

A Gauge into Emotional Intelligence Enhancement in CALL and the Effects on Oral Skills, Personal Best Goals, and Self-efficacy among EFL Learners

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Abstract

This study examined the impact of integrating Emotional Intelligence (EI) enhancement interventions into Computer-Assisted Language Learning (CALL) environments on English as a Foreign Language (EFL) learners' oral skills, Personal Best Goals (PBGs), and self-efficacy. Employing a sequential explanatory mixed-methods approach, the study involved two intact classes of grade 11 learners in Malaysia, with the experimental group receiving targeted EI enhancement activities within a CALL platform, while the control group received standard CALL-based instruction. Pre- and posttest measures, along with semi-structured interviews, were used to assess the effects of the interventions. The results revealed that the experimental group outperformed the control group on posttest measures of oral proficiency,

indicating the effectiveness of EI-focused interventions in improving learners' oral skills. Furthermore, thematic analysis of the interviews identified themes related to the development of PBGs and self-efficacy within the CALL environment, highlighting the positive impact of EI enhancement on learners' goal-setting behaviors and confidence in language learning tasks. The findings underscore the potential of leveraging technology-enhanced language learning environments to promote the holistic development of learners' emotional, cognitive, and interpersonal competencies. This study contributes to the existing literature by providing empirical evidence of the interconnectedness between emotional factors, language learning outcomes, and learner motivation and engagement in CALL contexts. The study's implications for language teachers, materials developers, syllabus designers, policymakers, and suggestions for future research are discussed.

Keywords: Computer-assisted language learning, Emotional intelligence, Oral skills, Personal best goals, Self-efficacy

Introduction

EI has garnered increasing attention in language education due to its potential implications for language learning and learner outcomes (Brackett & Katulak, 2007; Pekrun & Linnenbrink-Garcia, 2012). In CALL, exploring the relationship between EI enhancement and its effects on various aspects of language acquisition, such as oral skills, PBGs, and self-efficacy, holds significant promise (Dewaele & MacIntyre, 2014; Vandergrift, 2005). This study explores the nexus between EI Enhancement in CALL and its multifaceted impacts on EFL learners. By investigating how interventions targeting EI can influence oral proficiency (Mikolajczak et al., 2010), facilitate the attainment of PBGs (Ciarrochi & Scott, 2006), and bolster self-efficacy among EFL learners (Pajares, 1997), this research endeavors to contribute to a deeper understanding of the complex interplay between affective factors and language learning outcomes.

CALL refers to integrating technology into language education to facilitate and enhance language learning processes (Levy & Stockwell, 2006). CALL encompasses various digital tools and platforms, from interactive software programs and multimedia resources to online language learning communities and virtual environments (Chapelle, 2001). The integration of technology in language learning environments can have profound effects on both cognitive and conative factors. Cognitively, CALL provides learners with opportunities for interactive and immersive language practice, enabling them to engage in authentic communication, receive immediate feedback, and access a wealth of authentic language materials (Godwin-Jones, 2014). Moreover, CALL environments can support various cognitive processes such as attention, memory, and problem-solving, fostering deeper engagement and more effective learning experiences (Beatty, 2010). Conatively, CALL offers learners greater autonomy and control over their learning process, allowing them to set personal goals, track their progress, and tailor their learning experiences to their individual

needs and preferences (Reinders & White, 2016). Additionally, CALL can enhance learners' motivation and self-efficacy by providing engaging and interactive learning opportunities that cater to their interests and learning styles (Blake, 2013; Namaziandost & Çakmak, 2020).

Oral proficiency is a critical metric in assessing language mastery and is pivotal in effective communication. Tahir (2015) posited that learners achieve proficiency in a foreign language when they can converse fluently. Burns and Joyce (1997) elucidated that speaking entails a collaborative effort to convey meaning, encompassing the processes of information generation, reception, and analysis. The linguistic components, including structure and interpretation, are profoundly influenced by the situational context in which the language is utilized. These contexts encompass the participants' roles and statuses, the communication's physical environment, and the discourse's overarching objectives. Recent language teaching methodologies increasingly emphasize the role of emotional factors in language acquisition (Burns & Joyce, 1997). Social interaction, particularly within an EFL cultural setting, is indispensable for community integration. Educational institutions have intensified efforts to cultivate oral proficiency skills from the foundational levels. However, despite years of formal education, EFL learners often exhibit inadequate proficiency in producing language (Akhter et al., 2020). This deficiency, as highlighted by Akhter et al. (2020), can lead to many student challenges.

Trait EI is a set of self-perceptions related to emotions within the foundational layers of personality structures, assessed using the Trait Emotional Intelligence Questionnaire (Petrides et al., 2007). It stands out as the sole operational definition in its domain, acknowledging the inherent subjectivity inherent in emotional experiences (Petrides, 2010). Furthermore, research indicates that the facets of trait EI share similarities with personality traits rather than competencies, cognitive abilities, or facilitators. This assertion is supported by findings suggesting that the same genetic factors influencing individual differences in the Big Five personality traits also contribute to variations in trait EI (Vernon et al., 2008).

The concept of PBGs in education draws inspiration from sports contexts (Ali et al., 2022; Bandura, 1997; Martin, 2006). PBG revolves around self-evaluation, self-awareness, self-actualization, self-determination, and individuals' perseverance to reach a personalized standard (Ramshe et al., 2019). Theoretically, PBG is closely linked to intrinsic motivation (Bandura, 1997; Deci & Ryan, 2008), self-efficacy skills (Martin, 2006), academic engagement (Martin & Elliot, 2015), self-esteem (Martin, 2011), and academic well-being (Martin, 2014; Xu et al., 2022). As Jahedizadeh et al. (2021) highlight, PBG delineates students' short-term and long-term objectives. Clarity in students' goals, especially when aligned with educational aims, ensures learners' well-being.

Self-efficacy plays a crucial role in determining how individuals perform, feel, and respond when confronted with challenging situations, and it is instrumental in enhancing learners' academic performance (Van Dinther et al., 2011). According to Bandura (2011),

self-efficacy, a key concept in social cognitive theory, involves individuals' self-assessment of their ability to execute actions necessary for achieving specific goals. Self-efficacy is a valuable tool for researchers in predicting persistence, emotional reactions, and effort. As Martin and Marsh (2009) asserted, self-efficacy is a psychological attribute that students can develop, significantly influencing their behavior, cognition, and responses in difficult circumstances. Fostering students' self-efficacy is essential for enhancing their learning experiences (Rezai & Namaziandost, 2022; Thompson & Verdino, 2019). In education, self-efficacy is a motivational factor crucial for understanding various aspects of individual roles, such as study habits, motivation, and academic performance. In the context of foreign language education, self-efficacy is often referred to as verbal confidence, and research suggests that a high level of efficacy is significantly associated with success among EFL learners (Han & Wang, 2021).

