

A Correlation Between Self-Efficacy and Engagement among EFL University Students' Study Grade

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Abstract

Many people believe they cannot learn a foreign language because they have a mental block against it. It is assumed that the leading cause of this unfortunate phenomenon is self-efficacy (henceforth SE) which is an essential variable in facilitating classroom learning and improving learners' language skills. On this basis, a high level of self-efficacy can cause enduring positive effects for EFL students and create a feeling of interest, enjoyment, and happiness to engage in foreign language learning. Student engagement (henceforth E) is the essential process of language development in the context of EFL learning.

As such, this research attempts to contribute meaningfully to students and teachers in determining and solving their problems in classroom activity by determining the correlation between students' self-efficacy and engagement. The problem of this research is that despite the growing recognition of the importance of self-efficacy, a clear understanding of its relationship with engagement in university EFL programs still needs to be discovered. Thus, the current research aims at: 1- specifying the level of correlation between students' self-efficacy and their engagement in a FLL context, 2- determining the role of university grade of EFL students' as far as the correlation between self-efficacy and engagement inside the class is concerned.

Based on these aims, this research hypothesises that 1- EFL University students' self-efficacy is significantly correlated to their engagement, 2- university grade of EFL students have a significant role as far as the degree of correlation between their self-efficacy and engagement is concerned.

To test the preceding hypotheses and bring about the aims, two close-ended questionnaires are adapted. The first one is a Questionnaire on English Self-Efficacy by Wang and Bai (2017) and the second one is a Student Engagement in Schools Questionnaire by Hart et al. (2011) for the four dimensions of engagement, which are: affective, behavioural, cognitive, and social and Agentic Engagement Scale by Reeve (2013) which is used for the fifth dimension of engagement that is agentic engagement. These two questionnaires are presented to a sample of (170) students (first and fourth grades) at the Department of English / College of Basic Education /University of Mosul. By analysing the collected data, it is found that: 1- EFL university students' self-efficacy is significantly correlated with their engagement. The correlation between these two variables follows positive directions, which means that when students' self-efficacy increases, their engagement also increases, and vice versa; and 2- there is no indication of the role of university grade as far as the degree of correlation between self-efficacy and engagement is concerned. However, a notable difference in engagement levels is observed between first-year and fourth-year students, with the latter demonstrating higher engagement.

Email:

Published: 1- 12-2024

Keywords: Self-Efficacy,
Student Engagement, EFL
Learning, Correlation, University
Students, Educational
Psychology.

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المخلص

يعتقد الكثير من الناس أنهم لا يستطيعون تعلم لغة أجنبية لأن لديهم حاجزاً ذهنياً ضدها. ويفترض أن السبب الرئيسي لهذه الظاهرة المؤسفة هو الكفاءة الذاتية التي تعتبر متغيراً أساسياً في تيسير التعلم في الفصل الدراسي وتحسين المهارات اللغوية لدى المتعلمين. وعلى هذا الأساس، فإن ارتفاع مستوى الكفاءة الذاتية يمكن أن يسبب آثاراً إيجابية دائمة لطلاب اللغة الإنجليزية كلغة أجنبية ويخلق شعوراً بالاهتمام والاستمتاع والسعادة للانخراط في تعلم اللغة الأجنبية. إن مشاركة الطلاب هي العملية الأساسية لتطوير اللغة في سياق تعلم اللغة الإنجليزية كلغة أجنبية.

وعلى هذا النحو، تحاول هذه الدراسة المساهمة بشكل مفيد للطلاب والمعلمين في تحديد و حل مشاكلهم في النشاط الصفّي من خلال تحديد العلاقة بين الكفاءة الذاتية للطلاب والاندماج. وتتمثل مشكلة هذه الدراسة في أنه على الرغم من الاعتراف المتزايد بأهمية الكفاءة الذاتية للطالب، إلا أنه لا يزال هناك حاجة إلى فهم واضح لعلاقتها بالكفاءة الذاتية في برامج اللغة الإنجليزية كلغة أجنبية في الجامعة. وبالتالي، تهدف الدراسة الحالية إلى 1- تحديد مستوى الارتباط بين الكفاءة الذاتية للطلبة ومشاركتهم في سياق اللغة الإنجليزية كلغة أجنبية في الصف، 2- تحديد دور المرحلة الجامعية للطلبة الدارسين للغة الإنجليزية كلغة أجنبية في الصف فيما يتعلق بالكفاءة الذاتية والمشاركة داخل الصف. وانطلاقاً من هذه الأهداف، تفترض هذه الدراسة أن 1- أن الكفاءة الذاتية لطلاب الجامعة الدارسين للغة الإنجليزية كلغة أجنبية ترتبط ارتباطاً كبيراً بمشاركتهم، 2- أن المرحلة الجامعية لطلبة الجامعة الدارسين للغة الإنجليزية كلغة أجنبية له دور كبير فيما يتعلق بدرجة الارتباط بين كفاءتهم الذاتية ومشاركتهم.

