accurate assessment tools to decrease cheating and increase the validity of virtual classrooms. In addition, L2 task designers need to consider the cognitive demands of the tasks in terms of selection and sequencing when preparing online platforms.

Virtual classrooms would be one of the best choices not only in English classrooms but also in other majors and fields, and teachers' high knowledge of ICT resulted in students' high performance in various courses. It is recommended that this study be replicated with an equal number of male and female participants. Hence, gender may function as an influencing factor. Also, in other ESL and EFL settings, the same research can be done to determine how learners' socio-affective qualities, such as self-control and motivation, relate to the factors employed in the current study. This underlines the need for further research in the field and the potential impact it can have on language education.

Authors' Contribution

The first two authors made significant contributions to the content of the article, while the third author played an important role in writing the literature review and organizing the article.

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Conflicts of Interest

There was no conflict of interest among the authors.

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AUTHOR(S) BIOSKETCHES

Cheraghi, Z. Assistant professor, General Linguistics, Shahid Rajaee Teacher Training University, Tehran, Iran. Her areas of interest include Syntax, Semantics and ESP/EAP.

✉ z.cheraghi@sru.ac

A, Derakhshan MA in TEFL English Department, Humanities Faculty, Shahid Rajaee Teachdr Training University, Tehran, Iran

✉ azar.derakhshan12@yahoo.com

F. Moghisseh MA in TEFL English Department, Humanities Faculty, Shahid Rajaee Teachdr Training University, Tehran, Iran

✉ fatememoghisseh@gmail.com

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