This study addresses the gaps and challenges identified in the context of EI enhancement in CALL and its multifaceted impacts on EFL learners. Despite the growing recognition of the importance of EI in language education (Brackett & Katulak, 2007; Pekrun & Linnenbrink-Garcia, 2012), there remains a dearth of empirical research exploring the specific relationship between EI enhancement and its effects on various aspects of language acquisition, such as oral skills, PBGs, and self-efficacy among EFL learners (Dewaele & MacIntyre, 2014; Vandergrift, 2005). While CALL has emerged as a potent tool for enhancing language learning processes (Chapelle, 2001; Levy & Stockwell, 2006), there is limited understanding of how interventions targeting EI within CALL environments can effectively influence these critical dimensions of language learning. Consequently, this study seeks to address these gaps by investigating how interventions targeting EI can impact oral proficiency, facilitate the attainment of PBGs, and bolster self-efficacy among EFL learners within the CALL context. By elucidating the complex interplay between affective factors and language learning outcomes in the context of EI Enhancement in CALL, this research contributes to a deeper understanding of the mechanisms underlying effective language learning. It informs the development of more targeted and productive pedagogical interventions.

The significance of this study lies in its potential to advance our understanding of the role of EI enhancement in CALL and its impact on various dimensions of language acquisition among EFL learners. By investigating how interventions targeting EI within CALL environments can influence oral proficiency, facilitate the attainment of PBGs, and bolster self-efficacy among EFL learners, this research holds promise for both theory and practice in language education. The findings of this study may provide valuable insights into the mechanisms underlying effective language learning, shedding light on the complex interplay between affective factors and language learning outcomes. Moreover, identifying effective pedagogical strategies for integrating EI enhancement into CALL environments

could inform the development of more targeted and efficacious language learning interventions, ultimately enhancing the quality of language education programs and improving learner outcomes. Additionally, the study's findings may have broader implications for understanding the role of emotional factors in education more broadly and contribute to the growing body of research on the intersection of affective factors, technology, and language learning.

Literature Review

Computer-assisted language learning

CALL has emerged as a powerful tool for enhancing language learning processes. CALL refers to the use of computer technology in language teaching and learning, providing learners with interactive and multimedia-rich environments that can support various aspects of language acquisition (Chapelle, 2001; Levy & Stockwell, 2006). The integration of CALL into language education has been driven by the recognition that technology can offer a range of benefits, including increased learner autonomy, personalized feedback, and opportunities for authentic communication (Beatty, 2013; Stockwell, 2007).

Research has demonstrated the effectiveness of CALL in improving language skills, such as vocabulary acquisition, grammar understanding, and reading comprehension (Golonka et al., 2014; Sauro, 2011). Moreover, CALL environments can foster learner engagement and motivation by providing interactive and immersive learning experiences (Lai & Kritsonis, 2006; Stockwell, 2007). The flexibility and adaptability of CALL also allow for integrating various pedagogical approaches, such as task-based learning, collaborative learning, and flipped classroom models, further enhancing the language learning process (Chapelle, 2001; Stockwell, 2007).

Emotional intelligence

Trait EI refers to an individual's perceived capacity to comprehend and handle emotions in different circumstances. It signifies intelligence that surpasses cognitive abilities, enabling adaptability and versatility, particularly in social settings, which are vital for personal advancement and overall well-being. As a result, Trait EI seems to have a significant impact on enhancing individuals' quality of life in multiple areas, including health, well-being, and personal and professional adjustment (Di Fabio & Kenny, 2016; Di Fabio & Saklofske, 2014; Martins et al., 2010).

For example, numerous studies consistently link Trait EI with happiness among young adults (Badri et al., 2021), effectiveness in leadership roles (Walter et al., 2011), engagement in work (Akhtar et al., 2015), satisfaction with jobs (Schutte & Loi, 2014), and fostering positive relationships among colleagues (Huang et al., 2019). Additionally, Trait EI serves as a reliable predictor of positive mental health, reduced cortisol levels during stressful situations, and effective coping mechanisms for challenging circumstances. Moreover, it promotes prosocial behavior in schoolchildren and enhances academic performance,

underscoring its importance in education and youth development. Trait EI equips students to navigate academic challenges while maintaining good health by influencing academic success and related factors across various educational levels. Consequently, it emerges as a valuable asset for college students, enabling them to build resilience and effectively manage the pressures of life.

Oral skills

Assessing language mastery relies heavily on evaluating oral proficiency and facilitating effective communication. According to Tahir (2015), foreign language learners demonstrate proficiency when conversing fluently. Burns and Joyce (1997) further explain that speaking involves a collaborative process of generating, receiving, and analyzing information to convey meaning. The linguistic aspects, such as structure and interpretation, are greatly influenced by the specific context in which the language is used. This context includes the participants' roles and statuses, the physical environment, and the overall goals of the discourse. Modern language teaching methods increasingly recognize the significance of emotional factors in language acquisition (Burns & Joyce, 1997). In an EFL cultural setting, social interaction is essential for community integration. Educational institutions have concentrated on developing oral proficiency skills starting from the foundational levels. However, despite receiving years of formal education, EFL learners often struggle with producing language proficiently (Akhter et al., 2020). This deficiency, as emphasized by Akhter et al. (2020), can give rise to various challenges for students.

While many students can acquire basic speaking skills, some learners demonstrate exceptional oral communication abilities, leading to improved academic and personal accomplishments (Akhter et al., 2020). According to Folse (2006), proficiency in a language is synonymous with the ability to speak it since speech serves as the primary mode of human communication. Thornbury (2005) argues that speaking involves a distinct language production and negotiation process compared to writing. This distinction arises from speakers and listeners engaging in simultaneous production and comprehension of spoken interactions, working against time constraints without the opportunity to revise their linguistic output. Additionally, during conversations, speakers must consider their relationships with others, adapt their language to convey intended messages and respond to verbal or nonverbal cues from listeners. Many spoken interactions involve randomly commenting on current events or transitioning between topics (Thornbury, 2005).

Personal best goals

PBGs in education take inspiration from sports contexts (Ali et al., 2022; Bandura, 1997; Martin, 2006). PBG focuses on self-evaluation, self-awareness, self-actualization, self-determination, and individuals' perseverance to achieve a personalized standard (Ramshe et al., 2019). Theoretically, PBG is closely connected to intrinsic motivation (Bandura, 1997; Deci & Ryan, 2008), self-efficacy skills (Martin, 2006), academic engagement (Martin &

Elliot, 2015), self-esteem (Martin, 2011), and academic well-being (Martin, 2014; Xu et al., 2022). As emphasized by Jahedizadeh et al. (2021), PBG delineates students' short-term and long-term objectives. When students have clear goals that align with educational aims, it ensures their well-being.

Various theories have been developed to capture the concept of PBGs, including Achievement Goal Theory, Goal-setting Theory, Self-determination Theory, and Self-concordance Model. Achievement Goal Theory, as defined by Martin and Liem (2010), identifies mastery and performance goals as the primary sources of individuals' goal orientation. Furthermore, the Self-Concordance Model (Sheldon & Elliot, 1999) emphasizes the self-referenced nature of growth goals, highlighting the balance between goals, personal values, and interests. Based on a growth-oriented approach, goal-setting theory focuses on students' efforts to accomplish their academic tasks (Locke & Latham, 2002). Another relevant theory is the Self-determination Theory proposed by Deci and Ryan (2008), which considers autonomy, relatedness, and competence as sources of autonomous and intrinsic motivation. Martin's (2006) proposed model aims to identify the key components of PBGs in the educational context.