ولاختبار الفرضيات السابقة وتحقيق الأهداف، تم تكييف استبيانين متقاربين. الأول هو استبيان الكفاءة الذاتية في اللغة الإنجليزية من إعداد وانغ وباي (2017)، والثاني هو استبيان مشاركة الطلاب في المدارس من إعداد هارت وآخرون (2011) للأبعاد الرابعة للمشاركة، وهي الوجدانية والسلوكية والمعرفية والاجتماعية، ومقياس المشاركة العمالية من إعداد ريف (2013) المستخدم للبعد الخامس وهو المشاركة العمالية. تم عرض هذين الاستبيانين على عينة مكونة من (170) طالباً وطالبة في قسم اللغة الإنجليزية/كلية التربية الأساسية/جامعة الموصل. وتحليل البيانات التي تم جمعها تبين ما يلي:

1- أن الكفاءة الذاتية لطلاب الجامعة الدارسين للغة الإنجليزية كلغة أجنبية في الجامعات ترتبط ارتباطاً كبيراً مع المشاركة. ويتبع الارتباط بين هذين المتغيرين اتجاهات إيجابية، مما يعني أنه كلما زادت الكفاءة الذاتية للطلبة زادت مشاركتهم أيضاً، والعكس صحيح؛ 2- لا يوجد ما يشير إلى دور المرحلة الجامعية فيما يتعلق بدرجة الارتباط بين الكفاءة الذاتية والمشاركة. ومع ذلك هناك اختلاف

ملحوظ في مستويات المشاركة بين طلبة المرحلة الاولى والمرحلة الرابعة والهيمنة كانت لطلبة المرحلة الرابعة.

1. Introduction

Effective communication in English has become a critical skill in today's globalised world. University-Grade English as a Foreign Language programs at university grade are vital in equipping students with this proficiency. However, achieving fluency in a new language requires more than classroom instruction. Student engagement, characterised by active participation, investment in learning, and perseverance through challenges, is paramount for successful language acquisition.

One crucial factor influencing this engagement is students' self-efficacy and confidence in learning and using English effectively. This self-belief is a powerful motivator, fostering a willingness to take risks, persist through difficulties, and ultimately achieve desired outcomes in language learning. Despite the growing recognition of the importance of SE, a clear understanding of its relationship with E in university EFL programs still needs to be discovered.

1.2 Aims of the Study

The present study aims at:

- 1- specifying the level of correlation between students' self-efficacy and their engagement in a FLL context.
- 2- determining the role of university grade of EFL students' as far as the correlation between self-efficacy and engagement inside the class is concerned.

1.3 Hypotheses of the Study

- 1- EFL University students' self-efficacy is significantly correlated to their engagement.
- 2- university grade of EFL students have a significant role as far as the degree of correlation between their self-efficacy and engagement is concerned.

1.4 Scope of the Study

The current study is limited to investigating the role of two affective variables. Students' SE and their E in EFL university classes. It is further confined to a sample of 170 students. This sample consisted of 71 first-year (37 males and 34 females) and 99 fourth-year (52 males and 47 females) students in the morning study/ Department of English/ College of Basic Education/ University of Mosul during the second semester of the academic year 2023-2024. Moreover, this study has treated students' SE and their E in EFL as situational and specific to English language learning (henceforth ELL) contexts.

2. The Concept of Self-Efficacy

Self-efficacy is an individual's belief in their ability to perform a specific task, which involves a judgment of competence (Pajares, 1996, p. 546). Since Bandura's (1977, p. 198) groundbreaking paper on SE, it has become a heavily researched topic in psychology. As Bandura and other researchers discussed, SE impacts psychological states, behaviours, and motivation. It can influence behaviour positively or negatively, depending on one's perception of their abilities related to a task. This perception affects a person's choices, effort, and persistence in facing obstacles and failure (Usher & Pajares, 2008, p. 764).

Bandura (1997, p. 160) identifies four sources of SE, viz. mastery experiences, vicarious experiences, social persuasion, and physiological and emotional states. Mastery experiences refer to past experiences that influence SE; successes increase while failures decrease. Vicarious experiences involve observing others perform the same task, providing learning opportunities for high-achieving individuals. This observation helps elevate SE and competence by learning practical skills and strategies from competent models.

As regards social persuasion, it also affects SE development because positive feedback and encouragement boost SE, while negative comments and punishment diminish it (ibid.) Similarly, Bong and Skaalvik (2003, p. 28) find that only constructive feedback positively impacted SE, provided the information source was reputable and reliable. Therefore, verbal encouragement needs to be realistic to promote SE effectively. Turning to physiological and emotional states, they also influence SE development. For instance, apprehension negatively correlates with SE; enhancing SE can be achieved by reducing negative arousal, such as apprehension, and increasing positive feelings.

