



The Role of Self-assessment and Critical Thinking to Iranian EFL Students' Self-esteem and Student Engagement in Schools

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ARTICLE INFO

Article history:

Received:

14/02/2025

Accepted:

17/06/2024

Available online:

Summer 2025

Keyword:

Student
engagement,
Critical thinking,
School, Self-
assessment, Self-
esteem

Abstract

The present study investigated the role of self-assessment and critical thinking in the engagement of Iranian EFL students in school and their self-esteem, taking gender into account. For this purpose, 100 male and female Iranian EFL students were selected through convenience sampling. The data were collected by the Core of Self-assessment Questionnaire, Watson-Glasser critical thinking evaluation form, the Student Engagement Scale, and the Foreign Language Learning Self-Esteem Scale. The obtained data were analyzed by standard multiple regression. The findings revealed that self-assessment predicted student engagement and self-esteem, with no significant effect of gender. Besides, student engagement in school was predicted by inference and interpretation components of critical thinking. For male participants, inference and evaluation components predicted student engagement, while for female participants, the interpretation component predicted student engagement. Finally, self-esteem was predicted by making deductions and interpretations. Regarding gender, the deduction and interpretation components predicted self-esteem in male participants, while the interpretation component predicted self-esteem in female participants. These findings suggest that fostering self-assessment and critical thinking skills in male and female EFL students can enhance their engagement and self-esteem. Therefore, educators can adopt gender-sensitive approaches to support all students, addressing the unique influences on students' engagement and self-esteem.

Sadeghifard, M. & Karimi, F. (2025). The Role of Self-assessment and Critical Thinking to Iranian EFL Students' Self-esteem and Student Engagement in Schools, *Journal of School Administration*, 13(2), 45-64.

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Introduction

Self-assessment, as a modern educational tool, enables students to evaluate their own performance. This method not only involves the student evaluating himself, but it is sometimes also conducted by his peers (Sloan & Scharff, 2022). Research has shown that, when properly designed, assessment systems can have a positive impact on the learning process. This process, particularly in students, enhances self-awareness and fosters motivation for academic progress (Papanthymou & Darra, 2019). In the context of educational management, implementing effective self-assessment practices requires strategic planning and organizational support to ensure these tools are embedded into the curriculum and assessment policies (Ruben et al., 2007). Self-assessment enables students to examine their academic performance more closely and assume greater responsibility for their learning. It enables students to correct and improve their performance by receiving feedback from professors and generating self-feedback (Ismail & Heydarnejad, 2023). Therefore, educational administrators and policymakers play a critical role in fostering environments that promote self-assessment as a means of enhancing student-centered learning and overall educational quality (Mat & Jamaludin, 2024). Self-assessment is learners' reflection on their work (Sloan & Scharff, 2022).

Gardener (2016) states that using self-assessment lets learners control their language learning. It also allows learners to provide feedback on their work and assess their learning process, and provides criteria for students to reflect on their work. This highlights the importance of leadership in educational management to develop frameworks that facilitate reflective practices and self-regulation among students (OECD, 2019). According to this statement, self-assessment paves the way for teachers to support their learners more effectively where needed. By paying attention to learners' reflections, instructors recognize their weaknesses and provide them with additional practice in areas of difficulty (Guskey, 2003). Javaherbakhsh (2010) asserts that students must gain knowledge about their abilities, the nature of their learning, and the evaluation of their development; otherwise, they cannot effectively implement the skills they have learned (Black & Wiliam, 2009).

On the other hand, critical thinking is the ability to analyze facts, generate and organize ideas, defend opinions, make comparisons, draw inferences, evaluate arguments, and solve problems (Bağ & Gürsoy, 2021). Educational management strategies should prioritize developing critical thinking skills through curriculum design, teacher training, and assessment policies to produce independent and innovative learners (Facione,

2013). Mayer and Goodchild (1990) describe critical thinking as an engaged and methodical process aimed at comprehending and assessing arguments. According to Peter (2012), it is defined as a rigorously disciplined cognitive process of deliberately and adeptly conceptualizing, implementing, scrutinizing, synthesizing, and/or appraising information that is either acquired through or produced by observation, experiential learning, introspection, reasoning, or interpersonal communication, serving as a foundation for belief and subsequent action. As stated by Elder and Paul (1997), "critical thinking is best understood as the ability of thinkers to take charge of their thinking. This requires that they develop sound criteria and standards for analyzing and assessing their thinking and routinely use those criteria and standards to improve their quality" (p. 64). Educational institutions and policymakers can foster critical thinking by promoting a culture of inquiry and supporting pedagogical approaches that encourage higher-order thinking (Andi et al., 2025).

Critical thinking also helps to increase creativity and innovation in students. By encouraging students to examine issues from different angles and challenge existing assumptions, this skill provides the context for new ideas and creative solutions (Pang, 2022). This will be highly valuable not only in the educational environment but also in the students' future careers. Thus, critical thinking helps students improve their communication skills. They learn how to express their opinions logically, listen to diverse viewpoints, and participate in constructive discussions (Bailin et al., 1999). These skills will be essential in the educational environment and in their personal and professional life.