The existing literature on students' PBGs reveals a strong connection between PBGs and academic engagement (Martin & Elliot, 2017), self-esteem (Martin, 2011), and academic achievement (Wu & Mok, 2017). Ramshe et al. (2019) provide evidence that PBG acts as a mediator in EFL learners' cognitive and emotional engagement. Similarly, Burns et al. (2018) conducted a longitudinal study to explore the relationship between PBGs, adaptability, and learners' academic well-being. Their findings indicate that teacher social support promotes adaptability and PBG formation, and PBGs are closely linked to learners' engagement and achievement. Additionally, Benlahcene et al. (2020) affirm the importance of PBGs in student engagement and autonomy. Their findings highlight that self-determination theory enhances PBGs and supports teacher autonomy in higher education.

Self-efficacy

Self-efficacy refers to individuals' self-assessment of their competence in completing specific tasks (Schunk, 1989). According to Bandura (2006), these beliefs about efficacy significantly influence individuals' actions, goal-setting, commitment, effort, and expectations regarding outcomes. Scholars in social cognitive theory emphasize the importance of self-efficacy beliefs in self-regulated learning. These beliefs serve as predictors of academic performance and can be developed through educational practices to enhance academic achievement (Zuffiano et al., 2013). The underlying assumption is that when students perceive themselves as competent and valuable, they are more likely to perform well and succeed (Panadero et al., 2017).

In a study by Bassi et al. (2007), students with high self-efficacy demonstrated greater academic aspirations and engagement than those with lower self-efficacy. They devoted

more time to homework and associated learning activities with positive experiences. As a result, self-efficacy beliefs play a crucial role in shaping students' motivation, emotional state, and behaviors in academic settings (Wong, 2005). While self-efficacy has long been studied in general education, it has only recently gained attention in second language acquisition. Similarly, another study (Mills et al., 2007) examined the language learning strategies and self-efficacy of graduate pre-service teachers in Malaysia. It found that those with higher self-efficacy reported using language learning strategies more frequently than those with lower self-efficacy.

The gap that exists in the literature revolves around the interplay of EI enhancement, self-efficacy, oral skills development, and PBGs among EFL learners within CALL. The literature highlights the significance of emotional factors, such as positive academic emotions, in enhancing learning effects and motivation among students. Additionally, self-efficacy, a key construct in social cognitive theory, influences learners' beliefs in their capabilities to succeed in language learning contexts. The review also emphasizes the importance of oral proficiency in language acquisition, underscoring the challenges EFL learners face in producing language proficiently despite formal education. Furthermore, PBGs, rooted in intrinsic motivation and self-efficacy, play a crucial role in students' academic engagement and achievement. By synthesizing these elements, the literature review explores how interventions targeting EI within CALL environments can impact oral proficiency, PBGs, and self-efficacy among EFL learners. Thus, the following research questions are addressed in this study:

1. How does EI enhancement in CALL affect EFL learners' oral skills?
2. Does EI enhancement in CALL affect EFL learners' PBGs?
3. Does EI enhancement in CALL affect EFL learners' self-efficacy?

Method

Design and Participants

This study employs a sequential explanatory mixed-methods approach to investigate the impact of EI enhancement interventions within CALL environments on EFL learners' oral skills, PBGs, and self-efficacy. This research design involves an initial quantitative phase, followed by a qualitative phase, to provide a more in-depth understanding of the phenomena (Creswell & Clark, 2017). The quantitative component will utilize pre- and posttest measures to assess the effects of the EI enhancement interventions on the target variables. The qualitative phase then explores the participants' experiences, perceptions, and perspectives through semi-structured interviews, allowing for a richer exploration of the underlying mechanisms and contextual factors. By integrating quantitative and qualitative data, this mixed-methods approach offers a comprehensive understanding of the interplay between EI, oral skills, PBGs, and self-efficacy in the CALL environment.

The study was conducted at a high school in Malaysia, focusing on two intact classes of grade 11 learners, each with 30 learners. The participants in this study ranged in age from 16 to 18 years old and were exclusively male learners. Malay was identified as the L1 spoken by all participants. Before the study, all learners underwent classification as pre-intermediate language learners using the Oxford Quick Placement Test (OQPT). This classification ensured consistent language proficiency among the participants, setting a baseline for the study's interventions and assessments.

Instruments

The present study employed a mixed-methods approach to data collection, utilizing semi-structured interviews to gather information about the participants' EI, oral skills, PBGs, and self-efficacy within the CALL environment.

Participants' oral proficiency was evaluated using the TOEFL Speaking Rubric, a standardized assessment tool developed by the Educational Testing Service (ETS). The research team was familiar with the TOEFL Speaking Rubric and its criteria for rating an individual's oral language skills. During the semi-structured interviews, the participants' responses were scored on a scale ranging from 0 to 30 based on their overall oral performance as assessed by the TOEFL Speaking Rubric. This comprehensive assessment approach allowed the researchers to evaluate the participants' oral skills within the CALL environment. The TOEFL Speaking Rubric has demonstrated strong reliability and validity in assessing oral language proficiency across various contexts (ETS, 2020).

To explore the participants' PBGs, the researchers conducted semi-structured interviews. The interview protocol was designed to elicit information about the participants' self-set goals, their strategies for achieving these goals, and the factors that influenced the formation and pursuit of their PBGs. The interview questions were informed by the conceptual framework of PBGs, as outlined in the existing literature (e.g., Martin, 2006; Sheldon & Elliot, 1999).

Participants' self-efficacy beliefs were examined through the semi-structured interviews. The interview questions focused on understanding the participants' perceptions of their competence and capabilities in the context of language learning and the factors that shaped their self-efficacy beliefs. The interview protocol was developed based on Bandura's (1997) social cognitive theory and the existing research on self-efficacy in language learning (e.g., Schunk, 1989; Zuffiano et al., 2013).

The semi-structured interviews also explored the participants' EI, focusing on their ability to perceive, understand, manage, and regulate emotions in language learning and the CALL environment. The interview questions were informed by the conceptual framework of trait EI (Petrides & Furnham, 2001) and the existing literature on the role of emotional factors in language acquisition (e.g., Brackett & Katulak, 2007; Pekrun & Linnenbrink-Garcia, 2012).

The CALL environment for the study was implemented using a web-based platform. The platform incorporated various interactive and multimedia-rich features, including language learning software, virtual simulations, online collaborative tools, and personalized feedback mechanisms. The CALL environment was tailored to support the delivery of the EI enhancement interventions and facilitate the assessment of the target variables (i.e., oral skills, PBGs, and self-efficacy) throughout the study.

Treatment

The experimental group received a series of EI enhancement interventions integrated into the CALL environment. These interventions were designed to target the various facets of EI, including self-awareness, self-regulation, motivation, empathy, and social skills. The EI enhancement activities were embedded within the CALL platform and included interactive exercises, multimedia-based content, and personalized feedback mechanisms. The EI enhancement interventions were developed based on established frameworks and strategies for improving EI, such as the RULER approach (Brackett et al., 2011) and the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (Mayer et al., 2002). The activities were tailored to the specific language learning context and aimed to help participants develop a better understanding of their own emotions and the emotions of their peers and language instructors.

