# EFL students' self-efficacy in technology-assisted language learning

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**ABSTRACT**

Technological advancements are currently available in several areas to meet our daily needs. One such development is the use of technology in education, which has seen a significant increase in recent times due to the Covid-19 epidemic. Although students may be familiar with blended learning and technology, it is important for teachers to assess their level of self-efficacy in using technology effectively in education, as this has a direct impact on their ability to learn and improve their academic performance. This study investigated the level of students' self-efficacy and explored strategies to enhance it among Indonesian students who are now enrolled in an English Language Education program after the outbreak. This survey research integrated both quantitative and qualitative data analysis methods. Data was collected through interviews and questionnaires. A total of 60 students participated in this research. The questionnaire resulted in an overall self-efficacy score of 76.6% for all participants. This percentage indicates the high level of self-efficacy of the students. Each year group is classified as high. Interviews with the students served to validate the questionnaire results and further supported these findings. The majority of students use three ways to improve their English as a Foreign Language (EFL) acquisition. They participate autonomously in English language practice by improving computer skills, using online educational media and

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resources, and intensifying engagement with teachers and peers through communication platforms.

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## 1. Introduction

Current learning entails the incorporation of technology inside the educational setting. This is not an exemption when it comes to learning English as a Foreign Language (EFL) in Indonesia. In the realm of education, the widespread adoption of technology necessitates that both teachers and students possess a high level of technological literacy and proficiency (Bahari & Li, 2024). Multiple studies have examined teachers' perspectives on incorporating technology into integrated learning (Bahari, 2022; Lee et al., 2024; Telore & Damtew, 2023), but few have extensively investigated students' self-confidence in utilising technology during the learning process.

Nevertheless, it is indisputable that the responsibility for fostering students' inclination to utilize technology in their learning process lies not only with teachers at school (Patty & Bilung, 2023), but also with parents who provide guidance and support at home (Lim et al., 2024). Society is increasingly recognizing the diverse obligations that schools have, beyond academic education, to ensure the well-being and nourishment of children and teenagers (Sayed et al., 2022), as well as their preparedness for incorporating technology into their learning. Enhancing comprehension and admiration for the utilization of technology in education might serve as the foundation for revitalizing contemporary education.

In the current era of rapid technological advancement, students must actively and successfully engage in the process of learning, particularly in the context of English language acquisition, which is increasingly reliant on technology as a learning tool and medium. This active role encompasses students establishing their own objectives, performing self-assessments, and organizing their learning settings while effectively incorporating technology into their learning process (Su et al., 2018).

EFL students in Indonesia face additional hurdles in achieving competency due to the diverse range of learning technology applications. The efficacy of students' learning in this form will be contingent upon their self-assurance in their technological aptitude. Students' belief in their learning process is related to their self-efficacy (henceforth SSE) in their success capabilities. "Self-efficacy is a personal confidence in one's abilities to plan and carry out the steps necessary to achieve specific types of results," has its origins in Bandura's theory (Bandura, 2017a) social cognitive theory. In addition, Self-efficacy is defined as a person's assessment of his or her own abilities to complete a task, achieve a target, or create something (Baron and Byrne, 1987). The main source of SSE comes from their experience whether it is success or failure which will influence their confidence in the skills they acquire (Agricola et al., 2020).

Multiple regression analyses and correlations indicate that contextual and personal factors influence efficacy (An et al., 2021). In addition, research in multicultural education suggests that students' individual characteristics influence their learning practices and self-efficacy (JohnBull, 2012). Moreover, there is a requirement in Indonesia for study that examines students' self-assurance in acquiring EFL when technology is included, and aids in discovering the aspects that impact their confidence in the learning journey (Atmojo & Nugroho, 2020a; Nugroho et al., 2021).

The present circumstances reveal that numerous students in Indonesia, encounter challenges when it comes to effectively utilizing technology for both online and offline learning (Atmojo & Nugroho, 2020b; Panjaitan et al., 2021). These difficulties arise from a lack of self-assurance in the current post-pandemic situation (Hidayat, 2022). This problem is compounded by the fact that many of these students have been affected by the pandemic. During the COVID-19 pandemic, students' psychological conditions changed dramatically (Muniruzzaman & Siddiky, 2021).

Due to the extensive utilization of technology tools and applications in the learning process, college students are more susceptible to being impacted by this condition. The worst aspect of this phenomenon, which began at the beginning of this academic year, is that it causes students to become anxious and have a low opinion of their own learning process and achievements where technology is integrated. This is one of the unintended negative effects of the phenomenon. They exhibit limited proficiency in employing technology as tools and media for active engagement in class discussions, a deficiency in maintaining cooperative learning, and minimal interaction with both lecturers and classmates.

This study investigated the extent of SSE and the strategies employed by students to enhance their SSE while utilizing technology in their educational journey. As many teachers are unaware of the specific degree of SSE (Sachitra & Bandara, 2017a), disclosing this information would enable them to create suitable course activities, ultimately enhancing students' confidence in their technology learning. In accordance with the objectives, a couple of research questions are addressed as follows:

1. What is the extent of students' self-efficacy in incorporating technology into the process of learning English as a Foreign Language (EFL)?
2. What tactics do students use to improve their self-efficacy while incorporating technology into their EFL learning experience?

## 2. Literature review

### 2.1. Self-efficacy

Self-efficacy theory is seen as a component of Bandura's social cognitive theory. Researchers have highlighted that Bandura's self-efficacy theory is a highly significant and long-lasting contribution to the fields of academic accomplishment, learning, and motivation (Bhati & Priyadarshini, 2022). According to Bandura's social learning theory, self-efficacy refers to individuals' assessments of their skills to plan and carry out specific

actions necessary to achieve desired outcomes (Bandura, 2017b). Self-efficacy pertains to an individual's belief in their capability to successfully carry out a specific course of action, rather than their self-esteem or their set of talents and abilities (Redifer et al., 2021).

Self-efficacy, which encompasses internal motivation, situational circumstances, role perception, and capacity, plays a crucial part in the learning process. The presence of self-efficacy in students is of utmost significance as it has a profound impact on their ability to attain desired learning outcomes (Puozzo & Audrin, 2021). If students possess a strong sense of self-assurance in their ability to succeed, they will exert maximum effort in order to attain their desired objectives (Kaur et al., 2023). This demonstrates that these students possess a strong sense of self-efficacy.