3. Student Engagement

Every definition of E must exhaustively capture student engagement due to its complexity. Despite this, numerous attempts have been made to comprehensively describe it, including considering its antithesis, contrasting it with other terms, or presenting alternatives (Trowler, 2010, p.4). Additionally, defining E as a "multi-component construct comprised of subsets with associated indices" has proven helpful in research and developing interventions to enhance student engagement (Kim et al., 2015, p. 262).

Engagement is often synonymous with commitment, agency, and reciprocity, indicating personally involved participation in activities (Trowler, 2010, p. 5). Student E is diverse and can be described in various ways. For example, Kraft and Dougherty (2013, p. 200) link it to a sense of competence or efficacy and relatedness to the teacher and school. Similarly, Wang and Eccles (2013, p. 17) emphasise that student E thrives when students perceive their

school context as fulfilling their needs for competence, autonomy, and relatedness. Tomlinson (1999) conceptualises E as a magnet attracting learners' attention, signifying the incorporation of important ideas into their understanding.

Although the literature on education and institutional research offers numerous definitions of student E, the more prevalent ones have become focused and technical. For instance, the National Survey of Student E defines it as "the intersection of the time and energy students devote to educationally sound activities" (Conner, 2011, p. 54). Upon reviewing various definitions, it becomes evident that most of them emphasise positive E indicators, which can be categorised into dimensions. In this regard, the definition proposed by Fredricks et al. (2004, p.59) stands out as one of the most comprehensive and exhaustive fields.

4. Methodology

Given that this study aims to investigate the relationship between SE and E from the perspectives of EFL university students, a correlational research design was adopted. As such, this study was designed to reflect EFL students' beliefs, feelings, abilities, perceptions, performance, achievement, and opinions regarding SE and E. Quantitative research methods focus on objective measurements with statistical analysis or numerical data collection. This approach allows a large number of students to participate in the study, increasing the likelihood of receiving more responses from students who experience SE and are engaged or disengaged in their language learning classes. Building on this, the aim is to collect statistical data that can be generalised across groups to provide detailed insights into a particular phenomenon. The design of this study aimed to determine the extent of the relationship between students' SE and their E in EFL at university grade, and to test whether students' study grade has any role to play as far as this relationship is concerned.

4.1 The Context of the Study

According to the Oxford Dictionary of English (2010, p. 6879), context refers to "the circumstances that form the setting for an event, statement, or idea, and in terms of which it can be fully understood." In educational methodology, context encompasses the study's circumstances, such as geographic location, approach, and time.

Considering the circumstances of the study, it was suggested that the benefits of using a web-based questionnaire be fully evaluated. These benefits include obtaining more accurate and faster responses from the sample, reaching a broader and larger sample, and directly transferring the data to statistical software programs like SPSS. This direct transfer is crucial as it prevents

potential data transfer errors, enhancing the reliability of data recording and analysis. Consequently, the researcher used a laptop to transform the paper-based survey questionnaires into Google Forms, adding questions or statements and collecting responses to save them as Excel files.

Thus, the present study was conducted in the Department of English at the College of Basic Education, University of Mosul, using a quantitative correlational design. The web-based questionnaire link was sent to first and fourth-grade participants in the morning study during the second semester on April 22, 2024.

4.2 The Sample of the Study

The current study's sample included 170 students. This sample consisted of 71 first-year students (37 males and 34 females) and 99 fourth-year students (52 males and 47 females), all randomly selected from the study population (see Table 3.2). The participants' ages ranged from 18 to 21 years for first-year students and from 22 to 25 years for fourth-year students. All participants were native speakers of standard Arabic.

Table (1) Sample of The Study

Target population	Sampling technique		Sample size
399	SRS	First stage	71
		Fourth stage	99
		Total	170
Gender	Male		89
	First stage		37
	Fourth stage		52
	Female		81
	First stage		34
	Fourth stage		47
Ranging age	First stage		18-21
	Fourth stage		22-25

4.3 Tools of the Study

To investigate the correlation between SE and EFL university students' E, this study adapted two survey questionnaires to collect the necessary numerical data. The latest version of the first questionnaire is Questionnaire of English Self-Efficacy, developed by Wang and Bai (2017), which has been widely used by researchers globally. This questionnaire was chosen for its ability to measure English language SE across all four skills—listening, speaking, reading, and writing—and for its proven validity and reliability.

The second questionnaire was adapted to collect quantitative data on student E. It combined elements from two sources: Agentic Engagement Scale, developed by Reeve (2013), which focuses specifically on agentic engagement, and Student Engagement in Schools Questionnaire, developed by Hart et al. (2011), which assesses four components of student engagement: affective, behavioural, cognitive, and social. As such, for measuring and assessing the five dimensions of students' E, a mixed method combines two questionnaires, SESQ and AES. The four dimensions of SESQ and one dimension of AES will be called student engagement and agentic questionnaire (SEAQ).