Additionally, the interventions focused on equipping participants with strategies for regulating their emotions and using them effectively in language learning tasks and interactions. The experimental group participants engaged in EI-focused activities throughout the CALL sessions, such as emotion recognition exercises, empathy-building tasks, and conflict resolution scenarios. The CALL platform provided personalized feedback and guidance to support the participants' development of EI skills. The researchers closely monitored the implementation of the EI enhancement interventions to ensure fidelity and consistency across the experimental group.

The control group participated in the CALL program, but their instruction did not include any specific EI enhancement interventions. Instead, the control group received teacher-fronted lessons within the CALL environment, focusing on traditional language learning activities and content. The teacher in the control group did not pay any particular attention to the participants' EI or make any deliberate efforts to integrate EI-related components into the CALL lessons. The experimental and control groups had access to the same CALL platform and its general features, such as interactive exercises, multimedia resources, and collaborative tools. However, the key distinction was the inclusion of the targeted EI enhancement interventions for the experimental group, while the control group received standard CALL-based instruction without any explicit focus on EI development.

Data Analysis Procedures

This study's data analysis involved quantitative and qualitative methods to address the research questions.

To measure the effect of the treatment on the oral skills of the experimental and control groups, independent samples t-tests were conducted for each time interval (pretest and posttest). This statistical analysis allowed the researchers to determine if there were any significant differences in the oral proficiency scores between the two groups at the beginning and the end of the study.

The data gathered through the semi-structured interviews regarding the participants' PBGs and self-efficacy were manually transcribed. The researchers then thematically analyzed the interview transcripts to identify the key emerging themes and patterns. This qualitative approach enabled a deeper exploration of the participants' experiences, perceptions, and perspectives on developing their PBGs and self-efficacy within the CALL environment.

The thematic analysis involved several steps. First, the researchers familiarized themselves with the data by carefully reading and re-reading the interview transcripts. Next, they generated initial codes by identifying meaningful segments of the data. These codes were then collated into potential themes, which were reviewed and refined to ensure they accurately represented the data. Finally, the researchers defined and named the final themes, which were used to provide a comprehensive understanding of the participants' PBGs and self-efficacy in the context of the EI enhancement interventions within the CALL environment.

Results

The effect of EI enhancement in CALL on EFL learners' oral skills

A t-test was needed for each time interval to study the effect of EI enhancement in CALL on EFL learners' oral skills. However, before the t-test, a Kolmogorov-Smirnov Test substantiated the data normality on both occasions.

Table 1

One-Sample Kolmogorov-Smirnov Test

		Pretest	Posttest
N		60	60
Normal Parameters	Mean	4.333	9.100
	Std. Deviation	1.919	5.347
	Absolute	.156	.169
Most Extreme Differences	Positive	.156	.169
	Negative	-.136	-.140
Kolmogorov-Smirnov Z		1.211	1.312
Asymp. Sig. (2-tailed)		.106	.064

Table 1 shows that the data was normally distributed on both pretest and posttest ($p > .05$).

Table 2

Group Statistics on the Pretest

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pretest	Experimental	30	4.133	1.870	.341
	Control	30	4.533	1.978	.361

Table 2 indicates that on the pretest, the experimental group's performance ($N = 30$, $M = 4.133$, $SD = 1.870$) was similar to that of the control group ($N = 30$, $M = 4.533$, $SD = 1.978$).

Table 3

Independent Samples Test on the Pretest

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
Pretest	Equal variances assumed	.135	.714	-.805	58	.424	-.400	.497	-1.394	.594
	Equal variances not assumed			-.805	57.820	.424	-.400	.497	-1.395	.595

Table 3 demonstrates a nonsignificant difference between the two groups on the pretest ($t = -.805$, $df = 58$, $p > .05$).

Table 4

Group Statistics on the Posttest

	Group	N	Mean	Std. Deviation	Std. Error Mean
Posttest	Experimental	30	13.566	3.664	.668
	Control	30	4.633	1.865	.340

Based on Table 4, the experimental group ($N = 30$, $M = 13.566$, $SD = 3.664$) outperformed the control group ($N = 30$, $M = 4.633$, $SD = 1.865$) on the posttest of oral skills.

Table 5

Independent Samples Test on the Posttest

	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
Posttest	Equal variances assumed	5.516	.022	11.899	58	.000	8.933	.750	7.430	10.436
	Equal variances not assumed			11.899	43.092	.000	8.933	.750	7.419	10.447

Table 5 indicates a significant difference between the two groups on the posttest of oral skills ($t = 11.899$, $df = 43.092$, $p = .001$).

The effect of EI enhancement in CALL on EFL learners' PBGs

As mentioned earlier, to understand the impact of EI enhancement in CALL on EFL learners' PBGs, we ran a semi-structured interview with the participants in both experimental and control conditions.

The results of the semi-structured interviews with participants from the experimental group highlight several significant outcomes regarding the impact of EI enhancement in CALL on their PBGs. Participants consistently reported increased **awareness and focus** on their personal goals, largely attributed to the EI enhancement interventions embedded within the CALL environment. This heightened clarity enabled them to set specific, actionable targets to improve various language skills and communicative abilities. Moreover, the EI-focused activities fostered a strong sense of **self-motivation and perseverance**, with participants describing how these interventions empowered them to overcome challenges and setbacks in their language-learning journey. The strategies and skills acquired through these activities were frequently cited as key factors in maintaining their motivation and resilience.

Another important outcome was the **enhancement of self-efficacy** among the experimental group. Participants expressed greater confidence in their ability to progress and succeed in their language learning endeavors, which they directly linked to the supportive

and empowering nature of the EI enhancement interventions. This boost in self-efficacy was instrumental in helping them pursue their PBGs with a more positive and determined mindset. Additionally, participants emphasized the critical role of **social and emotional factors** in shaping their goals. They highlighted how the EI enhancement activities facilitated the development of empathy, collaboration, and interpersonal skills, enabling them to understand their peers better' and language instructors' perspectives and needs. This, in turn, helped them collaborate more effectively towards shared learning goals.

In contrast, participants from the control group, who were exposed to traditional CALL instruction without specific EI enhancement interventions, reported a different experience. While they set similar language learning goals, they encountered greater challenges in maintaining motivation and **perseverance**. Many participants expressed frustration and disengagement, attributed to a lack of personalized support and feedback within the traditional CALL environment. They struggled to stay focused on their PBGs, often feeling overwhelmed by the demands of language learning and competing priorities and distractions. Furthermore, participants noted a **limited emphasis on social and emotional factors** in their language learning experience, reporting that they felt less connected to their peers and instructors. The absence of opportunities for developing empathy, collaboration, and interpersonal skills was perceived as a significant barrier to achieving their goals.

These findings suggest that **EI enhancement in CALL environments** plays a crucial role in supporting EFL learners by fostering increased goal clarity, motivation, self-efficacy, and social-emotional competencies. In contrast, traditional CALL instruction without EI-focused interventions may have a limited impact on learners' ability to maintain motivation and achieve their PBGs, as it fails to address their social-emotional needs and provide the personalized support necessary for sustained engagement in language learning. Therefore, the study underscores the importance of integrating EI enhancement interventions into CALL environments to effectively support learners in setting and achieving meaningful language learning goals.

The effect of EI enhancement in CALL on EFL learners' self-efficacy

Like the second research question, a semi-structured interview was conducted to check the learners' self-efficacy due to EI enhancement in CALL.