In order to provide a more detailed analysis of self-efficacy, Bandura (2017b) and Schmitz (2013a) categorized it into two distinct groups: high self-efficacy and low self-efficacy. An individual with a strong sense of self-efficacy is likely to possess a high level of motivation to complete their tasks, regardless of any specific circumstances (Redifer et al., 2021). In contrast, those with poor self-efficacy are inclined to postpone or procrastinate their activities (Agricola et al., 2020). Assessing self-efficacy can be highly intricate due to its connection with an individual's psychological state. Every individual possesses their own forecast or assessment on their skills.

Bandura's (Bandura, 2017b) social-cognitive theory states that students' self-efficacy views are influenced by four main sources of information. Enactive mastery experiences are the initial and impactful method for achieving genuine success in a certain setting. Engaging in active experiences is the most efficient method for developing a robust sense of effectiveness (Parmer, 2022). Furthermore, the convictions regarding effectiveness might be reinforced by vicarious experiences (Blanco et al., 2020a). Students are exposed to social models who possess acknowledged similarities in their abilities and situations (Schmitz, 2013a). This facilitates students, who assume the role of observers, in acquiring crucial knowledge about their own skills.

Verbal persuasion is another means employed to enhance an individual's self-efficacy beliefs. Providing verbal support that emphasizes an individual's ability to successfully accomplish a certain task can boost their self-efficacy (Lera et al., 2023). Research has demonstrated that the efficacy of social persuasion and constructive feedback is optimized when learners see the sources of information as respectable and reliable, and when these sources supply them with accurate and practical information (HadaviBavili & İlçioğlu, 2024; Parmer, 2022).

## 2.2. Technology-assisted language learning

The exponential advancement of technology has sparked a profound transformation in the field of education, making it imperative for recent progress that computer and internet access be universally available (Buddha et al., 2024). Researchers and educators are studying effective strategies to instruct students in many academic

disciplines through the implementation of innovative technologies. The reason for this is the belief that the use of technology has a greater influence on students' attitudes, behaviours, and interests in various disciplines compared to traditional teaching methods (Tafonao et al., 2020). The same principle applies to language learning systems. Consequently, the use of technology in education is becoming increasingly common.

With advancements in technology, the subject of foreign language learning has been largely influenced by trends like Technology-Assisted Language Learning (TALL). TALL is a necessity of the new generation, which opens up opportunities for educators to upgrade themselves and surpass those who do not use technology (Farikah et al., 2023). This clearly demonstrates that the present era is more intelligent than the previous one, where technology was used less and people were unaware of its potential (Buddha et al., 2024). The significance of TALL is growing rapidly in the market, particularly among new and advanced educators and generations.

The use of TALL, such as mobile devices or computers, is increasingly becoming recognized as an effective method for EFL acquisition (Bahari and Li, 2024). The TALL idea integrates computer-assisted language learning (CALL) and mobile-assisted language learning (MALL). Computer-Assisted Language Learning (CALL) is a method in which students utilize a computer to improve and develop their language skills, including writing, speaking, reading, and listening. Computer-assisted learning offers a multitude of advantages, including access to genuine materials, opportunities for hands-on learning, increased motivation, enhanced interaction, and a broader global perspective. Conversely, MALL stands for any form of learning that takes place on a mobile device, such as an mp3 player, tablets, eBook readers, and podcasting.

## 2.3. EFL students' self-efficacy in technology-assisted language learning

Anxiety is a psychological component that affects the performance of students studying English as a foreign language. It is a psychological notion known as a state of fear, specifically an ambiguous fear that is only indirectly connected to the object (YWang & Wang, 2022). As English as a Foreign Language (EFL) students inherently understand, this has a negative effect on the acquisition and proficiency of EFL abilities (Hanafiah et al., 2022). Learning anxiety is the term used to describe the feelings of tension and panic that EFL students experience when they encounter difficulties and tasks in their learning process (Wang, 2021).

Self-efficacy, as identified by Bhati and Priyadarshini (2022), is an additional psychological element that impacts the academic performance of EFL students. Self-efficacy refers to students' belief in their capability to effectively complete activities and acquire proficiency in English language abilities (An et al., 2021). Blanco et al. (2020a) have demonstrated that this phenomenon has a significant impact on the choices, exertion, and conduct of individuals when faced with obstacles and problems. This also impacts the degree of anxiety that EFL students experience when working on tasks. Thus, self-efficacy has an impact on the decision-making process of students in determining their

behaviour (Puozzo &Audrin, 2021). Indeed, this particular element is a more potent indicator of success or failure compared to other psychological aspects (Yantraprakorn et al., 2018a). The EFL students that possess greater self-efficacy exhibit increased effort in completing necessary activities and demonstrate greater resilience (Agricola et al., 2020; Bandura, 2017b; Redifer et al., 2021; Yantraprakorn et al., 2018a).

## 3. Method

### 3.1. Research design

The study was carried out during the even semester of the academic year 2022/2023. The study employed a survey research method. Survey research is defined as "the collection of information from a sample of individuals through their responses to questions" (Check &Schutt, 2017). In this research survey, the majority of researchers focus on a current phenomenon. The researchers used a questionnaire and an interview as instruments in this study. As stated by Ponto (2015), survey research can employ quantitative research strategies (e.g., using numerically rated questionnaires), qualitative research strategies (e.g., using open-ended questions), or both (i.e., mixed methods). The survey research method was used by the researchers to analyze the level of students' self-efficacy and how they increased their self-efficacy in English classes.

### 3.2. Participants

The research employed a total sampling method to obtain the respondents. However, only 60 out of the total 63 students from the sixth semester of an English Language Education Study Program in a private university in Central Java took part in this study. Due to personal circumstances, the three students were absent and did not participate in this investigation. The respondents have prior expertise in utilizing technology for learning purposes across a range of courses, particularly in Instructional Media and Computer-Assisted Language Learning (CALL) courses. Out of a total of 60 participants, 15 participants have volunteered to participate in the interview session.

### 3.3. Data collection

To collect data from the field, questionnaires and interviews were used. Responses to the students' self-efficacy were collected via an online questionnaire during the main stage of the study. The content validity of the questionnaire items adapted from the questionnaire of Measuring Academic Self-Efficacy of Undergraduates by Sachitra and Bandara (2017b), Motivational and Self-Regulated Components of Classroom Academic Performance questionnaire by Pintrich and Groot (1990), The development of a questionnaire for predicting on learning achievement (Fall term 2003 questionnaire from Concordia University) by Bernard et al. (2004), Self-regulated online learning questionnaire by Jansen et al. (2017), and general student self-efficacy scale questionnaire by Schmitz (2013b). All questionnaire items in this study were modified by the

researchers so that students who filled out this questionnaire could more easily understand each statement.