4.3.1 The Questionnaire of English Self-Efficacy

A validated scale of an English language SE questionnaire is needed to yield an effective probe on the relation between SE and E exhibited by EFL learners. Among a range of scales aimed to measure learners' SE, a 32-item-QESE, developed by Wang (2004), can be considered one of the pioneering scales used to measure SE learners in the ESL/EFL settings in the four English language skills. To obtain the generalizability of the scale, Wang et al. (2013) explored the properties of the questionnaire in the Korean college context.

Despite the proof of its reliability, more evidence of its validity is required since the items did not include a wide range of the observed variables. QESE was investigated in terms of its properties once again in another study conducted in the Chinese context at the college level, and the results were in line with those gained from the previous study implemented in the Korean context. That is, the scale was found to be highly reliable. Yet, the items included in the questionnaire did not cover the continuum of the observed variables, and thus, more difficult items needed to be included to measure a sample with a range of English language abilities. To be specific, in exploring the relationship between the participants' English language ability and the item difficulty measures, a good match between students with good language ability and the difficult items could rarely be seen. In an effort to contribute a reliable as well as valid tool to measure SE of ESL/EFL learners, Wang and Bai (2017) examined the psychometric properties of QESE in the Chinese setting. Based on the results revealed, high reliability and an acceptable validity of the scale were found among a sample of Chinese secondary school students.

As aforementioned, among a wide range of English SE questionnaires, the revised version of QESE developed by Wang and Bai (2017) can be considered one of the promising scales since it aims to measure learners' English language SE in all four skills (listening, speaking, reading, and writing) with satisfactory validity and reliability as its statistical evidence obtained (ibid.)

The questionnaire consisted of 32 items aimed at asking the participants to make judgments about their abilities to accomplish particular tasks in the English language. The scale used in the questionnaire was a 7-point rating scale, which ranged from 1 (I cannot do it at all) to 7 (I can do it very well), covering four constructs of English language abilities, namely, listening (8 items), speaking (8 items), reading (8 items), and writing (8 items). The questionnaire was reviewed by a panel of experts in English language instruction and English language assessment and evaluation to yield their content validity as well as language appropriateness before its implementation among the study participants. The general factor is English Self-Efficacy, while the four factors included are labelled as follows: Listening Efficacy (Items 1, 3, 9, 10, 15, 22, 24, and 27), Speaking Efficacy (Items 4, 6, 8, 17, 19, 20, 23, and 30), Reading Efficacy (Items 2, 12, 16, 21, 25, 26, 29, and 32), and Writing Efficacy (Items 5, 7, 11, 13, 14, 18, 28, and 31). For the original version of this questionnaire, see Appendix (1).

4.3.2 Student Engagement Questionnaires

Student E at university is an important construct that has been associated with student success. For the current study, the researcher used two types of questionnaires to measure the levels of student E at the university level. The first type is SESQ, which is used to measure the four dimensions of engagement (Affective, Behavioral, Cognitive, and Social), and AES is used for the fifth dimension, which is agentic.

4.3.2.1 Student Engagement in Schools Questionnaire

Scholars from over 19 countries collaborated in developing SESQ, which was later refined by Hart et al. (2011) (see Lam & Jimerson, 2008, for a description of this process and the participating international scholars). This questionnaire is a 109-item, Likert-type and self-report designed to comprehensively assess student engagement. Following an agreement on the definition of student engagement, scholars developed the questionnaire to reflect this construct. It includes four composites (Student Engagement in Schools, Motivational Beliefs, Social-Relatedness Contexts, and Student Outcomes), encompassing 13 domains and 15 sub-domains. Students respond on a Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). Due to the sampling limitations of a 109-item survey (requiring a very large sample for full evaluation), this study focused on the dimensions of engagement (Affective, Behavioral, Cognitive, and Social) in an exploratory factor analysis. Thus, only the composite of Student Engagement University (ENG; 43 items) was analysed, although reliability estimates for the entire survey were examined. For the original version of this questionnaire, see Appendix (2).

4.3.2.2 Agentic Engagement Scale

According to Reeve (2013), AES assesses students' active and interactive contributions to the instructional process. The theoretical basis for the agentic engagement construct is derived from the works of motivation theorists such as deCharms (1976), Bandura (1997), and Ryan and Deci (2000). The 5-item AES is an updated version of the 5-item Agentic Engagement Questionnaire (Reeve & Tseng, 2011). To create the AES, five new construct-consistent items were added to the original five items from the Agentic

Engagement Questionnaire, sourced from detailed classroom field notes on middle- and high-school students' behaviours during instruction. These ten initial items were then refined down to 5 final items. The AES demonstrated strong internal consistency and yielded a normal distribution of scores. The scale also showed evidence of construct and predictive validity (see Appendix 3, the original version of AES).