In addition, engagement is considered a significant predictor of learning, improved functioning, positive expectations of potential, and longstanding educational achievement, as well as quality of inclinations and socialization (Furrer & Skinner, 2003). Educational management plays a pivotal role in designing learning environments that enhance student engagement through effective learning space design, extracurricular activities, and support services, ultimately leading to improved academic outcomes and student well-being (Skinner & Pitzer, 2012). Student engagement in educational processes helps improve learning and increase academic performance and has been instrumental in strengthening self-confidence and positive expectations of their abilities (Sadoughi & Hejazi, 2021). In general, students' engagement has been considered an essential dimension of the level and quality of their learning. This engagement is vital in improving their academic performance, persistence against dropping out, and personal and cognitive development. In other words, students' engagement with

the educational environment and learning process significantly affects their current academic performance. Additionally, students' engagement with the school environment and their teammates has a positive impact on learning and academic success. These engagements encompass various types of engagement, including cognitive engagement (e.g., focus and academic thinking), affective engagement (e.g., feeling connected to the academic environment), and behavioral engagement (e.g., attending classes and participating in school activities) (Ben-Eliahu et al., 2018).

Self-esteem is another crucial factor influencing language learning. Individuals with high self-esteem tend to have the most effective form of communication and interaction. Instead, an individual with a low level of self-esteem often struggles with acceptable communication (Gultom & Oktaviani, 2022). Educational leadership and policy should address self-esteem as part of broader student development initiatives, utilizing counseling, mentoring, and supportive teaching strategies to foster a positive self-view (Zimmerman & Schunk, 2011). Bandura's self-esteem component of social cognitive theory describes how self-perceptions regarding the capability to perform specific tasks strongly influence one's engagement in and successful completion of a task (Klassen, 2002). Based on the self-esteem theory, individuals who do not believe in their skills and capacities tend to avoid engaging in tasks that require them, while those who believe in their abilities do not give up when faced with difficulties. As stated by Bandura (1986), "If self-efficacy is lacking, people tend to behave ineffectually, even though they know what to do" (p. 425). Jado (2015) articulated self-esteem as the comprehensive self-assessment of an individual's cognitive, social, emotional, ethical, and physical attributes. This concept manifests in a person's self-assurance and perceptions regarding their significance, value, and anticipations as evident in diverse life contexts (Rosenberg, 1965).

Conversely, an absence of awareness concerning one's capabilities culminates in erroneous self-evaluation. Such inaccurate self-evaluation considerably undermines an individual's positive self-concept, given that one's sentiments and emotions towards oneself are instrumental in fostering either a robust, unique personality or detrimental negativity. Educational management strategies should incorporate programs that boost self-esteem, such as student mentorship and positive reinforcement initiatives, to support holistic student development (Colley, 2015). Consequently, an individual's contributions and productivity are influenced, either positively or negatively, by their self-esteem. Self-esteem constitutes a fundamental element for individuals as it serves as a

crucial determinant of self-assertion. Furthermore, self-esteem is instrumental in the development of a normative personality, which subsequently facilitates both practical and creative achievements (Murad, 2021). Numerous factors can exert either positive or negative influences on self-development, including demographic variables such as gender, age, specialization, and cultural disparities.

Moreover, despite the significance of this issue, insufficient research has been conducted on the role of critical thinking and self-assessment in enhancing the engagement and self-esteem of Iranian EFL students. Educational management must prioritize research initiatives and professional development programs that explore these areas to inform evidence-based policies aimed at improving language learning outcomes and student well-being (Sadeghi & Ganji, 2020). This lack of research can be attributed to several factors that require further examination and analysis. First, teaching methods in English language classes in Iran often focus on traditional approaches and memorization, which do not provide enough opportunities to develop self-assessment and critical thinking skills. These traditional approaches may prevent students from utilizing these vital learning tools, resulting in less research in this area. Secondly, the lack of resources and infrastructure necessary to conduct comprehensive and applied research in this field may be another reason for not paying sufficient attention to this issue. Effective educational management involves allocating resources and creating policies that support innovative research to address these gaps (Vanderlinde & Van Braak, 2010). Considering these issues, educational researchers and policymakers must recognize the importance and positive impact of self-assessment and critical thinking on the engagement and self-esteem of EFL students, and conduct more comprehensive research in this field. This research can help identify more effective teaching methods and enhance the quality of English learning in Iran. Paying attention to this issue will not only lead to increased student engagement and self-esteem but it can also contribute to the overall development of the educational system and enhance the capabilities of Iranian students at the international level (Sadeghi & Ganji, 2020).

Literature Review

As the present study investigated the role of self-assessment and critical thinking in enhancing Iranian EFL students' engagement in language school and self-esteem, taking gender into account, it is crucial to present the theories and related studies that underpin the study's key elements. The two independent variables are

discussed in a single section, and they are presented under a single heading.

Self-Assessment and Critical Thinking

Birjandi and Hadidi Tamjid (2010) state that self-assessment is a process in which a person evaluates their strengths and weaknesses by reflecting on their activities, performances, and achievements. This process is typically used to identify opportunities for improvement and determine individual development paths. Moreover, self-assessment can be applied in various fields, including education, professional, personal, and even social contexts. Self-assessment as a new method of assessment refines the shortcomings of the traditional method (Blandul & Bradea, 2023). Heidarian (2016, p. 63) noted that the traditional method overlooks the role of students themselves as a valuable source of information. Self-assessment provides us with valuable information about students' expectations and needs, as well as their problems and worries.

From an educational management perspective, fostering self-assessment among students empowers them to take ownership of their learning and development, reducing the burden on educators for continuous, exhaustive evaluation. This aligns with modern educational leadership principles that advocate for student-centered learning and the development of autonomous learners (Fullan, 2016). Furthermore, by providing valuable insights into student needs and challenges, self-assessment can inform curriculum development and pedagogical strategies at an institutional level, leading to more responsive and effective educational programs (Darling-Hammond et al., 2017).