Another method of data collection is through interviews. Interview was conducted via Focus Group Discussions (FGD). The objective of utilizing FGD in this study was to collect participants' perspectives on their attitudes towards the incorporation of technology in the instructional process. The interviews conducted in this FGD center around the advantages of technology in enhancing comprehension of material, communication abilities, active engagement in discussions, as well as identifying obstacles encountered by students in utilizing educational technology and the problem-solving approaches they employ.

The researchers designated a student as the moderator and oversaw the conversation around the use of technology in education. Out of the 60 students, 15 participated in the interview process. The students were organized into five groups, with each group consisting of three students, with the purpose of participating in a discussion group. They engaged in a conversation on their experiences with technology in education, including the advantages, challenges, and approaches they employed to effectively integrate technology into the classroom. Subsequently, the researchers documented and examined the outcomes of this FGD in order to acquire research findings pertaining to the utilization of technology in education and students' attitudes towards it.

### 3.4. Data analysis

The study employed basic descriptive statistics to analyze the quantitative data and utilized an inductive thematic analysis approach to analyze the qualitative data. The responses entered into a Google Spreadsheet were analyzed to calculate the percentage of students' self-efficacy levels. Afterwards, the results were classified into five separate categories based on the updated evaluation criteria. The numerical range of 81-100 is classified as the very high group, whilst the range of 61-80 is categorized as high. The numerical range of 41-60 is classified as medium, the range of 21-40 falls into low category, and the range of 0-20 is categorized as very low (Riduwan, 2015).

The last stage is displaying data from the questionnaire results with a specific description. While the interview results were qualitatively analyzed by transcribing the interviewees' answers, categorizing and displaying them, and then verifying them to arrive at the final result.

## 4. Findings

The research findings were derived from the analysis of the questionnaire responses and interviews. Here is the presentation of each.

### 4.1.1. Findings obtained from the questionnaire

Data was collected from 60 students that participated in this inquiry across three classrooms (A, B, and C). For this study, a questionnaire consisting of twenty statements

was employed. The researchers utilized quantitative research methodologies to compute the findings of the data gathered from sixty students who completed a questionnaire. Upon analysing the data obtained from the questionnaire, the researcher found that the outcome was 76.6 percent.

The Self-Efficacy Descriptive Analysis Criteria indicated that a 76.6 percent level of achievement was reached in the "High" category. This suggests that the persons involved in the survey had a notable level of self-confidence and belief in their abilities. The researchers additionally examined the student population by categorizing them according to their level of self-efficacy. Based on the statistics, there are 42 students who possess a "High" level of self-efficacy, 17 students who possess a "Very High" level of self-efficacy, and just one student who possesses a "Medium" level of self-efficacy.

According to the statistics, the students in each class had the highest level of self-efficacy. Class A consisted of 11 students, class B included 15 students, and class C had 16 students who demonstrated "high" levels of self-efficacy. Seventeen students in total were categorized as "Very High," with eight students from class A, five students from class B, and four students from class C. A student from class A attained the highest proficiency level, "Medium," while no participants obtained scores in the "Low" or "Very Low" categories. The table provided presents a concise overview of all the responses collected from the questionnaires:

**Table 1**

The summary of questionnaire results.

| Categories | Questionnaire Results in Percentage | | | |
| --- | --- | --- | --- | --- |
| | **Complete Outcome** | **Class A** | **Class B** | **Class C** |
| Very High | 28.3% | 40% | 25% | 20% |
| High | 70% | 55% | 75% | 80% |
| Medium | 1.7% | 5% | 0% | 0% |
| Low | 0% | 0% | 0% | 0% |
| Very Low | 0% | 0% | 0% | 0% |

Table 1 presents a comprehensive summary of the questionnaire results. From a group of 17 students who exhibit a significantly elevated degree of self-efficacy, representing 28.3 percent of the total. A total of 42 students achieved a "High" ranking in their respective categories, which corresponds to 70 percent. Furthermore, only one student achieved a "Medium" level score, accounting for a mere 1.7% of the total. Notably, no students attained a "Low" or "Very Low" level score.

The student self-efficacy level of students in class A, as specified in table 2, column 3, was categorized into three levels: extremely high, high, and medium. The levels are arranged in descending order, from highest to lowest. The self-efficacy levels of the twenty students in class A were categorized as follows: Out of the total number of

students, eight students (40%) were classified as "Very High," eleven students (55%) were classified as "High," just one student (1.7% of the class) was classified as "Medium," and no students belonged to the "Low" or "Very Low" categories.

The self-efficacy of class B students was classified using the same way. In class B, the questionnaire revealed that 3 students, accounting for 25% of the total, rated their self-efficacy as "Very High," whilst 15 students rated it as "High." The numerical representation is 75 percent. All the students in class B achieved a rating of "High" or "Very High" for their academic performance.

The pattern of results observed in class B was duplicated in class C, with the students' self-efficacy categorized into only two unique categories or levels. Out of the total number of students, 20% (4 students) possess a "Very High" degree of self-efficacy, while the remaining 80% (16 students) have a "High" level of self-efficacy. All the students in class C did not possess a self-efficacy level that could be classified as "Medium", "Low", or "Very Low".

### 4.1.1. Findings obtained from the interview

The interview questions focused on students' viewpoints regarding the utilization of technology in the process of acquiring English language skills. The researchers formed five groups, each focusing on three specific themes for discussion. The advantages and difficulties of technology-integrated learning, as well as the tactics used to overcome these difficulties were discussed. The interview results were subjected to qualitative analysis through the process of transcribing the respondents' responses, categorizing and presenting them, and subsequently validating them to obtain the ultimate outcome. The interview results were classified inductively. The process commences with the students' specific encounters with technology, which then lead to more general assertions about those encounters. The following is the categorization of the interview data:

### 4.1.1.1. The benefits and challenges of technology-integrated learning

The initial interview findings pertain to the advantages of technology-integrated learning, which are condensed from the students' responses in the FGD.

**Table 2**

The benefits and challenges of technology-integrated learning.

| Benefits | Challenges |
| --- | --- |
| Enhanced understanding of the topic | Limited comprehension of the subject matter |
| Enhanced competence in exploiting technology resources | wasted energy and time |
| Enhanced learning efficiency and effectiveness | |
| Efficient communication and engaged involvement in discussions | Passive interaction |

| Increased motivation | Lack of drive |
|---|---|
| - | Poor internet connectivity |

Table 2 presents the benefits and challenges of utilizing technology in the learning processes. Of the five-group interviewed, two expressed a mix of positive and negative sentiments towards the integration of technology in learning.