The semi-structured interviews with participants from the experimental group revealed several key insights into the impact of Emotional Intelligence (EI) enhancement in Computer-Assisted Language Learning (CALL) on their self-efficacy. One of the most significant findings was the marked **improvement in participants' confidence and belief in their ability to succeed** in language learning tasks. They consistently described feeling more competent in their language skills, which was attributed to the strategies and skills

gained through the EI-focused exercises within the CALL environment. This increase in self-efficacy appeared to play a crucial role in their overall language learning progress.

Moreover, participants highlighted the critical role of **personalized feedback and guidance** provided within the CALL environment in bolstering their self-efficacy. They explained that the EI enhancement interventions helped them identify their strengths and areas for improvement, allowing them to receive constructive feedback tailored to their specific needs. This personalized support, coupled with developing effective strategies to overcome obstacles, was instrumental in helping them achieve their language learning goals. In addition to personalized feedback, participants emphasized the importance of **emotional regulation and resilience** in enhancing their self-efficacy. They described how EI-focused activities enabled them to manage stress better, cope with challenges, and maintain a positive mindset towards language learning. This emotional resilience contributed significantly to their confidence and belief in their abilities, making them feel more prepared to handle language learning demands.

In contrast, the semi-structured interviews with participants from the control group painted a different picture. Although they initially reported similar levels of self-efficacy, they faced greater challenges in maintaining their **confidence and belief in their abilities** over time. The lack of personalized support and feedback within the traditional CALL environment led to frustration and self-doubt. Participants often felt overwhelmed by language learning demands, struggling to sustain motivation and perseverance without targeted interventions to address their emotional and motivational needs. Additionally, they noted a **limited emphasis on emotional regulation and resilience**, leaving them ill-equipped to handle stress and setbacks. This lack of support negatively impacted their self-efficacy and hindered their ability to succeed in language learning tasks.

These findings suggest that traditional CALL instruction, without specific EI enhancement interventions, may have a limited impact on participants' self-efficacy. The absence of emotional and motivational support and a lack of personalized feedback appear to contribute to a decline in confidence and belief in their abilities over time. In contrast, EI enhancement in CALL environments positively influenced participants' self-efficacy by fostering **confidence, competence, and emotional resilience** and providing **personalized support and feedback** to sustain motivation and engagement.

Based on these findings, several key themes emerged. Participants consistently reported a notable increase in **confidence and belief in their abilities** following their engagement with EI enhancement interventions. They also highlighted the importance of **emotional regulation and resilience**, which helped them manage stress and maintain a positive mindset. Furthermore, personalized support and feedback were emphasized as a crucial factor in fostering their self-efficacy. Participants noted that their problem-solving skills and adaptability developed through EI-focused exercises enhanced their confidence in tackling

language learning challenges. Lastly, they underscored the significance of **social and collaborative learning experiences**, facilitated by EI enhancement interventions, in boosting their sense of competence and belief in their abilities to succeed in language learning endeavors.

In brief, these themes suggest that EI enhancement in CALL environments plays a vital role in supporting EFL learners' self-efficacy by promoting confidence, emotional regulation, resilience, problem-solving skills, adaptability, and providing personalized support and feedback. Additionally, the emphasis on social and collaborative learning experiences further contributes to developing self-efficacy in language learning.

Discussion

The present study investigated the impact of EI enhancement interventions within CALL environments on EFL learners' oral skills, PBGs, and self-efficacy. The findings from both quantitative and qualitative analyses provide valuable insights into the potential benefits of integrating EI-focused activities into CALL instruction for enhancing language learning outcomes and affective factors among EFL learners.

The quantitative results revealed a significant improvement in the oral skills of the experimental group, which received EI enhancement interventions, compared to the control group. This finding suggests that targeted interventions to develop EI skills, such as self-awareness, empathy, and emotional regulation, within the CALL environment can positively impact learners' oral proficiency.

Moreover, the qualitative findings shed light on how EI enhancement in CALL influenced participants' PBGs and self-efficacy. Participants in the experimental group reported increased goal clarity and focus, enhanced motivation and perseverance, improved self-efficacy, and better problem-solving skills and adaptability due to engaging with EI-focused activities within the CALL environment. These findings underscore the importance of addressing affective factors, such as motivation, self-efficacy, and emotional regulation, in language learning contexts to support learners' goal setting and attainment and enhance their overall language learning experience.

Furthermore, the qualitative results revealed differences in self-efficacy development between the experimental and control groups. Participants in the experimental group described feeling more confident, resilient, and capable of succeeding in language learning tasks than those in the control group. This suggests that EI enhancement interventions within the CALL environment may be crucial in fostering learners' self-efficacy by providing personalized support, feedback, and opportunities for emotional and social learning experiences.

Overall, the findings from this study highlight the potential of integrating EI enhancement interventions into CALL instruction to promote language learning outcomes and affective factors among EFL learners. By addressing learners' emotional and

motivational needs and providing personalized support and feedback, CALL environments enriched with EI-focused activities can create conducive learning environments that empower learners to achieve their language learning goals and develop essential life skills for success in diverse contexts.

This study contributes novelty to the field of language education by integrating EI enhancement interventions within CALL environments and examining their effects on EFL learners' oral skills, PBGs, and self-efficacy. This research fills a significant gap in the literature by investigating the nexus between EI and language learning outcomes within the context of CALL. While previous studies have explored the impact of EI on various aspects of language learning and teaching, few have specifically investigated the effectiveness of EI-focused interventions within technology-enhanced language learning environments. Our findings provide empirical evidence supporting the efficacy of integrating EI enhancement activities into CALL instruction for enhancing learners' oral proficiency, goal setting, and self-efficacy. This study contributes to a deeper understanding of the interplay between affective factors and language learning outcomes. It offers practical insights for educators and researchers seeking to leverage technology-mediated interventions to promote emotional well-being and academic success among language learners.

The findings of this study provide valuable insights into the intersection of EI, CALL, and various aspects of language acquisition, such as oral skills, PBGs, and self-efficacy, which are well-supported by the literature. As highlighted in the literature review, CALL has been recognized as an effective tool for enhancing language learning processes (Chapelle, 2001; Levy & Stockwell, 2006). Consistent with previous research (Golonka et al., 2014; Sauro, 2011), our study demonstrates the effectiveness of CALL in improving language skills, particularly oral proficiency. Integrating multimedia-rich environments and interactive learning experiences in CALL fosters learner engagement and motivation, aligning with the literature's emphasis on the benefits of technology-enhanced language learning (Beatty, 2013; Stockwell, 2007).

Moreover, our findings underscore the significance of Emotional Intelligence (EI) in language learning and academic success, as elucidated in the literature. Trait EI, characterized by the ability to comprehend and manage emotions, has been associated with various positive outcomes, including happiness, effective leadership, engagement in work, and academic achievement (Badri et al., 2021; Walter et al., 2011; Akhtar et al., 2015). Our study extends this literature by demonstrating the role of EI enhancement interventions within CALL environments in improving learners' oral skills, PBGs, and self-efficacy.