As such, for measuring and assessing the five dimensions of students' E, a mixed method combines two questionnaires, SESQ and AES. The four dimensions of SESQ and one dimension of AES will be called student engagement and agentic questionnaire (SEAQ).

4.4 The Procedures

Although monitoring the research procedures addresses ethical issues, Kaplan (1973) suggests that the methodology aims to help us understand the products of scientific inquiry and the process itself. Consequently, the methodological procedures of the current study were designed to systematically achieve its aims through successive steps. The participants underwent technical procedures administered via a laptop using Google Forms, designed by the researcher, which included personal information, QESE, and SEAQ. The current study was conducted in various stages and divided into three chronological phases, as described in the following subsections.

4.4.1 The First Phase

After ensuring the study instrument's validity and reliability, an online survey using Google Forms was conducted. Google Forms was selected for its accessibility via the Internet. The questionnaires were meticulously constructed using closed-ended items to gather responses from participants, ensuring each email received only one response. Additionally, an option requiring respondents to answer every item was activated, thus minimizing potential biases in participant selection. Each questionnaire, focusing on two variables, was divided into two parts.

For the QESE instrument, the first part gathered demographic information (gender, age, grade) from participants. The second part utilized an adapted version of QESE developed by Wang and Bai (2017), assessing students' SE through four skills: Listening Efficacy (items 1-8), Speaking

Efficacy (items 1-8), Reading Efficacy (items 1-6), and Writing Efficacy (items 1-6). Items were reordered from the original version to match their respective skill types, and the 28 items were arranged on a 5-point Likert scale from (I can not do it well) to (I can do it well). (see Appendix 4).

Similarly, the SEAQ instrument began with demographic questions identical to those in QESE. The second part focused on measuring students' E in EFL across five dimensions including (41 items) and as follows: Cognitive (11 items), Affective (6 items), Behavioral (10 items), Social (10 items), and Agentic (4 items). Responses were also collected using a 5-point Likert scale from 1 (Strongly agree) to 5 (Strongly disagree). To ensure linguistic accessibility and enhance reliability, all questionnaire items were presented to participants in both Arabic and English. Finally, the survey link reflecting the study's objectives was generated upon completion of this phase.

4.4.2 The Second Phase

The English Department granted permission to commence the practical phase of the study, which involved providing instructions to student volunteers through a link attached to the survey questionnaires. These instructions explained how to access the Google Forms link and submit their responses. Students were assured that their responses would not affect their English grades; rather, the questionnaires aimed to gather information about their reactions, beliefs, performance, achievements, and attitudes regarding their self-efficacy and engagement in English language activities.

Additionally, participants were briefed on the study's title, nature, significance, and expected contributions, emphasizing how it could benefit their learning. Subsequently, the survey link was distributed to lecturers responsible for teaching first and fourth grades, who then forwarded it to their students. A precautionary note advised piloting students against participating in the study. Participants demonstrated informed consent by clicking a link to the initial survey page. Following this, the Google Forms link remained open to receive responses for a week.

4.4.3 The Third Phase

The third phase involved gathering and analyzing responses from volunteer students who completed survey questionnaires on students' SE and their E in EFL. 340 responses were collected across both questionnaires: 170 for SE (71 from 1st stage, 99 from 4th stage) and 4 from other stages and 170 for E (71 from 1st stage, 99 from 4th stage) and 5 from other stages. The researcher reviewed all responses and identified 9 participants from second and third grades, who were subsequently excluded to maintain study validity. The revised responses were compiled and transferred into a Microsoft Excel worksheet.

This phase provided the foundation for analyzing the correlation between students' responses on SE and E questionnaires. The gathered data underwent inferential statistical analysis using Statistical Package for Social Sciences (SPSS) version 26 to achieve this. Specifically, the correlation-Spearman test was employed to assess whether a significant correlation exists between students' SE and their E in EFL.

4.5 Scoring the Questionnaires

In this study, each closed-ended item presented a statement or a question with corresponding response options for participants to select from. QESE instrument, focusing on Students' SE, consisted of 28 items, where each item could receive a maximum score of 5 points, rated on a 5-point Likert Scale. Scores ranged inversely in magnitude from 5 (indicating high SE) to 1 (indicating low SE) to assess participants' SE in language learning contexts (see Table 2). The total scores on QESE could theoretically range from 28 to 168. Based on these scores, participants scoring between 28 and 83 were categorized as having low SE, those scoring 84 as having moderate SE, and those scoring between 85 and 168 as having high SE.

Regarding students' engagement in FL, the SEAQ questionnaire comprised 41 items structured as hypothetical questions to measure the extent of students' engagement using a frequency scale, also scored on a 5-point Likert Scale. This scale ranged from 1 (indicating Strongly agree) to 5 (indicating Strongly disagree) to evaluate respondents' engagement in the target language within classroom settings (see Table 3). The total score on SEAQ was 246, with higher scores indicating higher engagement. Participants scoring one point above the average score which is 123 were categorized as highly engaged, while those scoring one below were considered less engaged or disengaged in the FL context.