> *Group 1*: The use of technology in one-sided learning makes it easier for us. For example, in presentations, we can use several applications to create presentation slides. But on the other hand, the use of this technology will run smoothly if the internet connection is good, whereas we are not always in a place where the internet connection is stable.

> *Group 4*: Sometimes lecturers teach online, but communication doesn't go well, because we tend to just be passive listeners. However, online learning facilitates universal access to learning sessions, particularly for students engaged in many organisations or working part-time.

Online learning has hindered students' ability to fully absorb the subject due to a lack of communication. Moreover, the internet connection hindered the smooth operation of the equipment. However, the unique aspect here is that despite their belief that internet-based learning is not always effective.

A group conveyed discontent. They claimed that the use of technology impedes their capacity to easily grasp the essential nature of the subject matter, as it is overly complex and demands significant work and time.

> *Group 5*: We like a learning environment where there is direct interaction between the instructor and students, since it facilitates our optimal comprehension of the topic. The utilization of technology actually hinders our ability to comprehend the fundamental nature of the stuff effortlessly, as it is excessively intricate and requires substantial energy and time. Ultimately, we become preoccupied with technical matters, which frequently leads to feelings of boredom and lack of motivation to acquire knowledge.

The concept originated from group 5, who demonstrated a preference for traditional discussions, where they may directly articulate their ideas to the teacher or their peers. They asserted that technology, in some way, compelled them to contemplate many times on how to respond to teacher's inquiries, how to create ideas, and how to present them using certain technological applications, which ultimately led to their loss of motivation.

*4.1.1.2. Strategies to overcome the challenges*

After identifying the advantages and difficulties of incorporating technology in the classroom, the researcher endeavoured to explore strategies for addressing these issues. Several tactics are employed and presented below.

**Table 3**

Strategies to surmount the challenges.

| Challenges | Strategies to Overcome the Challenges |
|---|---|
| Limited comprehension of the subject matter | a. Enhancing proficiency in computer literacy.<br>b. Improving proficiency in digital communication. |
| wasted energy and time | Enhancing ability to critically analyze and comprehend media content. |
| Passive interaction | Improving capacity to critically assess and understand media information. |
| Lack of drive | Enhancing ability to analyze and comprehend media material in a critical manner. |
| Poor internet connectivity | Enhancing proficiency in computer literacy |

Table 3 illustrates the existence of three solutions employed to address the difficulties encountered when utilizing technology in instructional activities. The tactics focus on optimizing computer literacy, digital communication skills, and media literacy. The students' response during the Focus Group Discussion (FGD) revealed a range of tactics they used when utilizing the learning technology.

> *Group 1*: Proficiency in computer skills significantly impacts our capacity to maximise the use of technology in the classroom.

> *Group 4*: Online learning facilitates universal access to learning sessions, particularly for students engaged in many organisations or working part-time. In this particular example and situation, social media proves to be the most effective means of aiding them in achieving optimal English as a Foreign Language (EFL) acquisition.

The utilisation of the students' social media platforms actually provides them with an opportunity to learn English more easily and efficiently.

Two more groups indicated contentment with their learning experience using digital tools.

> *Group 2*: Technological apps facilitate a more engaged learning experience, enabling us to acquire knowledge more easily. We enjoy acquiring writing skills through the utilization of Padlet or Google Doc. These two applications facilitate the process of receiving feedback from both instructors and friends.

*Group 3*: Technology applications create a distinct educational environment. We find it highly beneficial to incorporate certain tools into the learning process, particularly during engaging discussions with peers.

Technological applications enhance the learning process by promoting active participation, allowing students to acquire knowledge with greater ease. They derive pleasure from developing their writing abilities by using Padlet or Google Doc. These two programmes streamline the process of obtaining feedback from both instructors and friends. Furthermore, the utilisation of technology in education establishes a unique and separate learning environment. They consider it quite advantageous to include specific technologies into the learning process, especially during interactive discussions with peers.

## 5. Discussion

This research discussion centres on two main aspects: the level of students' self-efficacy in integrating technology into the process of learning English as a Foreign Language (EFL), and the strategies employed by students to enhance their self-efficacy while incorporating technology into their EFL learning experience.

### 5.1. Level of student's self-efficacy in online learning

The self-efficacy level is categorised into five distinct levels: Very High, High, Medium, Low, and Very Low. The participants in this study had a "High" degree of student self-efficacy. Multiple variables impact a student's perception of their own ability to achieve desired outcomes (Gale et al., 2021). Two factors that influenced the students' level of self-efficacy in technology-based learning are the origin of self-efficacy and its various aspects.

In relation to the researchers' previous claims regarding the origins (Parmer, 2022), the majority of participants concurred that their self-efficacy stems from both internal factors within students themselves and external factors within the surrounding environment. The elements of self-efficacy pertain to the psychological understanding of how accepting various unverified claims might enhance our understanding of the factors that impact accurate and wrong beliefs regarding the use of technology in the process of learning English as a foreign language (Lera et al., 2023). The following is an explanation of the origin and dimensions of self-efficacy in EFL learning.

### 5.2. Sources of self-efficacy

In line with the sources of self-efficacy, four factors can influence a student's level of self-efficacy: mastery experience, vicarious experience, social persuasion, and psychological experience. The sources of self-efficacy, which come from within students and the surrounding environment, play an important role in determining the level of student self-efficacy. Furthermore, the findings are consistent with the notion that mastery experience is a person's previous experience in which they achieved success or failure,

which influences a person's self-efficacy (Khasawneh, 2023). Students' prior experience with learning to use technology can lead to them exploring more material and practicing independently through various platforms for learning available on the internet (Upadhyaya and Vrinda, 2021). Furthermore, the most recent technologies, apps, and other language tools enable English language students to interact with one another (Mobinizad, 2018).

Nevertheless, each individual's perspective varies. Additionally, there are students who are uncertain about the use of technology to enhance their English language proficiency and competencies. They conducted a comparison between the use of technology in education and traditional methods of learning. It was found that completing assignments on paper and engaging in direct talks without the assistance of learning apps were perceived to have greater significance than performing the same activities with the aid of technology tools and applications.

Some individuals even believed that human-like beings were employing technology for educational purposes. They believe that the presence of technology capable of supplanting human involvement has an adverse impact on the acquisition of the English language. Students have a high reliance on technology when completing homework, which leads to their grades not accurately reflecting their English language talents and skills. This finding suggests a negative attitude towards the incorporation of technology in education. There is a belief that technology is perceived as a potential hindrance to the learning process rather than facilitating genuine communication among students (Farikah et al., 2023). *Students who are unsure of their abilities have low self-efficacy (*Khasawneh, 2023). *In other words, a person's past experiences have a significant impact on their self-efficacy. The facts are consistent with a statement made by* (Mohamadi et al., 2011) *that past performance achievements can* install *a strong sense of confidence in one's ability to complete similar tasks in the future failure, on the other hand, may reduce efficacy perceptions* (Yantraprakorn et al., 2018b).