Regarding critical thinking, Yaki (2022) elucidates that critical thinking constitutes the capacity to regulate one's cognitive processes, which encompasses the activities of accessing, analyzing, and appraising the efficacy of thought based on logical principles. Consequently, the fundamental aim of critical thinking is to equip learners with the capability to expand their knowledge base and assume accountability for their educational journey. Agustini and Suyatna (2018) conceptualized critical thinking as one of the most inventive methodologies for processing, interpreting, and inferring information. It guarantees the identification of novel, accessible, practical, and, fundamentally, innovative solutions that are substantiated by reason, logic, and factual information to address complex issues. The same authors further assert that critical thinkers are indispensable across all dimensions of human existence. They have facilitated enhancements in our lives, offering comfort, efficiency, and convenience. This implies that the greater the

number of critical thinkers within a society, the more it is characterized by innovations, inventions, and suitable solutions to challenges, thereby enabling its populace to receive superior services as they consider all potential ramifications and consistently strive to identify, construct, and evaluate claims, thus coming up with creative ideas. In short, critical thinking reflects people's ideas, principles, and beliefs.

In educational management, cultivating critical thinking skills is crucial for preparing students to navigate complex real-world problems and make meaningful contributions to society (Wagner, 2010). Educational leaders must design curricula and implement teaching methodologies that actively promote critical inquiry, problem-solving, and analytical reasoning, moving beyond rote memorization (Senge, 2005). This not only enhances individual student capabilities but also contributes to the development of a more innovative and adaptable workforce, a key objective for educational systems globally.

Riswanto et al. (2022) explored a structural model of EFL university students' self-assessment, self-esteem, and critical thinking. The results revealed that students with high levels of self-assessment participated more and could increase their self-esteem. Besides, the effectual role of critical thinking in enhancing student engagement and self-esteem was also verified. These findings are highly relevant to educational management as they suggest a synergistic relationship between self-assessment, critical thinking, and positive student outcomes. Educational administrators can leverage this understanding by implementing programs that integrate self-assessment practices and critical thinking exercises, recognizing that these contribute not only to academic achievement but also to students' overall well-being and engagement (Hattie, 2008).

Student Engagement and Self-Esteem

Student engagement is conceptualized as a significant collaborative dynamic within the educational environment, which highlights the interconnections among students, educators, peers, institutions, pedagogical practices, syllabi, and curricula (Bui et al., 2021). Due to the critical significance of student engagement in enhancing learning outcomes (Carver et al., 2021), motivating students to participate actively in the educational process has consistently been a focal point for educators across diverse academic settings. Student engagement is defined as "one's tendency to be behaviorally, emotionally, and cognitively involved in academic activities" (Sharkey et al., 2008, p. 404). Wang et al. (2011) posited that student engagement is associated with elevated achievement, ongoing progress, and educational success primarily because engaged

students exhibit greater perseverance and dedication in navigating various stages of learning. Consequently, it is imperative to identify both internal (i.e., student-related factors) and external factors (teacher-related factors, context-related factors) that can effectively forecast students' engagement within instructional learning environments.

For educational management, understanding and fostering student engagement are core responsibilities. Administrators and policymakers must create institutional cultures and allocate resources that prioritize student involvement and collaboration (Kuh et al., 2006). This includes developing policies that encourage innovative pedagogical approaches, supporting professional development for educators in engagement strategies, and designing learning environments that foster active participation (Bryk, 2010).

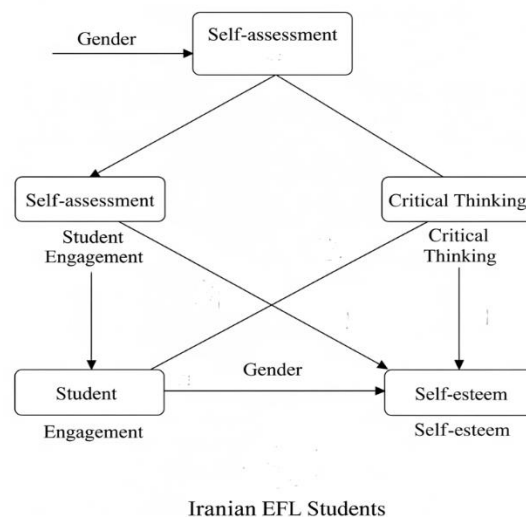
Self-esteem, the second dependent variable in this study, refers to an individual's personal judgment of their worthiness, as expressed in their attitudes toward themselves (Hui et al., 2018). Thus, self-esteem is an attitude about the self and is related to personal beliefs about skills, abilities, social relationships, and future outcomes. People experience an emotional response as they contemplate and evaluate various aspects of themselves (Krueger, 2014). Consequently, it is imperative to prioritize the enhancement of self-esteem prior to instructional sessions, as it is posited that an elevation in self-esteem will yield concomitant improvements in academic performance. This implies that students exhibiting suboptimal academic outcomes are also predisposed to experience diminished self-esteem. Enhanced self-esteem significantly alleviates

the anxiety associated with the English language, thereby fostering a conducive environment for effective English language acquisition. Children possessing a robust sense of self-esteem engage in communication that is open, articulate, and affirmative. They demonstrate a high level of confidence in executing tasks and adeptly navigating various challenges (Pellas, 2014).