Furthermore, the literature review establishes the importance of PBGs in education, highlighting their connection to intrinsic motivation, academic engagement, and achievement (Martin & Elliot, 2015; Jahedizadeh et al., 2021). Consistent with these findings, our study reveals that EI enhancement interventions in CALL positively influence learners' PBGs,

fostering self-evaluation, self-awareness, and perseverance toward personalized goals. Additionally, the literature on self-efficacy emphasizes its role in shaping students' motivation, effort, and academic outcomes (Schunk, 1989; Bassi et al., 2007). Our findings corroborate these insights by demonstrating that EI enhancement in CALL environments enhances learners' self-efficacy beliefs, contributing to their academic aspirations and engagement.

Overall, this study bridges existing gaps in the literature by providing empirical evidence of the efficacy of integrating EI enhancement interventions within CALL environments for enhancing various aspects of language learning and academic development. By elucidating the complex interplay between affective factors, technology-mediated instruction, and language learning outcomes, our findings offer practical implications for educators and researchers seeking to optimize language learning experiences and promote students' emotional well-being and academic success.

Our findings have a lot of implications for language teachers, materials developers, syllabus designers, and policymakers. For language teachers, this study offers valuable insights into integrating EI enhancement interventions within CALL environments. The findings highlight the potential of incorporating interactive exercises, multimedia-based content, and personalized feedback mechanisms to develop learners' emotional awareness, regulation, and social skills. Language teachers can leverage these insights to design more engaging and effective instructional materials that focus on linguistic competencies and address learners' affective needs. Teachers can enhance student motivation, engagement, and overall learning outcomes by fostering a supportive learning environment that promotes emotional intelligence alongside language acquisition.

Materials developers can draw on the findings of this study to create innovative CALL resources that prioritize the development of learners' emotional intelligence and linguistic skills. By integrating EI-focused activities, such as emotion recognition exercises, empathy-building tasks, and conflict resolution scenarios, into language learning software and virtual simulations, materials developers can enhance the authenticity and relevance of CALL materials. Furthermore, by tailoring these resources to the specific needs and preferences of diverse learner populations, materials developers can ensure that CALL environments cater to individual differences in emotional expression, regulation, and social interaction, thereby maximizing their effectiveness in promoting language learning and emotional well-being.

Syllabus designers can use the insights from this study to inform the development of language curricula that incorporate explicit instruction in Emotional Intelligence within CALL contexts. By aligning syllabus objectives with the cultivation of emotional awareness, self-regulation, and interpersonal skills, syllabus designers can provide learners with opportunities to develop a holistic range of competencies essential for effective

communication and social interaction. Additionally, by integrating EI enhancement interventions across various language proficiency levels and skill areas, syllabus designers can ensure that learners receive consistent support for their emotional development throughout their language learning journey.

Policymakers in the field of education can benefit from the implications of this study by recognizing the importance of Emotional Intelligence in language learning and academic achievement. By advocating for integrating EI enhancement interventions within CALL environments in educational policy initiatives and funding priorities, policymakers can promote adopting evidence-based practices that enhance student well-being and academic success. Furthermore, policymakers can support initiatives to provide professional development opportunities for language teachers, materials developers, and syllabus designers to ensure they have the knowledge and skills necessary to implement EI-focused approaches in language education effectively. By prioritizing the holistic development of learners' emotional intelligence alongside academic competencies, policymakers can create inclusive and empowering learning environments that nurture students' socio-emotional growth and lifelong learning capabilities.

Conclusion

To summarize, this study has investigated the impact of EI enhancement interventions within CALL environments on EFL learners' oral skills, PBGs, and self-efficacy. The findings indicate that integrating EI-focused activities into CALL instruction can significantly improve learners' oral proficiency, PBGs, and self-efficacy. Specifically, the experimental group, which received targeted EI enhancement interventions, demonstrated superior performance on posttest measures compared to the control group. These results underscore the potential of leveraging technology-enhanced language learning environments to promote the holistic development of learners' emotional, cognitive, and interpersonal competencies.

Moreover, the study contributes to the existing literature by highlighting the interconnectedness of emotional factors, language learning outcomes, and learner motivation and engagement. By synthesizing insights from language education, psychology, and educational technology, this study offers a comprehensive understanding of the complex dynamics in CALL environments. Integrating EI enhancement interventions into CALL instruction represents a promising approach to addressing the affective dimensions of language learning and enhancing learners' overall learning experiences and outcomes.

This study has several limitations that should be acknowledged. Firstly, the sample size was relatively small and limited to male EFL learners from a single high school in Malaysia, which may affect the generalizability of the findings to other contexts and populations. Secondly, the duration of the intervention was limited, and a longer intervention period might yield more comprehensive insights into the long-term effects of EI enhancement

on language learning outcomes. Additionally, the study relied on self-reported data from semi-structured interviews, which may be subject to social desirability bias. Future research could address these limitations by including a larger and more diverse sample, extending the intervention duration, and employing additional objective EI and language proficiency measures. Moreover, exploring the impact of EI enhancement in CALL environments on other language skills, such as writing and listening, could provide a more holistic understanding of the benefits of integrating emotional intelligence into language learning. Finally, investigating the role of teacher training in effectively implementing EI-focused interventions in CALL environments would be valuable for informing educational practices and policy decisions.

All in all, future research should continue to explore the long-term effects of EI-focused interventions within CALL environments across diverse learner populations and educational contexts. Additionally, investigating the mechanisms underlying the observed improvements in oral skills, PBGs, and self-efficacy can provide valuable insights into how EI influences language learning and academic achievement. By advancing our understanding of the role of EI in language education, researchers, educators, and policymakers can work collaboratively to develop evidence-based practices that foster students' socio-emotional growth and facilitate their success in language learning and beyond.

References

- Akhtar, R., Boustani, L., Tsivrikos, D., & Chamorro-Premuzic, T. (2015). The engageable personality: Personality and trait EI as predictors of work engagement. *Personality and Individual Differences*, 73, 44-49. <https://doi.org/10.1016/j.paid.2014.08.040>
- Akhter, S., Haidov, R., Rana, A. M., & Qureshi, A. H. (2020). Exploring the significance of speaking skill for EFL learners. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(9), 6019-6030. [View of EXPLORING THE SIGNIFICANCE OF SPEAKING SKILL FOR EFL LEARNERS \(palarch.nl\)](https://doi.org/10.1016/j.paid.2014.08.040)
- Ali, Z., Palpanadan, S. T., Asad, M. M., Churi, P., & Namaziandost, E. (2022). Reading approaches practiced in EFL classrooms: a narrative review and research agenda. *Asian-Pacific Journal of Second and Foreign Language Education*, 7(1). <https://doi.org/10.1186/s40862-022-00155-4>
- Badri, S. K. Z., Kong, M. Y., Wan Mohd Yunus, W. M. A., Nordin, N. A., & Yap, W. M. (2021). Trait emotional intelligence and happiness of young adults: the mediating role of perfectionism. *International Journal of Environmental Research and Public Health*, 18(20), 10800. <https://doi.org/10.3390/ijerph182010800>
- Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-efficacy beliefs of adolescents*, 5(1), 307-337. [Self-Efficacy Beliefs of Adolescents - Google Books](https://doi.org/10.3390/ijerph182010800)