### 5.3. Dimensions of self-efficacy

The Self-Efficacy Dimensions are divided into three categories: magnitude/level, strength, and generality. A person's belief in the behavioural, cognitive, and affective fields that are controlled by their abilities is referred to as generality (Wheeler, 2015). The number of respondents demonstrates that each student has a unique perspective. Furthermore, a psychological understanding of the generality of acceptance of various unsubstantiated claims may advance knowledge of factors that influence accurate and incorrect belief (Bensley et al., 2020). There are 35 students who chose strongly agree and agree, while 25 students chose to disagree and strongly disagree. Essentially, the dimensions of self-efficacy play an important role in determining whether a student's self-efficacy is high or low.

However, another student believed that she lacked confidence in all aspects of her English skills. This demonstrates that people's levels of confidence differ from one

another (Blanco et al., 2020a). In this example, we can see that, despite using the same method and grade level, they have different levels of confidence in their abilities. Students who have a high level of self-efficacy will be able to master multiple subjects at the same time, whereas students who have a low level of self-efficacy will likely only learn a few of the skills required to complete a task (generality) (Sun and Wang, 2020, and Blanco et al., 2020b).

### 5.4. The efforts in increasing student's self-efficacy

The research findings, particularly the answers obtained from the questionnaire, indicate that student self-efficacy falls within the high range. Nevertheless, there are still students that possess a moderate level of self-efficacy. Another finding from the interview results was that despite having high levels of self-efficacy, participants acknowledged that they still had concerns and had not yet achieved the optimal utilisation of technology in their learning.

Consequently, the researchers conduct a thorough investigation on the endeavours undertaken by students with varying levels of self-efficacy (i.e., very high, high, and moderate) in order to provide lecturers with valuable insights on how to effectively use technology into the learning process, ensuring both comfort and safety for students. The researchers conducted an analysis of students' endeavours to enhance their self-efficacy in learning English using technology. They took into account multiple elements that influence both high and low levels of self-efficacy.

Throughout the interview, the researcher made efforts to gather data on the factors that contribute to decreased self-efficacy in English language acquisition when technology is incorporated. According to the survey, 80% of students believe that lacking sufficient digital skills could lead to a decrease in their confidence when it comes to their English proficiency. Multiple studies have discovered that students exhibit a lack of confidence in efficiently incorporating technology into language courses, which in turn affects the utilisation of digital resources for language acquisition (Anderson et al., 2018; Kassymova et al., 2023; Pratiwi and Waluyo, 2023; Tajeddin and Rezanejad, 2023). The integration of technology in EFL learning is crucial. Failure to achieve this integration might negatively impact students' learning processes.

The students expressed that their inadequate proficiency in utilising technology was a challenge that could indeed be surmounted. During the FGD, the researchers provided a more comprehensive understanding of the efforts and tactics they had implemented or could implement to enhance their skills. The findings revealed three strategies that students employed to improve their understanding of technology. These three methodologies encompass fundamental skills in computer literacy, digital communication and media literacy.

Students propose computer literacy as the initial approach to enhance their understanding and utilisation of technology in the learning process. It is necessary for the students to have a basic understanding of computer literacy, which includes essential

abilities like turning on a desktop computer (as specifically indicated by several respondents), opening files using suitable software, finding documents, and saving data on an external hard drive (López et al., 2021).

By acquiring these fundamental computer abilities, students will be able to reduce their apprehension about technology when it comes to studying. Based on studies conducted by (Cadiz-Gabejan and Takenaka, 2021; Ibrahim et al., 2023; Popoola and Olajide, 2022), having basic computer abilities gives kids a greater advantage in easily accessing and exploring material compared to those who lack these skills.

The second strategy is to enhance digital communication abilities. The students suggested that highlighting the importance of their EFL ability in effectively communicating their thoughts through different technological platforms is another beneficial way to improve their confidence in using technology. This concept is in line with the assertion made by Buddha et al. (2024) that emphasises the importance of students' ability to effectively express their ideas using various technological tools and applications, such as email, social networking, video conferencing, and software like Google Docs or Microsoft PowerPoint. These technology apps enable students to participate in real-time digital collaboration and work on shared files at different times.

Furthermore, students can practice using technology that is familiar to them (Bahari and Li, 2024). For example, students can use Grammarly to check whether their grammar is correct. Because the application includes an explanation and correct word correction, it may make it easier for them to learn grammar (Fitria, 2021; Yousofi, 2022). A few interviewees acknowledged utilising the ELSA Speak programme as a means to enhance their oral communication abilities and rectify any inaccuracies in their pronunciation or intonation. This suggests that technology has aided them in enhancing their EFL skills. An effective suggestion for lecturers is to allocate sufficient room for students to engage in peer-coaching, specifically in the utilisation of technology during their learning process (Bahari, 2022).

Media literacy is considered a third method that can enhance student self-efficacy. Media literacy encompasses the aptitude to acquire information, scrutinise and assess it, generate content, and take action upon it utilising various modes of communication, such as print media, television, or the internet (Rasi et al., 2019). Educators emphasise the increasing significance of equipping students with these abilities in light of the growing prominence of artificial intelligence and its capacity to produce text, audio, images, and video (Bulger et al., 2023; Martens, 2022; Tulodziecki and Grafe, 2022). Respondents assert the necessity of possessing the ability to engage in critical thinking and assess the veracity and dependability of any material seen online, in order to alleviate apprehension towards various technology tools and apps. This discovery aligns with a study conducted by Rosa et al. (2024), which suggests that incorporating digital media into the learning process can enhance the ongoing connection between students and teachers, promote interaction among students, facilitate active learning, provide prompt feedback, make efficient use of time, and accommodate diverse learning styles.

It can be concluded that technological advancements are very beneficial to students in terms of improving their learning. Apart from being simple to use, these applications and platforms can also provide a new environment for students, preventing them from becoming bored with the traditional learning sessions they are used to. This result is consistent with the findings of a study conducted by Liza and Andriyanti, 2020) that one strategy for developing good digital literacy skills was to learn independently by searching for information on the internet using Google or YouTube, sharing with partners or teachers, participating in workshops or training programs, and practicing it.