From an educational management perspective, recognizing the profound impact of self-esteem on academic success and overall student well-being is crucial. Educational leaders should implement strategies that support students' emotional and psychological development, such as fostering positive teacher-student relationships, promoting inclusive learning environments, and providing opportunities for students to experience success and mastery (Dweck, 2006). Investing in programs that build self-esteem can lead to improved academic outcomes, reduced behavioral issues, and a more positive school climate, ultimately contributing to the effectiveness of the educational institution (Elias et al., 1997).

Zhao et al. (2021) investigated academic engagement and self-esteem of adolescents. The results indicate that self-esteem has a positive influence on academic engagement, which is mediated by academic self-efficacy. Reviewing the literature revealed that no similar study has yet been conducted on the role of self-assessment and critical thinking in the engagement of Iranian EFL students in language school and their self-esteem, taking gender into account. Based on the explanations provided in the previous section, a theoretical model was developed for this study.

Figure 1. Theoretical Model of the Study



Therefore, the following questions were posed for the present study.

1. Does Iranian EFL students' self-assessment predict their student engagement? Does gender make any difference?
2. Does Iranian EFL students' self-assessment predict their self-esteem? Does gender make any difference?
3. Does Iranian EFL students' critical thinking predict their student engagement? Does gender make any difference?
4. Does Iranian EFL students' critical thinking predict their self-esteem? Does gender make any difference?

Method

Participants

The participants included 100 male and female Iranian EFL senior high school students (50 male and 50 female students) selected through convenience sampling from Zavareh schools. This gender diversity allowed the research to consider possible differences between the two gender groups and to analyze the respective effects. The mother tongue of all participants was Farsi. This was important because all the students shared a similar language background, allowing the effects of the research variables to be investigated more effectively. All participants were 17 years old and were in twelfth grade.

Instruments

The Core of Self-assessment Questionnaire (CSAQ)

CSAQ was used to investigate the level of EFL students' CSA. This instrument was developed by Judge et al. (2003) with 12 items on a five-point Likert scale. The range of obtained scores was from 12 to 60. High scores reflect high self-assessment, while low scores indicate low self-assessment. CSAQ reliability, estimated by Cronbach's alpha, was 0.8. Hashmi Shishkhanbi et al. (2011) investigated its reliability and validity in Iran, and the reported reliability coefficient was 0.71, which was considered acceptable.

Watson–Glaser Critical Thinking Appraisal Form

Students' CT was assessed via the Watson–Glaser Critical Thinking Appraisal Form A by Watson and Glaser (1980). This scale involves five sections:

inference (16 items), recognizing assumptions (16 items), making deductions (16 items), interpretation (16 items), and evaluation (16 items). Its reliability, estimated by Cronbach's alpha, was 0.81. Askari et al. (2020) confirmed the reliability and validity of the Persian version of this scale.

Academic Engagement Scale (AES)

The Academic Engagement Scale (AES) was designed and validated by Freda et al. (2021). This instrument includes six dimensions on a five-point Likert scale as follows: (1) university value and sense of belonging (6 items), (2) perception of the capability to persist in the university choice (4 items), (3) value of university course (7 items), (4) engagement with university professors (4 items), (5) engagement with university peers (5 items), and (6) relationships between university and relational net (3 items). AES reliability, estimated by Cronbach's alpha, was 0.79. Namaziandost et al. (2023) reported the reliability of 0.82 among a sample of Iranian EFL learners.

Foreign Language Learning Self-esteem Scale (FLLSE)

The FLLSE was used to assess EFL students' self-esteem. It was developed by Rubio (2007) using a five-point Likert scale, ranging from "strongly disagree" to "strongly agree." It has 25 items in four dimensions: (1) language capability, (2) real in-class language utilization, (3) in-class interactions, and 4) attitude toward behavior in the class of a foreign language. FLLSE reliability, estimated by Cronbach's alpha, was 0.84. Zaferani et al. (2021) reported the reliability coefficient of 0.93 for this scale among Iranian EFL learners.

Procedure

The data collection procedure took a week. Each questionnaire was allotted approximately 15–20 minutes to ensure thoughtful responses without causing fatigue. The questionnaires were administered in the following order: first, the CSAQ to assess students' self-assessment; second, the AES to evaluate academic engagement; third, the FLLSE to measure self-esteem related to language learning; and finally, the Watson–Glaser test to assess critical thinking. After completion, all responses were entered into an Excel file for

statistical analysis, with a special focus on gender differences in the variables studied. The data were analyzed using descriptive statistics (mean, variance, and standard deviation), as well as standard multiple regression analysis.

Results

The descriptive statistics of research variables are presented below (Table 1).

Table 1. Descriptive Statistics of Research Variables

	M	SD	N
academic engagement	53.03	15.24	100
self-assessment	35.01	10.17	100
Self-esteem	57.9	15.28	100
Critical thinking	38.56	8.6	100

As the above table shows, the participants obtained the highest score in self-esteem ($M=57.9$) and the lowest score in self-assessment ($M=35.01$).

The first research question was to find if self-assessment could predict Iranian EFL students'

academic engagement, taking gender into account. For this purpose, a standard multiple regression analysis is presented below, along with its findings.

Table 2. ANOVA Test of Multiple Regression of Self-assessment and Academic Engagement

	Model	Sum of Squares	df	Mean Square	F	Sig.	Adjusted R Square
1	Regression	21.52	1	5.49	18.33	.00	.33
	Residual	38.42	98	.27			
	Total	60.74	99				

The model as a whole was statistically significant ($F(1, 98) = 18.33, p < .05$) (Table 2). In other words, self-assessment could significantly predict academic

engagement. According to the adjusted determination coefficient of 0.33, the self-assessment explained 33% of the variance in academic engagement.