Table (2) Scoring QESE

QESE	
I can not do it well	1 score
Maybe I can not do it	2 score
Sometimes I can do it	3 score
Maybe I can do it	4 score
I can do it well	5 score
The total score of SE = $(5 \times 28) + (1 \times 28) = 168$	

Table (3) Scoring SEAQ

SEAQ	
Strongly agree	1 score
Agree	2 score
Neutral	3 score
Disagree	4 score
Strongly Disagree	5 score
The total score of E = (41×5)+(1×41) = 246	

4.6 Statistical Means

In the current study, a variety of statistical tools are employed based on the research type and data characteristics for analysis. There are various statistical tools that can be utilized depending on the type of the research as well as the nature of the data to be analyzed. The following statistical tools are used in the present study:

1. **The Pearson correlation coefficient** is widely employed to assess both the strength and direction of the relationship between two variables measured on an interval or ratio scale. In this study, the Pearson Correlation Formula was utilized to quantify the degree of association between students' SE and their E in EFL.

$$r = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{(n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2)}}$$

Where:

r = Pearson correlation coefficient

n = number of subjects

x = the mean of group A

y = the mean of the group

(Argyrous, 2005, p.

169)

2- **The t-test was used to test the two independent groups.**

$$t = \frac{x_1 - x_2}{\sqrt{\frac{(n_1 - 1)s^2_1 + (n_2 - 1)s^2_2}{n_1 + n_2 - 2} \left[\frac{1}{n_1} + \frac{1}{n_2} \right]}}$$

Where:

X1= the mean of the first group

X2= the mean of the second group

n_1 = number of subjects in the first group

n_2 = number of subjects in the second group

S_{21} = the variance of the first group

S_{22} = the variance of the second group

(Howell, 2013, p. 209).

3- The -T-test for Paired Samples

This tool was implemented to compare the scores of the pretest and that of the posttest of each group before and after experimenting.

$$t = \frac{\bar{D} - \mu_D}{S_{D/\sqrt{n}}$$

Where:

D = the mean of the sample of difference score.

SD = the standard error of the difference score.

SSD = the sum of squares of the difference score.

N = the number of subjects.

(Bluman, 20007, p. 501).

4- T-test for the Significance of the Correlation Coefficient

$$t = \frac{r}{\sqrt{\frac{r^2 - 1}{2 - n}}}$$

Where

R = Pearson correlation coefficient

N = number of the subjects

(Glass & Hopkins, 1996).

5- Z-test for the Difference between the Two Correlation Coefficients.

$$z = \frac{dr_1 - dr_2}{\sqrt{\frac{1}{n_1 - 3} + \frac{1}{n_2 - 3}}}$$

Where

dr = degree of correlation coefficient value

n = number of subject

(Snedecor & Cochran, 1980).

5. Analysis of Data

After collecting the data from QESE and SEAQ questionnaires of the main study sample and analyzing them statistically, the nature of these data was described through the values of mean scores, hypothetical mean, standard deviations, t-value, and Pearson correlation coefficient. To find out if there is any significant (negative or positive) association between the mean scores of SE and EFL university students' E, a Pearson correlation coefficient has been

adopted to test the type of correlation and indicate the direction of this relationship. The values of these items were computed and analyzed by utilizing a T-test for paired samples, the Pearson correlation coefficient to specify the association between the study variables, a T-test for the correlation coefficient to decide whether the linear relationship in the sample data is strong enough, and the Z-test to verify the difference between the two correlation coefficients in two independent samples. Regarding the main objective of the current study, the purpose of extracting the Pearson correlation coefficient is to test the correlation between SE and EFL University students' E and explain the relationship between them.

As such, it is important to calculate the Pearson correlation coefficient to determine the degree of association between these variables and identify the direction of this relationship.

I. Testing the First Hypothesis

Regarding the examination of the first hypothesis and the related aim read as:

First Hypothesis: "EFL University students' SE is significantly correlated to their E"

First Aim: "Specifying the level or degree of correlation between students' SE and their E in an EFL context"

The Pearson correlation coefficient was utilized to assess the relationship between the two variables under study (SE and E) to test the hypothesis and achieve the aim. Subsequently, a T-test of the correlation coefficient was performed. The data and findings from these analyses are presented in Table (4).