## 6. Conclusion

The average percentage of students' self-efficacy in the sixth semester of the English Language Education Study Program at a private university in Central Java was 76.6 per cent. This result is classified as "high". Out of the 60 students who participated in this study, only one student had a self-efficacy score classified as "medium". The mean self-efficacy level of the students was also "high". This result is commendable as the students were keen to acquire knowledge and were able to acquire English skills through the use of technology in education. This indicates their confidence in their abilities.

The students' efforts to increase their self-efficacy are exemplified in three ways. The curriculum includes basic skills in computer literacy, digital communication and media literacy. The majority of students participate in self-directed learning by actively seeking additional resources beyond those provided by their teachers. They engage in collaborative learning with their peers and use technological tools such as Grammarly and ELSA Speaking for learning and practice. They improve their computer skills and use digital media to support their learning of English as a Foreign Language (EFL).

Given the potential of technology to influence students' character and attitudes to learning, it is imperative that teachers exercise control over its use. Furthermore, it is advisable for future research to broaden its scope to include different types of educational technology that can be used universally by English language teachers and students.

## References

Agricola, B. T., Prins, F. J., & Sluijsmans, D. M. A. (2020). Impact of feedback request forms and verbal feedback on higher education students' feedback perception, self-efficacy, and motivation. *Assessment in Education: Principles, Policy and Practice*, *27*(1), 6-25. https://doi.org/10.1080/0969594X.2019.1688764.

An, Z., Wang, C., Li, S., Gan, Z., & Li, H. (2021). Technology-assisted self-regulated English language learning: Associations with English language self-efficacy, English enjoyment, and learning outcomes. *Frontiers in Psychology*, *11*, 1-14. https://doi.org/10.3389/fpsyg.2020.

Anderson, J., Chung, Y. C., & Macleroy, V. (2018). Creative and critical approaches to language learning and digital technology: findings from a multilingual digital storytelling project. *Language and Education*, *32*(3)*, 195-211. https://doi.org/10.1080/09500782.2018.

Atmojo, A. E. P., & Nugroho, A. (2020a). EFL Classes must go online! Teaching activities and challenges during COVID-19 Pandemic in Indonesia. *Register Journal*, *13*(1), 49-76. https://doi.org/10.18326/rgt.v13i1.49-76.

Bahari, A. (2022). Teacher identity in technology-assisted language learning: Challenges and affordances. *E-Learning and Digital Media*, *19*(4), 1-24. https://doi.org/10.1177/20427530221092855.

Bahari, A., & Li, R. (2024). Revisiting technology-assisted language learning affordances for language components: a decade survey. *Interactive Learning Environments*, 1-20. https://doi.org/10.1080/10494820.2024.2312910.

Bandura, A. (2017a). Cultivate Self-efficacy for personal and organizational effectiveness. In *the Blackwell handbook of principles of organizational behaviour*, 179-200. https://doi.org/10.1002/9781405164047.ch9.

Bandura, A. (2017b). Cultivate Self-efficacy for personal and organizational effectiveness. In *the Blackwell handbook of principles of organizational behaviour*. https://doi.org/10.1002/9781405164047.ch9.

Baron, R. A., & Byrne, D. (1987). Social psychology: Understanding human interaction, 5th ed. In *Social psychology: Understanding human interaction, 5th ed.*

Bensley, D. A., Lilienfeld, S. O., Rowan, K. A., Masciocchi, C. M., & Grain, F. (2020). The generality of belief in unsubstantiated claims. *Applied Cognitive Psychology*, *34*(1), 16-28. https://doi.org/10.1002/acp.3581.

Bernard, R. M., Brauer, A., Abrami, P. C., & Surkes, M. (2004). The development of a questionnaire for predicting online learning achievement. *International Journal of Phytoremediation*, *25*(1) *1*, 31-47. https://doi.org/10.1080/0158791042000212440.

Bhati, K., & Priyadarshini, S. (2022). Self-efficacy: Theory to educational practice. *The International Journal of Indian Psychology*, *10*(1), 1123-1128. DIP:18.01.112.20221001, DOI:10.25215/1001.11.

Blanco, Q. A., Carlota, M. L., Nasibog, A. J., Rodriguez, B., Saldaña, X. V., Vasquez, E. C., & Gagani, F. (2020a). Probing on the relationship between students' self-confidence and self-efficacy while engaging in online learning amidst COVID-19. *Journal La Edusci*, *1*(4), 16-25. https://doi.org/10.37899/journallaedusci.v1i4.220.

Buddha, H., Shuib, L., Idris, N., & Eke, C. I. (2024). Technology-assisted language learning systems: A systematic literature review. *IEEE Access*, *12*, 33449-33472. https://doi.org/10.1109/ACCESS.2024.3366663.

Bulger, M., Baleria, G., Hobbs, R., & Moffitt, K. R. (2023). The promise of media literacy education when "everything is at stake" and "everything is expected." *Journal of Media Literacy Education*, *15*(1), 99-108. https://doi.org/10.23860/JMLE-2023-15-1-8.

Cadiz-Gabejan, A. M., & Takenaka, M. J. C. (2021). Students' computer literacy and academic performance. *Journal of World Englishes and Educational Practices*, *3*(6), 29-42. https://doi.org/10.32996/jweep.2021.3.6.4.

Capron Puozzo, I., & Audrin, C. (2021). Improving self-efficacy and creative self-efficacy to foster creativity and learning in schools. *Thinking Skills and Creativity*, *42*, 1-9. https://doi.org/10.1016/j.tsc.2021.100966.

Check, J., & Schutt, R. K. (2017). Research methods in education. In *Research Methods in Education*. https://doi.org/10.4135/9781544307725.

Farikah, F., Normawati, A., Mulyani, M., Astuty, A., & Cahyaningrum, A. (2023). Technology-assisted language learning: Friends or enemies. *SHS Web of Conferences*, *173*, 1-6. https://doi.org/10.1051/shsconf/202317303003.

Fitria, T. N. (2021). Grammarly as AI-powered English writing assistant: Students' alternative for writing English. *Metathesis: Journal of English Language, Literature, and Teaching*, *5*(1), 65-78. https://doi.org/10.31002/metathesis.v5i1.3519.

Gale, J., Alemdar, M., Cappelli, C., & Morris, D. (2021). A mixed methods study of self-efficacy, the sources of self-efficacy, and teaching experience. *Frontiers in Education*, *6,* 1-16. https://doi.org/10.3389/feduc.2021.750599.

HadaviBavili, P., & İlçioğlu, K. (2024). Artwork in anatomy education: A way to improve undergraduate students' self-efficacy and attitude. *Anatomical Sciences Education*, *17*(1), 66-76. https://doi.org/10.1002/ase.2352.