Table 3. Coefficients of Self-assessment and Academic Engagement by Gender

gender	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
male	academic engagement	-.12	.14	-.11	-.82	.41
female	academic engagement	-.02	.09	-.04	-.27	.78

As the table above shows, gender did not make a difference in predicting academic engagement by self-assessment ($p > .05$). The second research question was

to determine if self-assessment could predict Iranian EFL students' self-esteem, considering gender. A

standard multiple regression analysis was conducted, and the results are presented below.

Table 4. ANOVA Test of Multiple Regression of Self-assessment and Self-esteem

Model		Sum of Squares	df	Mean Square	F	Sig.	Adjusted R Square
1	Regression	35.47	1	5.47	15.47	.00	.42
	Residual	23.52	98	.23			
	Total	43.91	99				

The model as a whole was statistically significant ($F(1, 98) = 15.47, p < .05$) (Table 4.6). In other words, self-assessment could significantly predict self-esteem.

According to the adjusted determination coefficient of 0.42, the self-assessment explained 42% of the variance in self-assessment.

Table 5. Coefficients of Self-assessment and Self-esteem by Gender

gender	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
male	self-esteem	.06	.08	.1	.71	.47
female	self-esteem	-.02	.13	-.02	-.18	.85

Table 5 reveals that gender did not make a difference in the prediction of self-esteem by self-assessment ($p > .05$). The third question aimed to determine if critical thinking could predict Iranian EFL students' academic engagement, taking gender into account. A standard multiple regression analysis was conducted to determine

whether the critical thinking components (i.e., inference, recognizing assumptions, making deductions, interpretation, and evaluation) could predict academic engagement. The findings are presented below.

Table 6. ANOVA Test of Multiple Regression of Critical Thinking and Academic Engagement

Model		Sum of Squares	df	Mean Square	F	Sig.	Adjusted R Square
1	Regression	84.67	5	9.33	20.12	.00	.49
	Residual	72.08	94	.83			
	Total	91.76	99				

The model as a whole was statistically significant ($F(5, 94) = 20.12, p < .05$) (Table 6). In other words, critical thinking could significantly predict academic

engagement. According to the adjusted determination coefficient of 0.49, critical thinking components explained 49% of the variance in academic engagement.

Table 7. Coefficients of Critical Thinking Components and Gender

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
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		B	Std. Error	Beta		
Male	Inference	.32	.19	.16	1.62	.01
	recognizing assumptions	.11	.16	.07	.74	.45
	making deductions	-.22	.25	-.08	-.86	.38
	interpretation	.63	.23	.26	2.64	.01
	evaluation	.28	.4	.07	.7	.48
	interference	.59	.18	.42	3.16	.00
	recognizing assumptions	-.01	.15	-.01	-.08	.93
	making deductions	-.34	.24	-.18	-1.42	.16
	interpretation	.26	.22	.15	1.16	.24
	evaluation	.84	.38	.28	2.21	.03
Female	interference	-.04	.31	-.01	-.13	.89
	recognizing assumptions	.06	.25	.04	.27	.78
	making deductions	-.63	.43	-.22	-1.46	.15
	interpretation	.82	.37	.31	2.17	.03
	evaluation	-.06	.63	-.01	-.09	.92

Based on Table 7, the critical thinking components significantly predicted academic engagement. In other words, 16% and 26% of the variances in academic engagement were predicted by inference and interpretation, respectively. Gender influenced the prediction of academic engagement through the critical thinking components. Specifically, for male participants, the inference and evaluation components predicted academic engagement, while for female participants, the

interpretation component predicted academic engagement.

The fourth question aimed to determine whether critical thinking could predict Iranian EFL students' self-esteem, taking into account their gender. A standard multiple regression analysis was conducted to determine whether the critical thinking components (i.e., inference, recognizing assumptions, making deductions, interpretation, and evaluation) could predict self-esteem.

Table 8. ANOVA Test of Multiple Regression of Critical Thinking and Self-esteem

	Model	Sum of Squares	df	Mean Square	F	Sig.	Adjusted R Square
1	Regression	60.95	5	7.21	17.24	.00	.22
	Residual	53.99	94	.7			
	Total	89.27	99				

The model as a whole was statistically significant ($F(5, 94) = 17.24, p < .05$) (Table 8). In other words, critical thinking could significantly predict self-esteem.

According to the adjusted determination coefficient of 0.22, critical thinking components accounted for 22% of the variance in self-esteem.

Table 9. Coefficients of Critical Thinking Components and gender

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
inference	.25	.21	.11	1.18	.24
recognizing assumptions	-.05	.17	-.03	-.32	.74
making deductions	.55	.27	.19	2.01	.04

	interpretation	.85	.25	.32	-3.35	.00
	evaluation	.1	.43	.02	.23	.81
Male	interference	.42	.33	.17	1.26	.21
	recognizing assumptions	-.34	.27	-.16	-1.24	.22
	making deductions	.88	.43	.27	2.01	.05
	interpretation	-.88	.4	-.29	-2.17	.03
	evaluation	.67	.69	.13	.98	.33
Female	interference	.1	.2	.06	.48	.63
	recognizing assumptions	.18	.17	.15	1.08	.28
	making deductions	.48	.28	.24	1.69	.09
	interpretation	-.77	.25	-.42	-3.08	.00
	evaluation	-.48	.42	-.15	-1.15	.25

Based on the above table, the critical thinking components significantly predicted self-esteem. In other words, 19% and 32% of the variances in self-esteem were predicted by making deductions and interpretation, respectively. Furthermore, gender influenced the prediction of self-esteem by the critical thinking components. Specifically, for male participants, the deduction and interpretation components predicted self-esteem, while for female participants, the interpretation component predicted self-esteem.