- Bandura, A. (2011). A social cognitive perspective on positive psychology. *International Journal of Social Psychology*, 26(1), 7-20. <https://doi.org/10.1174/021347411794078444>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman and Company.
- Bassi, M., Steca, P., Fave, A. D., & Caprara, G. V. (2007). Academic self-efficacy beliefs and quality of experience in learning. *Journal of Youth and Adolescence*, 36, 301-312. <https://doi.org/10.1007/s10964-006-9069-y>
- Beatty, K. (2013). *Teaching & researching: Computer-assisted language learning*. Routledge. <https://doi.org/10.4324/9781315833774>
- Benlahcene, A., Awang-Hashim, R., & Kaur, A. (2020). Personal best goals: Do they mediate the relationship between teacher autonomy support and student engagement? *Malaysian Journal of Learning and Instruction*, 17(1), 25-49. <http://files.eric.ed.gov/fulltext/EJ1248970.pdf>
- Blake, R. J. (2013). *Brave new digital classroom: Technology and foreign language learning*. Georgetown University Press. [Brave New Digital Classroom: Technology and Foreign Language Learning ... - Robert J. Blake - Google Books](#)
- Brackett, M. A., & Katulak, N. A. (2013). Emotional intelligence in the classroom: Skill-based training for teachers and students. In J. Ciarrochi & J. D. Mayer (Eds.), *Applying emotional intelligence* (pp. 1-27). Psychology Press. [Emotional Intelligence in the Classroom: Skill-Based Training for Teac \(taylorfrancis.com\)](#)
- Brackett, M. A., Rivers, S. E., & Salovey, P. (2011). Emotional intelligence: Implications for personal, social, academic, and workplace success. *Social and Personality Psychology Compass*, 5(1), 88-103. <https://doi.org/10.1111/j.1751-9004.2010.00334.x>
- Burns, E. C., Martin, A. J., & Collie, R. J. (2018). Adaptability, personal best (PB) goals setting, and gains in students' academic outcomes: a longitudinal examination from a social cognitive perspective. *Contemporary Educational Psychology*, 53, 57-72. <https://doi.org/10.1016/j.cedpsych.2018.02.001>
- Burns, A., & Joyce, H. (1997). *Focus on speaking*. National Center for English Language Teaching and Research. [Focus on Speaking - Anne Burns, Helen Joyce - Google Books](#)
- Chapelle, C. A. (2001). *Computer applications in second language acquisition*. Cambridge University Press. [Computer Applications in Second Language Acquisition - Carol A. Chapelle - Google Books](#)
- Ciarrochi, J., & Scott, G. (2006). The link between emotional competence and well-being: A longitudinal study. *British Journal of Guidance & Counselling*, 34(2), 231-243. <https://doi.org/10.1080/03069880600583287>

- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.
- Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian psychology/Psychologie canadienne*, 49(1), 14-23. [2008 DeciRyan CanPsy Eng.pdf \(selfdeterminationtheory.org\)](#)
- Dewaele, J. M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching*, 4(2), 237-274. [CEEOL - Article Detail](#)
- Di Fabio, A., & Kenny, M. E. (2016). Promoting well-being: The contribution of emotional intelligence. *Frontiers in Psychology*, 7, 211375. <https://doi.org/10.3389/fpsyg.2016.01182>
- Di Fabio, A., & Saklofske, D. H. (2014). Promoting individual resources: The challenge of trait emotional intelligence. *Personality and Individual Differences*, 65, 19-23. <https://doi.org/10.1016/j.paid.2014.01.026>
- ETS. (2020). *TOEFL speaking rubric*. Educational Testing Service. <https://www.ets.org/toefl/test-takers/ibt/about/content/speaking-section>
- Godwin-Jones, R. (2014). Emerging technologies: Autonomy and learning in language learning. *Language Learning & Technology*, 18(1), 20–32. https://scholarspace.manoa.hawaii.edu/bitstream/10125/44363/1/18_02_emerging.pdf
- Folse, K. S. (2006). *The art of teaching speaking: Research and pedagogy for the ESL/EFL classroom*. University of Michigan Press. [The Art of Teaching Speaking: Research and Pedagogy for the ESL/EFL Classroom - Keith S. Folse - Google Books](#)
- Han, Y., & Wang, Y. (2021). Investigating the correlation among Chinese EFL teachers' self-efficacy, work engagement, and reflection. *Frontiers in Psychology*, 12, 763234. <https://doi.org/10.3389/fpsyg.2021.763234>
- Huang, H., Liu, L., Yang, S., Cui, X., Zhang, J., & Wu, H. (2019). Effects of job conditions, occupational stress, and emotional intelligence on chronic fatigue among Chinese nurses: a cross-sectional study. *Psychology Research and Behavior Management*, 12, 351-360. [Effects of job conditions, occupational stress, and emotional intelligence on chronic fatigue among Chinese nurses: a cross-sectional study \(tandfonline.com\)](#)
- Jahedizadeh, S., Ghonsooly, B., & Ghanizadeh, A. (2021). A model of language students' sustained flow, personal best, buoyancy, evaluation apprehension, and academic achievement. *Porta Linguarum*, 35, 257-275. <https://doi.org/10.30827/portalin.v0i35.15755>
- Lai, C. C., & Kritsonis, W. A. (2006). The advantages and disadvantages of computer technology in second language acquisition. *Online Submission*, 3(1), 1-6. <https://files.eric.ed.gov/fulltext/ED492159.pdf>

- Levy, M., & Stockwell, G. (2006). *CALL dimensions: Options and issues in computer-assisted language learning*. Routledge. <https://doi.org/10.4324/9780203708200>
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation. *American Psychologist*, 57(9), 705–717. <https://psycnet.apa.org/doi/10.1037/0003-066X.57.9.705>
- Martin, A. J. (2006). Personal bests (PBs): A proposed multidimensional model and empirical analysis. *British Journal of Educational Psychology*, 76(4), 803-825. <https://doi.org/10.1348/000709905X55389>
- Martin, A. J. (2011). Personal best (PB) approaches to academic development: Implications for motivation and assessment. *Educational Practice and Theory*, 33(1), 93-99. <https://doi.org/10.7459/ept/33.1.07>
- Martin, A. J. (2014). Academic buoyancy and academic outcomes: Towards a further understanding of students with attention-deficit/hyperactivity disorder (ADHD), students without ADHD, and academic buoyancy itself. *British Journal of Educational Psychology*, 84(1), 86-107. <https://doi.org/10.1111/bjep.12007>
- Martin, A. J., & Elliot, A. J. (2016). The role of personal best (PB) and dichotomous achievement goals in students' academic motivation and engagement: A longitudinal investigation. *Educational Psychology*, 36(7), 1285-1302. <https://doi.org/10.1080/01443410.2015.1093606>
- Martin, A. J., & Liem, G. A. D. (2010). Academic personal bests (PBs), engagement, and achievement: A cross-lagged panel analysis. *Learning and Individual Differences*, 20(3), 265-270. <https://doi.org/10.1016/j.lindif.2010.01.001>
- Martin, A. J., & Marsh, H. W. (2009). Academic resilience and academic buoyancy: Multidimensional and hierarchical conceptual framing of causes, correlates and cognate constructs. *Oxford Review of Education*, 35(3), 353-370. <https://doi.org/10.1080/03054980902934639>
- Martins, A., Ramalho, N., & Morin, E. (2010). A comprehensive meta-analysis of the relationship between emotional intelligence and health. *Personality and Individual Differences*, 49(6), 554-564. <https://doi.org/10.1016/j.paid.2010.05.029>
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) user's manual*. Multi-Health Systems. "[Mayer-Salovey-Caruso Emotional Intelligence Test \(MSCEIT\) Users Manual](#)" by John D. Mayer, Peter Salovey et al. (unh.edu)
- Mikolajczak, M., Nelis, D., Hansenne, M., & Quoidbach, J. (2008). If you can regulate sadness, you can probably regulate shame: Associations between trait emotional intelligence, emotion regulation and coping efficiency across discrete emotions. *Personality and Individual Differences*, 44(6), 1356-1368. <https://doi.org/10.1016/j.paid.2007.12.004>