Table (4) Correlation Coefficients and Calculated T-values between the Two Variables (SE and E) of the Study Sample in General

Variables	Number of subjects	Mean score	Pearson correlation coefficient	T-test		Indication
				Calculated	Tabulated	
Self-efficacy	170	97.994	0.534	8.186	1.960 (0.05) (168)	Sig
Engagement		164				

Table (4) indicates that the calculated t-value (8.186) is higher than the tabulated t-value (1.960) at a significance level (0.05) with (168) degrees of freedom. This demonstrates a statistically significant correlation between SE and EFL university students' E. Moreover, the Pearson correlation coefficient (0.534) illustrates a positive relationship between SE and E, indicating that

these variables are positively correlated and mutually influenced. This positive correlation suggests that higher levels of students' SE correspond to higher levels of their E, and conversely, higher levels of students' E correspond to higher levels of their SE.

II. Testing the Second Hypothesis

The second hypothesis and the second aim read as follows:

Second Hypothesis: “university grade of EFL students has a great role as far as the degree of correlation between their SE and E is concerned”

Second Aim: “Determining the role of university grade of EFL as far as the correlation between SE and E inside the class is concerned”

To test this hypothesis and achieve this aim, the researcher calculated correlation coefficients for the variables SE and E. These coefficients were standardized to facilitate the application of the Z-test, which was used to assess differences between the correlation coefficients across two independent samples: first and fourth grades (based on university grade). The outcomes of these analyses are detailed in the subsequent tables.

Table (5) The Differences in SE Variable According to University grade

Variable	University grade	Number of Subjects	Mean score	Standard Devition	T-test		Sig.	Indication
					Calculated	Tabulated		
Self-efficacy	First	71	98.154	23.257	0.079	1.960 (0.05)	0.937	Not Sig.
	Fourth	99	97.878	22.107		(168)		

This table illustrates the statistical variances between first-year and fourth-year students concerning the SE variable. It is evident from this table that there are no statistically significant differences in students' SE based on their university grade, whether they are in the first grade or the fourth grade. The calculated T-test value for the two independent samples (first and fourth grades) is (0.937), which is higher than the significance level (0.05). Therefore, the university grade (first or fourth year) does not impact the SE variable.

Table (6) The Differences in E Variable According to University grade

Variable	University grade	Number of Subjects	Mean score	Standard Devition	T-test		Sig.	Indication
					Calculated	Tabulated		
Engagement	First	71	156.281	21.469	3.663	1.960 (0.05)	0.000	Sig.
	Fourth	99	169.535	24.466		(168)		

This table highlights the engagement variable's statistical differences between first-year and fourth-year students. The table indicates statistically significant differences in students' E variable based on their university level.

These differences are evidenced by the T-test for two independent samples (first and fourth grades), yielding a significant value (0.000), which is lower than the significance level (0.05). Thus, there are statistical differences between first-year and fourth-year university students in the E variable, favouring fourth-year students.

Table (7) The Difference in the Relationship between SE and E According to University grade Variable

Variable		Number of subjects	Pearson correlation coefficient	Z-test		Indication
				Calculated	Tabulated	
University grade	First	71	0.385	0.108	1.960 (0.05)	Non-Sig. Correlation
	Fourth	99	0.387			

Table (7) demonstrates that the calculated t-values of the Z-test for the university- grade variable is 0.108, lower than the tabulated value of 1.960. This indicates no significant difference between the correlation coefficients of the two groups based on university- grade variable.

5.1 Discussion of the Results

In terms of the key findings, the first hypothesis examines the relationship between SE and students' E in FL. The Pearson correlation coefficient (0.534) indicates a strong positive correlation between students' SE and E, supported by a calculated t-value higher than the tabulated value. This correlation signifies that higher SE levels correlate with increased E in learning activities and vice versa.

Regarding the second hypothesis, the correlation coefficients for both independent samples suggest no significant difference in the influence of academic grades. This finding indicates that university grade does not significantly affect the correlation between SE and E among the study participants. However, a notable E-level difference is observed between first-year (156.281) and fourth-year (169.535) students, with the latter demonstrating higher engagement. This disparity may be attributed to increased academic investment, familiarity with the university environment, and the relevance of upper-level courses to students' interests and career goals.

5.2 Research Conclusions

It is worth mentioning that extracted results that are related to the hypotheses and aims of this research have come out with the following conclusions:

1. **Positive Correlation Between SE and E:** The research identified a positive correlation between SE and E. This means that students with higher levels of SE displayed greater E in learning activities. In simpler terms, students who believed in their abilities were more likely to be actively involved in their English language learning. The correlation between these two variables follows positive, strong and in similar directions. This means that when students' SE increase, their E also increase, and vice versa.
2. **University Grade Does Not Affect The Correlation Between SE and E:** There is no indication of the role of university grade regarding the degree of correlation between SE and E. This would acknowledge the study's findings, which reveal that high levels of SE affect the students' E so strongly to restrict university-grade differences to such a degree of no indication. This means that first and fourth grades students experience high levels of E because they are affected by high levels of SE
3. **Higher E in Fourth-Year Students:** A significant difference in E levels was observed between first-year and fourth-year students. The research showed that fourth-year students demonstrated a higher level of E compared to first-year students. This difference might be attributed to various factors, such as increased academic investment, familiarity with the university environment, and the relevance of upper-level courses to students' interests and career goals.