Discussion

The present examined the role of self-assessment and critical thinking in Iranian EFL students' engagement in school and self-esteem, taking gender into account. Four questions were posed for this study. The findings of each are discussed below. Regarding the first question, self-assessment has been shown to significantly predict academic engagement among students across various educational contexts (e.g., Namaziandost et al., 2024). By fostering self-reflection and ownership of learning, self-assessment encourages students to actively participate in their educational journey, leading to increased engagement levels. The following sections outline the key aspects of how self-assessment influences academic engagement.

Namaziandost et al. (2024) found that Self-assessment significantly predicted academic

engagement among EFL learners by promoting learner autonomy, empowering students to be in charge of their learning process, and enhancing overall learning outcomes. Wang and Lee (2021) also noted that higher cognitive or agentic engagement has a positive influence on self-assessment practices. Specifically, mastery goals enhance self-assessment through increased engagement, suggesting that self-assessment can indeed predict levels of academic engagement among college students.

Similarly, Heydarnejad et al. (2022) found that self-assessment significantly predicted academic engagement among EFL learners. The study found that higher levels of self-assessment led to increased engagement, as learners invested more time in evaluation, social interaction, and group work, enhancing their overall academic involvement. Samuel (2023) reported that self-assessment increased self-efficacy and student engagement, suggesting it can predict academic engagement. Self-assessment fosters greater involvement in the educational process by allowing students to monitor and evaluate their learning, particularly in remote learning environments.

Self-assessment is closely tied to meta-cognitive awareness, which involves learners' understanding of their learning processes. When EFL learners engage in self-assessment, they reflect on their strengths and weaknesses, allowing them to set realistic goals and monitor their progress (Zimmerman, 2002). Additionally, Self-assessment fosters a sense of possession and accountability for one's learning. When learners actively evaluate their performance,

they are more likely to feel motivated to participate in academic activities and pursue their learning objectives (Black & Wiliam, 1998).

From an educational management perspective, these findings underscore the importance of integrating self-assessment into pedagogical practices and curriculum design. School administrators and educational leaders should consider implementing policies that promote regular self-assessment opportunities for students (Brown & Harris, 2013). This could involve training educators on effective self-assessment strategies and providing resources for their integration into daily classroom activities (Black & Wiliam, 1998). For instance, incorporating self-assessment rubrics, peer-assessment activities, and reflective journals can empower students to take ownership of their learning, thereby fostering greater engagement. Furthermore, educational managers could explore professional development programs for teachers that focus on designing and facilitating effective self-assessment practices to enhance student engagement across various disciplines (Gipps, 1999). Ultimately, a focus on self-assessment can contribute to a more student-centered educational environment, aligning with modern educational management principles that prioritize learner autonomy and active participation (Fullan, 2016).

As for the second research question findings (i.e., Iranian EFL students' self-assessment could predict their self-esteem), Self-assessment plays a crucial role in predicting and enhancing self-esteem among individuals, particularly in educational settings. Research indicates that engaging in self-assessment enables students to identify their strengths and areas for improvement, ultimately leading to increased autonomy and self-confidence. This process is particularly beneficial for students with low self-esteem, as it provides constructive feedback and promotes a positive learning environment. Self-assessment enables students to recognize their capabilities, fostering a sense of achievement and boosting self-esteem (Tsintsadze et al., 2024). When coupled with teacher feedback, self-assessment helps students set realistic goals, which can enhance their self-esteem by providing clear pathways for improvement (Meškauskienė & Guoba, 2016). Also, engaging in self-assessment cultivates independence,

which is essential for self-confidence and social adaptation, particularly in young children (Furnham, 2023).

According to Tsintsadze et al. (2024), self-assessment significantly predicts students' self-esteem by instilling a sense of responsibility for their outcomes, enhancing commitment to goals, and fostering emotional stability. This process enabled students to identify their strengths, resulting in enhanced self-image and improved academic performance. Furnham (2023) found that self-assessed creativity (SAC) was positively correlated with self-esteem; individuals who rated themselves higher in creativity also reported higher self-esteem. This suggests a potential halo effect, where self-confident individuals perceive themselves positively across various characteristics, including creativity.

Meškauskienė and Guoba (2016) noted that self-assessment methods have a positive influence on self-esteem, as they enable learners to evaluate their abilities and progress. Effective feedback from assessments supports students, motivating them to improve and enhancing their self-esteem throughout the learning process. Statman (1993) suggests that self-assessment improvement is necessary for enhancing self-esteem. It argues that self-acceptance cannot be separated from better self-assessment, indicating that self-assessment plays a crucial role in predicting and improving self-esteem among students.

Besides, self-assessment encourages learners to take ownership of their learning process. When EFL students engage in self-assessment, they reflect on their progress and achievements, which can enhance their sense of agency and control over their learning outcomes. This autonomy is positively linked to higher self-esteem (Boud, 2013). Self-assessment also fosters metacognitive skills, allowing students to evaluate their strengths and weaknesses in language learning. Research indicates that increased metacognitive awareness is linked to higher self-efficacy and self-esteem as learners become more aware of their capabilities and how to enhance them (Zimmerman, 2002).