Hanafiah, W., Aswad, M., Sahib, H., Yassi, A. H., & Mousavi, M. S. (2022). The Impact of CALL on Vocabulary Learning, Speaking Skill, and Foreign Language Speaking Anxiety: The Case Study of Indonesian EFL Learners. *Education Research International*, *2022*, 1-13. https://doi.org/10.1155/2022/5500077.

Hidayat, A. (2022). Post-Pandemic Education Study: Analysis of Resources, Opportunities, and Challenges of Madrasah Education in Indonesia. *Journal of Positive School Psychology*, *6*(5), 7342–7354. https://journalppw.com/index.php/jpsp/article/view/8561/5599.

Ibrahim, Z. H., Majeed, B. H., & Jawad, L. F. (2023). Computer Literacy with Skills of Seeking for Information Electronically among University Students. *International Journal of Interactive Mobile Technologies*, *17*(7), 47-57. https://doi.org/10.3991/ijim.v17i07.38751.

Ikhsan, M., A., Fithriani, R., Habibi, A., Ridwan, M., Rusydi, I., A. Sipahutar, A., & Suhardi, B. (2021). Digital literacy in the post-truth era: employing fact-checking applications in adult efl reading classes. *KnE Social Sciences*, 468-481. https://doi.org/10.18502/kss.v5i4.8704.

Jansen, R. S., van Leeuwen, A., Janssen, J., Kester, L., & Kalz, M. (2017). Validation of the self-regulated online learning questionnaire. *Journal of Computing in Higher Education*, *29*(1), 6-27. https://doi.org/10.1007/s12528-016-9125-x.

JohnBull, R. M. (2012). The Relationship between cultural competence and teacher Efficacy. In *ProQuest LLC*. https://libraetd.lib.virginia.edu/public_view/rf55z796z.

Kassymova, G. M., Tulepova, S. B., & Bekturova, M. B. (2023). Perceptions of digital competence in learning and teaching English in the context of online education. *Contemporary Educational Technology*, *15*(1), 1-14. https://doi.org/10.30935/cedtech/12598.

Kaur, P., Kumar, H., & Kaushal, S. (2023). Technology-Assisted Language Learning Adaptive Systems: A Comprehensive Review. In *International Journal of Cognitive Computing in Engineering*, *4,* 301-313. https://doi.org/10.1016/j.ijcce.2023.09.002.

Khasawneh, O. Y. (2023). Technophobia: How Students' Technophobia Impacts Their Technology Acceptance in an Online Class. *International Journal of Human-Computer Interaction*, *39*(13), 1-20. https://doi.org/10.1080/10447318.2022.2085398.

Lee, Y. J., Davis, R. O., & Ryu, J. (2024). Korean in-Service Teachers' Perceptions of Implementing Artificial Intelligence (AI) Education for Teaching in Schools and Their AI Teacher Training Programs. *International Journal of Information and Education Technology*, *14*(2), 214-219. https://doi.org/10.18178/ijiet.2024.14.2.2042.

Lera, M. J., Leon-Perez, J. M., & Ruiz-Zorrilla, P. (2023). Effective Educational Practices and Students' Well-being: The Mediating Role of Students' Self-efficacy. *Current Psychology*, *42*(26), 22137-22147. https://doi.org/10.1007/s12144-022-03266-w.

Lim, D., Usaho, C., Rojratanavanit, N., & Lim, D. (2024). Excellent school management approaches for enhancing students' creative self-efficacy. *Kasetsart Journal of Social Sciences*, *45*, 471–482. https://doi.org/10.34044/j.kjss.2024.45.2.13.

Liza, K., & Andriyanti, E. (2020). Digital literacy scale of English pre-service teachers and their perceived readiness toward the application of digital technologies. *Journal of Education and Learning (EduLearn)*, *14*(1), 74-79. https://doi.org/10.11591/edulearn.v14i1.13925.

López, J. R., Ornelas, M. L., Morales, K. F., & Sandoval, J. O. (2021). A concept approach among three types of literacy: Computer literacy, technological literacy and information literacy. *Texto Livre*, *14*(1), 139-150. https://doi.org/10.35699/1983-3652.2021.29513.

Martens, H. (2022). Evaluating Media Literacy Education: Concepts, Theories and Future Directions. *Journal of Media Literacy Education, 2*(1)*, 1-22. https://doi.org/10.23860/jmle-2-1-1.

Mobinizad, M. M. (2018). The Use of Mobile Technology in Learning English Language. *Theory and Practice in Language Studies*, *8*(11)*, 1456-1468. https://doi.org/10.17507/tpls.0811.10.

Mohamadi, F. S., Asadzadeh, H., Ahadi, H., & Jomehri, F. (2011). Testing Bandura's Theory in school. *Procedia - Social and Behavioral Sciences*, *12,* 93-110. https://doi.org/10.1016/j.sbspro.2011.02.053.

Muniruzzaman, Md., & Siddiky, Md. R. (2021). Association between Students' Inattentiveness to Study and their Psychological Conditions during the COVID-19 Pandemic. *Asian Journal of University Education*, *17*(2), 27-38. https://doi.org/10.24191/ajue.v17i2.11011.

Nugroho, A., Ilmiani, D., & Rekha, A. (2021). EFL Teachers' Challenges and Insights of Online Teaching amidst Global Pandemic. *Metathesis: Journal of English Language, Literature, and Teaching*, *4*(3), 277-291. https://doi.org/10.31002/metathesis.v4i3.3195.

Panjaitan*, R. G. P., Shidiq, G. A., Titin, T., & Wahyuni, E. S. (2021). Discovering the Views of Indonesian Students' Responses to Use the Booklet During the Covid-19 Pandemic Situation. *Jurnal Pendidikan Sains Indonesia*, *9*(4), 620-630. https://doi.org/10.24815/jpsi.v9i4.21416.

Parmer, L. L. (2022). Student Self-Efficacy, Student Self-Esteem, and the Transformational Leadership Teaching Style. *Journal of Higher Education Theory and Practice*, *22*(11), 1-13. https://doi.org/10.33423/jhetp.v22i11.5406.

Patty, J., & Bilung, F. M. (2023). Teachers' strategies and challenges in teaching online speaking activities. *Celtic: A Journal of Culture, English Language Teaching, Literature and Linguistics*, *10*(2), 228–241. https://doi.org/10.22219/celtic.v10i2.25494.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and Self-Regulated Learning Components of Classroom Academic Performance. *Journal of Educational Psychology*, *82*(1), 33-40. https://doi.org/10.1037/0022-0663.82.1.33.