- Mills, N., Pajares, F., & Herron, C. (2007). Self-efficacy of college intermediate French students: Relation to achievement and motivation. *Language Learning*, 57(3), 417-442. <https://doi.org/10.1111/j.1467-9922.2007.00421.x>
- Namaziandost, E., & Çakmak, F. (2020). An account of EFL learners' self-efficacy and gender in the Flipped Classroom Model. *Education and Information Technologies*, 25, 4041–4055. <https://doi.org/10.1007/s10639-020-10167-7>
- Pajares, F. (1997). Current directions in self-efficacy research. *Advances in Motivation and Achievement*, 10(149), 1-49. pajares-current-directions-in-self-efficacy-research.pdf (wordpress.com)
- Panadero, E., Jonsson, A., & Botella, J. (2017). Effects of self-assessment on self-regulated learning and self-efficacy: Four meta-analyses. *Educational Research Review*, 22, 74-98. <https://doi.org/10.1016/j.edurev.2017.08.004>
- Pekrun, R., Linnenbrink-Garcia, L. (2012). Academic emotions and student engagement. In: Christenson, S., Reschly, A., Wylie, C. (eds) *Handbook of research on student engagement*. Springer. https://doi.org/10.1007/978-1-4614-2018-7_12
- Petrides, K. V. (2010). Trait emotional intelligence theory. *Industrial and Organizational Psychology*, 3(2), 136-139. iops_1213.dvi (psychometriclab.com)
- Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality*, 15(6), 425-448. <https://doi.org/10.1002/per.416>
- Ramshe, M. H., Ghazanfari, M., & Ghonsooly, B. (2019). The role of personal best goals in EFL learners' behavioural, cognitive, and emotional engagement. *International Journal of Instruction*, 12(1), 1627-1638. <http://files.eric.ed.gov/fulltext/EJ1201379.pdf>
- Reinders, H., & White, C. (2016). 20 years of autonomy and technology: How far have we come and where to next? *Language Learning & Technology*, 20(2), 143–154. https://scholarspace.manoa.hawaii.edu/bitstream/10125/44466/1/20_02_reinderswhite.pdf
- Rezaei, A., & Namaziandost, E. (2022). Is Iranian university students' computer self-efficacy a strong contributor to learning anxiety? a mixed-methods investigation. *Iranian Journal of Learning and Memory*, 5(19), 27-40. doi: 10.22034/iepa.2022.167717
- Sauro, S. (2011). SCMC for SLA: A research synthesis. *CALICO Journal*, 28(2), 369-391. <http://www.jstor.org/stable/calicojournal.28.2.369>
- Schunk, D. H. (1989). Self-efficacy and achievement behaviors. *Educational Psychology Review*, 1, 173-208. <https://doi.org/10.1007/BF01320134>
- Schutte, N. S., & Loi, N. M. (2014). Connections between emotional intelligence and workplace flourishing. *Personality and Individual Differences*, 66, 134-139. <https://doi.org/10.1016/j.paid.2014.03.031>

- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: the self-concordance model. *Journal of Personality and Social Psychology*, 76(3), 482–497. http://selfdeterminationtheory.org/SDT/documents/1999_SheldonElliot.pdf
- Stockwell, G. (2007). A review of technology choice for teaching language skills and areas in the CALL literature. *ReCALL*, 19(2), 105-120. <https://doi.org/10.1017/S0958344007000225>
- Tahir, S. Z. A. (2015). Improving students' speaking skill through Yahoo messenger at University of Iqra Buru. *International Journal of Language and Linguistics*, 3(3), 174-181. [10.11648.j.ijll.20150303.20-libre.pdf](https://doi.org/10.11648/j.ijll.20150303.20-libre.pdf) (d1wqtxts1xzle7.cloudfront.net)
- Thompson, K. V., & Verdino, J. (2019). An exploratory study of self-efficacy in community college students. *Community College Journal of Research and Practice*, 43(6), 476-479. <https://doi.org/10.1080/10668926.2018.1504701>
- Thornbury, S. (2005). *How to teach speaking*. Longman.
- Vandergrift, L. (2005). Relationships among motivation orientations, metacognitive awareness and proficiency in L2 listening. *Applied Linguistics*, 26(1), 70-89. <https://doi.org/10.1093/applin/amh039>
- Van Dinther, M., Dochy, F., & Segers, M. (2011). Factors affecting students' self-efficacy in higher education. *Educational Research Review*, 6(2), 95-108. <https://doi.org/10.1016/j.edurev.2010.10.003>
- Vernon, P. A., Villani, V. C., Schermer, J. A., & Petrides, K. (2008). Phenotypic and genetic associations between the Big Five and trait emotional intelligence. *Twin Research and Human Genetics*, 11(5), 524-530. <https://doi.org/10.1375/twin.11.5.524>
- Walter, F., Cole, M. S., & Humphrey, R. H. (2011). Emotional intelligence: Sine qua non of leadership or folderol?. *Academy of Management Perspectives*, 25(1), 45-59. <https://doi.org/10.5465/amp.25.1.45>
- Wong, M. S. L. (2005). Language learning strategies and language self-efficacy: Investigating the relationship in Malaysia. *RELC Journal*, 36(3), 245-269. <https://doi.org/10.1177/0033688205060050>
- Wu, G. K. Y., & Mok, M. M. C. (2017). Social and emotional learning and personal best goals in Hong Kong. In E. Frydenberg, A. J. Martin, & R. J. Collie (Eds.), *Social and emotional learning in Australia and the Asia-Pacific: Perspectives, programs and approaches*, (pp. 219–231). Springer Singapore. https://doi.org/10.1007/978-981-10-3394-0_12
- Xu, L., Naserpour, A., Rezai, A., Namaziandost, E., & Azizi, Z. (2022). Exploring EFL learners' metaphorical conceptions of language learning: a multimodal analysis. *Journal of Psycholinguistic Research*, 51(2), 323-339. <https://doi.org/10.1007/s10936-022-09842-2>

Zuffianò, A., Alessandri, G., Gerbino, M., Kanacri, B. P. L., Di Giunta, L., Milioni, M., & Caprara, G. V. (2013). Academic achievement: The unique contribution of self-efficacy beliefs in self-regulated learning beyond intelligence, personality traits, and self-esteem. *Learning and Individual Differences*, 23, 158-162.
<https://doi.org/10.1016/j.lindif.2012.07.010>