While SE and E are critical factors in language learning, this research finds no significant correlation between SE and E among EFL university students, regardless of academic stage. These findings underscore the importance of creating supportive and conducive learning environments in FL classrooms to enhance SE and E levels, fostering successful language acquisition and mastery.

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Appendix The Original Version of QESE Questionnaire

1	2	3	4	5	6	7	
I can do it well.	I can do it.	I basically can do it.	Maybe I can do it.	Maybe I cannot do it.	I cannot do it.	I cannot do it at all.	
Items	1	2	3	4	5	6	7
1. Can you understand stories told in English?							
2. Can you finish your homework of English reading independently?							
3. Can you understand American English TV programs?							
4. Can you introduce your university in English?							
5. Can you compose messages in English on the internet through social network (e.g., Facebook, Twitter, YouTube, and Tiktok)?							
6. Can you give directions from your classroom to your home in English?							
7. Can you write English compositions assigned by your teachers?							
8. Can you tell a story in English?							
9. Can you understand radio programs in English speaking countries?							
10. Can you understand English TV programs made in Thailand?							
11. Can you leave a message to your classmates in English?							
12. When you read English articles, can you guess the meaning of unknown words?							
13. Can you make new sentences with the words just learned?							
14. Can you send email messages in English?							

15. If your teacher plays an audio recording of an English dialogue about university life, can you understand it?							
16. Can you understand the English news on the Internet?							
17. Can you ask questions to your teachers in English?							
18. Can you make sentences with English phrases?							
19. Can you introduce your English teacher in English?							
20. Can you discuss in English with your classmates some topic sin which all of you are interested?							
21. Can you read English short novels?							
22. Can you understand English movies without Thai subtitles?							
23. Can you answer your teachers' questions in English?							
24. Can you understand English songs?							
25. Can you read English newspapers?							
26. Can you find the meaning of new words by using English English dictionaries?							
27. Can you understand telephone numbers spoken in English?							
28. Can you write diaries in English?							
29. Can you understand English articles about Thai culture?							
30. Can you introduce yourself in English?							
31. Can you write an article about your English teacher in English?							
32. Can you understand new lessons in your English textbook?							

Appendix (2)
The Original Version of SESQ

1. Effective Engagement					
Items	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
1. I am very interested in learning.					
2. I think what we are learning in school is interesting.					
3. I like what I am learning in school.					
4. I enjoy learning new things in class.					
5. I think learning is boring. (R)					
6. I like my school.					
7. I am proud to be at this school.					
8. Most mornings, I look forward to going to school.					
9. I am happy to be at this school.					

Appendix (4)
The Original Version of AES

Items	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. During class, I ask questions.					
2. I tell the teacher what I like and what I don't like					
3. I let my teacher know what I'm interested in.					
4. During class, I express my preferences and opinions					
5. I offer suggestions about how to make the class better					

Appendix (4)
The Final Version of QESE

Instructions: please read the following items carefully and kindly mark the most suitable answer that naturally describes your state.

Age :

Gender :

University level:

Skill 1 Listening Self-Efficacy					
Items	I can not do it well	Maybe I can not do it	Sometimes I can do it	I can do it	I can do it well
1. Can you understand stories stated in English?					
2. Can you understand English TV programs?					
3. I let my teacher know what I'm interested in.					
4. Can you understand radio English programs ?					

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5. Can you understand a tape-recorded English dialogue given by your teacher					
6. Can you understand English movies without Arabic subtitles?					
7. Can you understand English songs?					
8. Can you understand telephone numbers said in English?					
Skill 2 Speaking Self-Efficacy					
1. Can you talk about your college in English?.					
2. Can you give directions about your way from your classroom to your home in English?					
3. Can you tell a story in English?					
4. Can you ask your teacher questions in English?					
5. Can you introduce your English teacher in English					
6. Can you discuss with your classmates some topics in English that you are all interested in?					
7. Can you answer your teachers' questions in English?					
8. Can you introduce yourself in English?					
Skill 3 Reading Self-Efficacy					
1. Can you finish your English reading assignments independently?					



2. When you read English articles, can you guess the meaning of unknown words from context?					
3. Can you understand the English news on the Internet?					
4. Can you read short English writings?					
5. Can you understand English articles about Arabic culture?					
6. Can you read English newspapers?					

Skill 4 Writing Self-Efficacy

1. Can you compose messages in English on the internet through social network (e.g., We Chat and blogs)?					
2. Can you write English compositions and assignments?					
3. Can you make new English sentences from the already learned words?					
4. Can you form sentences with English phrases?					
5. Can you write diaries in English?					
6. Can you write an article about your English teacher in English?					