Ponto, J. (2015). Understanding and Evaluating Survey Research. *Journal of the Advanced Practitioner in Oncology*, *6*(2), 168-171. https://pmc.ncbi.nlm.nih.gov/articles/PMC4601897/pdf/jadp-06-168.pdf.

Popoola, S. O., & Olajide, O. O. (2022). Influence of Library Anxiety and Computer Literacy Skills on Use of Library Information Resources by Undergraduates in Private Universities in Southwest Nigeria. *International Information and Library Review*, *54*(1), 1-10. https://doi.org/10.1080/10572317.2021.1873051.

Potter, W. J. (2022). Analysis of definitions of media literacy. *Journal of Media Literacy Education*, *14*(2), 27-43. https://doi.org/10.23860/JMLE-2022-14-2-3.

Pratiwi, D. I., & Waluyo, B. (2023). Autonomous learning and the use of digital technologies in online English classrooms in higher education. *Contemporary Educational Technology*, *15*(2), 1-16. https://doi.org/10.30935/cedtech/13094.

Ramaiah, C. K., & Saraswati Rao, M. (2021). Media and information literacy: A bibliography. *DESIDOC Journal of Library and Information Technology*, *41*(4), 316-336. https://doi.org/10.14429/DJLIT.41.4.17358.

Rasi, P., Vuojärvi, H., & Ruokamo, H. (2019). Media Literacy Education for All Ages. *Journal of Media Literacy Education*, *11*(2), 1-19. https://doi.org/10.23860/JMLE-2019-11-2-.

Redifer, J. L., Bae, C. L., & Zhao, Q. (2021). Self-efficacy and performance feedback: Impacts on cognitive load during creative thinking. *Learning and Instruction*, *71*, 1-11. https://doi.org/10.1016/j.learninstruc.2020.101395.

Riduwan, A. (2015). Belajar Mudah Penelitian Untuk Guru-Karyawan dan Peneliti Pemula. *Journal of Chemical Information and Modeling*, *53*(9), 241-244.

Rosa, L., Rodríguez, R., Cao, R., Elias, E., & Orellana, O. (2024). Virtual course based on conceptual maps and autonomous work. *Kasetsart Journal of Social Sciences*, *45*, 453–460. https://doi.org/10.34044/j.kjss.2024.45.2.11.

S Schmitz, G. (2013a). Development and Validation of a Student Self-efficacy Scale. *Journal of Nursing & Care*, *02*(01). https://doi.org/10.4172/2167-1168.1000126.

S Schmitz, G. (2013b). Development and Validation of a Student Self-efficacy Scale. *Journal of Nursing & Care*, *02*(01), 1-6. https://doi.org/10.4172/2167-1168.1000126.

Sayed, Y., Sharma, G., & Desai, A. (2022). UNESCO: Promising education multilateralism? In *International Encyclopedia of Education: Fourth Edition*, 510-525. https://doi.org/10.1016/B978-0-12-818630-5.01059-9.

Su, Y., Zheng, C., Liang, J. C., & Tsai, C. C. (2018). Examining the relationship between English language learners' online self-regulation and their self-efficacy. *Australasian Journal of Educational Technology*, *34*(3), 105-121. https://doi.org/10.14742/ajet.3548.

Sun, T., & Wang, C. (2020). College students' writing self-efficacy and writing self-regulated learning strategies in learning English as a foreign language. *System*, *90,* 1-39. https://doi.org/10.1016/j.system.2020.102221.

Tafonao, T., Saputra, S., & Suryaningwidi, R. (2020). Learning Media and Technology: Generation Z and Alpha. *Indonesian Journal of Instructional Media and Model*, *2*(2), 89-100. https://doi.org/10.32585/ijimm.v2i2.954.

Tajeddin, Z., & Rezanejad, A. (2023). Critical Intercultural Language Teaching: Moving from Beliefs to Instructional Practices in EFL Classrooms. In *English Language Education* (Vol. 33), 539-551. https://doi.org/10.1007/978-3-031-34702-3_2.

Telore, T., & Damtew, A. (2023). ROLE OF THE TEACHER IN ACTIVE LEARNING: EFL TEACHERS' PERCEPTIONS, PRACTICES AND CHALLENGES OF IMPLEMENTATION. *Celtic: A Journal of Culture*, *10*(2), 172-193. https://doi.org/10.22219/celtic.v10i2.

Tulodziecki, G., & Grafe, S. (2022). Approaches to Learning with Media and Media Literacy Education – Trends and Current Situation in Germany. *Journal of Media Literacy Education*. https://doi.org/10.23860/jmle-4-1-5

Upadhyaya, P., & Vrinda. (2021). Impact of technostress on academic productivity of university students. *Education and Information Technologies*, *26*(2), 1647-1664. https://doi.org/10.1007/s10639-020-10319-9.

Vilani Sachitra, & Udari Bandara. (2017a). Measuring the academic self-efficacy of undergraduates: The role of gender and academic year experience. *World Academy of Science, Engineering and Technology, International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, *11*(11), 2320-2325.

Wang, H. chun. (2021). Exploring the relationships of achievement motivation and state anxiety to creative writing performance in English as a foreign language. *Thinking Skills and Creativity*, *42*, 1-29. https://doi.org/10.1016/j.tsc.2021.100948.

Wang, Y. Y., & Wang, Y. S. (2022). Development and validation of an artificial intelligence anxiety scale: an initial application in predicting motivated learning behavior. *Interactive Learning Environments*, *30*(4), 619-634. https://doi.org/10.1080/10494820.2019.1674887.

Wheeler, S. (2015). Learning Theories: Jerome Bruner on the scaffolding of learning. *Vol. 8, No.11,* 873-877. *Http://Teachthought.Com/Uncategorized/Learning-Theories-Jerome-Bruner-Scaffolding-Learning/*.

Yantraprakorn, P., Darasawang, P., & Wiriyakarun, P. (2018b). Self-efficacy and online language learning: Causes of failure. *Journal of Language Teaching and Research*, *9*(6), 2320-2325. https://doi.org/10.17507/jltr.0906.22.

Yousofi, R. (2022). Grammarly deployment (in)efficacy within EFL academic writing classrooms: an attitudinal report from Afghanistan. *Cogent Education*, *9*(1), 1-27. https://doi.org/10.1080/2331186X.2022.2142446.

Zafer Can Ugurhan, Y., Kumtepe, E. G., Kumtepe, A. T., & Saykili, A. (2021). From Media Literacy to New Media Literacy: A Lens Into Open and Distance Learning Context. *Turkish Online Journal of Distance Education*, *21*, 135-151. https://doi.org/10.17718/TOJDE.770953.