When students engage in self-assessment, they often recognize their achievements and progress. Positive recognition can lead to feelings of competence and self-worth, which are crucial

components of self-esteem. According to Schunk (1991), positive self-evaluations can promote motivation and contribute to enhanced self-esteem. Furthermore, in EFL contexts, where learners may face challenges related to language proficiency, effective self-assessment can provide encouragement and validation. Research indicates that cultural factors influence how self-perceptions are formed, and self-assessment tailored to students' contexts may strengthen their self-esteem by validating their efforts (Norton, 2000).

From an educational management perspective, these findings underscore the potential of self-assessment as a tool to enhance student well-being and mental health within educational institutions. School leaders and curriculum developers should consider integrating self-assessment practices that are designed not only for academic evaluation but also for fostering students' self-awareness and self-worth (Zeb et al., 2025). This might involve creating supportive environments where students feel safe to engage in self-reflection and receive constructive feedback without fear of judgment (Hattie, 2008). Educational managers can advocate for the inclusion of social-emotional learning (SEL) frameworks that incorporate self-assessment as a core component, thereby promoting a holistic approach to student development (Durlak et al., 2011). Training for teachers on how to provide affirming and growth-oriented feedback during self-assessment activities is also crucial to ensure that these practices genuinely enhance self-esteem (Wiliam, 2011).

As for the third question (i.e., academic engagement was generally predicted by inference and interpretation components, for male participants, inference and evaluation components predicted academic engagement, while for female participants, the interpretation component predicted academic engagement, which encompasses behavioral, cognitive, and affective dimensions, is crucial for enhancing learning outcomes and academic achievement (Peña et al., 2017), in particular, the inference component of critical thinking has been shown to relate positively with academic success, suggesting that students who effectively utilize inference skills are more likely to engage deeply with their learning materials (Yadollahi et al., 2013).

Ulubey and Alpaslan (2022) found that novelty in critical thinking tendency significantly predicted the classroom engagement dimensions, but it does not specifically mention the inference and interpretation components of critical thinking as predictors of academic engagement. Riswanto et al. (2022) confirmed that critical thinking significantly boosts academic engagement among EFL university students, indicating that higher levels of critical thinking contribute positively to their engagement in academic activities and learning processes. Lv et al. (2022) also found that the early level and critical thinking development positively affect the formation and study engagement development, indicating a reciprocal relationship where both variables can predict each other over time among higher vocational college students.

Rivas et al. (2023) indicated that critical thinking could reasonably account for academic performance, suggesting a strong relationship between critical thinking skills and academic engagement, as evidenced by significant correlations between critical thinking measurements and students' admission and average course grades.

Regarding the findings on gender differences, research has shown that males and females often approach cognitive tasks in different ways. For instance, males may be more inclined to engage in logical and evaluative reasoning, which aligns with the inference and evaluation components of critical thinking (Halpern, 2010). This difference could explain why these components predicted academic engagement in male participants, as their strengths in these areas might foster a more proactive approach to academic tasks. The finding that the interpretation component predicted academic engagement among female participants may be attributed to the relational and communication-focused skills often attributed to women. According to Eagly and Carli (2003), women typically excel in contexts that require empathy and interpretation of social information, suggesting that their critical thinking is often contextualized within collaborative and interpretive environments, which may enhance their engagement in academic settings.

These findings have significant implications for educational management in designing curricula and instructional strategies that cultivate critical thinking.

Educational leaders should prioritize the explicit teaching of critical thinking skills, including inference, interpretation, and evaluation, across all disciplines, not just in language learning contexts (Ennis, 2011). This can be achieved through curriculum integration, where critical thinking components are embedded within subject matter rather than taught in isolation (Elder & Paul, 2010). Furthermore, professional development programs for teachers should focus on pedagogical approaches that foster critical thinking, such as problem-based learning, inquiry-based learning, and Socratic questioning. For instance, school administrators can encourage the use of case studies and real-world scenarios that require students to apply inferential and evaluative reasoning (Wiggins & McTighe, 2005). Recognizing gender differences in critical thinking engagement, educational managers might also consider tailoring instructional strategies to cater to diverse learning styles and cognitive preferences, ensuring equitable opportunities for all students to develop these crucial skills (Hyde, 2005). This may involve creating collaborative learning environments that leverage diverse strengths in interpretation and logical reasoning.

The findings of the final research question revealed that self-esteem was generally predicted by making deductions and interpretation. Considering gender, for male participants, both the deduction and interpretation components predicted self-esteem, whereas for female participants, only the interpretation component predicted self-esteem.

Self-esteem is significantly influenced by critical thinking components, particularly deductions and interpretations. Research indicates that traits such as open-mindedness, inquisitiveness, and self-confidence—key elements of critical thinking—predict university students' self-esteem levels (Demirdag, 2019). This relationship suggests that enhancing critical thinking skills can lead to improved self-esteem.

Lyon (1993), Muijs (1997), and Skaalvik and Hagtvet (1990) posited that the nexus between self-esteem and the proclivities for critical thinking among students is relatively tenuous. Drawing from the research conducted by Branscombe and Wann (1994), the lackadaisical connections between students' self-esteem and their critical thinking inclinations may be

attributable to their individual adversities. Nonetheless, Crocker and Luhtanen (2003) asserted that self-esteem does not serve as a prognosticator of students' critical thinking competencies. Moreover, Ewen (2001) ascertained the absence of a significant association between self-esteem and the critical thinking tendencies of nursing students.

In their research, Lui et al. (1992) elucidated that self-esteem exerts an indirect influence on students' critical thinking and academic learning. Conversely, Barkhordary et al. (2009) identified robust correlations between students' critical thinking capabilities and their self-esteem levels. Individuals with low self-esteem may encounter challenges in articulating their needs and vulnerabilities, which can render them hesitant to engage in critical thinking endeavors (Barkhordary et al., 2009; Twenge & Campbell, 2001).

Facione (2013) asserted that individuals possessing critical thinking competencies are more inclined to engage in logical reasoning that seeks to influence their perspectives. Individuals endowed with proficient critical thinking skills are more apt to interpret, analyze, and assess their environmental circumstances as a result of their self-worth (Scheirer & Kraut, 1979). Haney and Durlak (1998) underscored that individuals who have confidence in their abilities are capable of making decisions, resolving issues, and relying on their judgment.

Regarding the influence of gender, both the deduction and interpretation aspects of critical thinking were significant predictors of self-esteem. Research indicates that critical thinking promotes self-efficacy and confidence, which are closely related to self-esteem (Taubah et al., 2018; Azizi et al., 2018). This suggests that for males, a broader range of critical thinking skills may enhance self-esteem. The ability to deduce logically and interpret situations effectively can contribute to a stronger sense of self-worth and capability (Taubah et al., 2018).

Only the interpretation component significantly predicted self-esteem for female participants. Previous studies have shown that interpretive skills are particularly important for women, often tied to their social and emotional intelligence, which affects their self-perception (Eagly & Wood, 1999; Kavianfar et al., 2021). This suggests that the ability to interpret

information meaningfully is more closely linked to self-esteem in females. It may reflect the importance of emotional or social context in how they perceive themselves (Kavianfar et al., 2021).

These findings offer valuable insights for educational management in fostering a positive school climate that nurtures both critical thinking and self-esteem. Educational leaders should consider initiatives that integrate critical thinking development with social-emotional learning programs, recognizing the intertwined nature of cognitive and affective development (Elias et al., 1997). This could involve designing workshops or extracurricular activities that encourage students to apply critical thinking skills to real-life problems, thereby building confidence in their problem-solving abilities (Marzano, 2003). For example, debating clubs or community service projects that require critical analysis and decision-making can be powerful tools. Given the observed gender differences, educational managers may consider exploring pedagogical approaches that resonate with diverse learning styles and foster self-esteem in both male and female students (Sadker & Sadker, 2010). This could involve promoting collaborative group work where interpretive skills are valued, and also providing opportunities for individual logical deduction, ensuring that all students have avenues to build self-worth through intellectual growth (Slavin, 1995). Ultimately, a proactive approach from educational management to integrate critical thinking into a holistic educational experience can significantly contribute to students' academic success and personal well-being (Darling-Hammond, 2010).

Conclusion

The findings of the present study highlight the significant role of self-assessment and critical thinking in enhancing the engagement and self-esteem of Iranian EFL students, regardless of gender. The findings highlight that fostering these cognitive and metacognitive skills can have a positive influence on students' attitudes toward learning and self-perceptions. Notably, specific aspects of critical thinking—such as inference, evaluation, and interpretation—play pivotal roles in predicting engagement and self-esteem among male and female

students. These results advocate for integrating gender-sensitive, skill-oriented strategies in language education to support the holistic development of students, ultimately promoting more engaging and empowering learning environments for all learners.

Despite its attempt to examine the role of self-assessment and critical thinking in academic engagement and self-esteem of Iranian English-speaking students with great precision, this study has limitations that have affected the analysis and generalization of the findings. One limitation is the limited statistical population and the selection of samples from a specific educational setting. This may make it difficult to generalize the results to other settings and students with different conditions, highlighting the need for more extensive research. Data collection methods may also be another limitation. Questionnaires and self-report instruments to measure self-assessment and critical thinking may be influenced by students' personal perceptions and preferences, biasing the results.

Regarding the study's implications for students, paying attention to strengthening self-assessment and critical thinking can help them better understand themselves, analyze educational issues more accurately, and enhance their cognitive skills. By incorporating self-assessment strategies into curricula, students can improve their learning path based on realistic assessments of their abilities and needs and participate more effectively in the learning process.

Furthermore, fostering an environment that encourages reflective thinking and metacognition can empower students to identify their learning gaps proactively and develop personalized strategies to address them. This not only enhances their academic performance but also promotes lifelong learning habits.

For teachers, the results of this study highlight the importance of employing educational methods that focus on developing critical thinking and self-assessment skills. Teachers can encourage students to think analytically and reason logically by designing creative and challenge-based activities. Also, providing a space where students can continuously evaluate their performance can help improve the quality of learning and increase their self-confidence. Additionally, professional development programs

designed to equip teachers with effective techniques for facilitating independent thinking and self-evaluation can lead to more meaningful and student-centered learning experiences. Teachers' awareness and deliberate integration of these strategies into their teaching practices are essential for fostering a more engaging and effective educational environment.

Future research could provide more comprehensive information about the impact of self-assessment and critical thinking on academic engagement and self-esteem by focusing on more diverse groups of students. Examining students from different geographical regions, with different educational levels and diverse social and cultural circumstances, could help clarify the role of these variables in different educational settings and increase the generalizability of the findings. Utilizing various research methods, including qualitative and longitudinal studies, can provide a deeper understanding of the impact of self-assessment and critical thinking. Interviews, case study reviews, and analysis of classroom interactions can provide more in-depth data on students' intellectual and emotional processes.

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