

<https://doi.org/10.17323/jle.2024.17606>

# The Correlation between the Use of Online Learning Platforms and Undergraduate Students' Self-Efficacy

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## ABSTRACT

**Background:** Self-efficacy and the use of learning activities in online learning platforms have been extensively researched recently and are considered factors of online learning success. However, little research empirically seeks the correlation between those variables, including in English as a foreign language (EFL) online classes.

**Purpose:** To investigate whether there is a significant correlation between the use of online learning platforms and EFL students' self-efficacy in online learning in English classes.

**Method:** This quantitative research used two questionnaires, i.e., the Online Learning Platform Questionnaire (OLPQ) and the Self-Efficacy Questionnaire for Online Learning (SeQoL). The use of online learning platforms measured in this study includes independent learning, virtual meetings, forum discussion, collaborative learning, and assessment; meanwhile, self-efficacy includes course completion, social interaction, academic interaction, interaction with lecturers, and the use of LMS. The sample of this research was 133 EFL students from three universities in Indonesia. The data was analyzed using Spearman's correlation at the significance level of 0.05.

**Results:** The results show that independent learning, collaborative learning, and forum discussion correlate with most constructs of self-efficacy. Meanwhile, the results indicate no correlation between two constructs of online learning platforms, namely virtual meetings and assessments, and three constructs of self-efficacy, i.e., students' social interaction, academic interaction, and students' interaction with lecturers.

**Conclusion:** This research shows that more frequent use of online learning platforms, especially those covering independent learning, collaborative learning, and forum discussion, results in higher confidence among EFL students to succeed in online learning.

**Suggestion:** Therefore, this research suggests that lecturers consider using significant features of online learning platforms to enhance students' self-efficacy in online EFL classes.

## KEYWORDS

English as a foreign language student, learning activities, learning interaction, online learning, online learning platform, self-efficacy

**Citation:** Muslem A., Kasim U., Mustafa F., Fitriani S. S., & Rahmi M. (2023). The correlation between the use of online learning platforms and undergraduate students' self-efficacy. *Journal of Language and Education*, 10(1), 83-100. <https://doi.org/10.17323/jle.2024.17606>

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**Received:** July 13, 2023

**Accepted:** March 15, 2024

**Published:** March 30, 2024



## INTRODUCTION

Technology integration during learning activities became a common practice during the Covid-19 pandemic. This new learning mode has been widely implemented at all educational levels, including higher education (Ningias & Indriani, 2021; Toader et al., 2021). As a consequence of the phenomenon, both students and teachers were required to adapt to various media and online learning platforms (Ulfatun et al., 2021). According to Zhafira and Irmalis (2021),

using online learning platforms is beneficial among university students to assist their online learning process. However, its practice has some challenges (Ramsin & Mayall, 2019). For instance, teachers might not feel confident that their students can use the online learning platforms as expected and follow the instructions (Adedoyin & Soykan, 2020). Therefore, teachers must understand their students' perceptions of using online learning platforms. One factor influencing the students' perception of online learning platforms is their self-efficacy,

“students’ perceptions of their abilities to achieve a certain goal” (Pumptow & Brahm, 2021, p. 558).

Various studies have investigated the role of self-efficacy in online learning for several years (Alqurashi, 2016; Ulfatun et al., 2021; Yang, 2020). Self-efficacy has become fundamental because it influences students’ full engagement in completing tasks instructed by their teachers (Geng, 2022). Therefore, students with high self-efficacy are consequently perceived to perform well in online learning settings compared to those with low self-efficacy (Li, 2020; Yokoyama, 2019). Furthermore, Ithriah et al. (2020) added that there is a reciprocal relationship between students’ self-efficacy and the use of online learning platforms during online learning. When students are self-efficacious, they will feel courageous and confident to utilize online learning platforms and deal with difficulties that may arise from using those platforms due to virtual learning practice. Likewise, using online learning platforms and mobile applications can positively improve students’ self-efficacy during online learning (Peechapol et al., 2018). In English as a foreign language (EFL) instruction, using online learning platforms is necessary to improve EFL learners’ language competency and self-efficacy (Nugroho & Atmojo, 2022). Online learning platforms are used in online language learning because they can help teachers deliver the language teaching material to their students and provide authentic language learning material. Furthermore, it has become the tool most preferred by students because it can increase their autonomy in learning English (Li, 2021).

Due to the significance of self-efficacy in EFL classes, efforts must be made to maintain and increase the students’ self-efficacy. Aside from students’ efforts, a teacher is also a crucial factor that determines students’ self-efficacy (Yang, 2020). Furthermore, a teacher is responsible for determining online learning platforms used in EFL classrooms that can improve students’ self-efficacy. Many online learning platforms are commonly used in EFL online classrooms, such as Zoom, Google Meet, Edmodo, Google Classroom, and Moodle. Those platforms offer different features that support the learning process and help teachers deliver the teaching material to their students. For instance, Zoom and Google Meet provide virtual discussion forums that help teachers and students communicate using video. Furthermore, Edmodo and Google Classroom also help students easily submit their assignments (Bagata et al., 2020; Moonma, 2021). In addition, Moodle allows students to assess each other’s assignments using the Workshop Activity module (Elfiondri et al., 2022). Although many researchers have examined the role of online learning platforms and self-efficacy in distance learning, little research empirically seeks the correlation between the use of online learning platforms and students’ self-efficacy in EFL online classes. Investigating the correlation between these variables is significant in discovering what types of learning activities used in online learning platforms affect students’ self-efficacy so that teachers can adjust their online learning instructions.

Therefore, further correlational research must be conducted to have adequate knowledge on promoting language learning success in an online classroom. To fill this gap, this study aims to determine the correlations between the use of online learning platforms and students’ self-efficacy by answering this primary research question: ‘Are there any significant correlations between the use of online learning platforms and students’ self-efficacy in online learning?’ The use of online learning platforms in our study refers to learning activities facilitated with any platforms teachers use, ranging from simple generic messaging platforms such as WhatsApp to sophisticated online learning management systems such as Moodle.

## LITERATURE REVIEW

This research focuses on the use of online learning platforms, i.e., how online learning platforms are used (for independent learning, virtual meetings, assessment, etc.), and how these uses relate to student’s self-efficacy. Therefore, this section reviews the literature related to online learning platforms, their uses, and students’ self-efficacy in the context of online learning to show the research gap addressed in this study. First, this section introduces online learning platforms and how they can be used for teaching. Furthermore, the section describes self-efficacy in general before reviewing students’ self-efficacy in language learning and how it might be affected by the use of online learning platforms. Finally, the section concludes with a summary to explicitly show the research gap in the context of this study.

### Online Learning Platforms

Online learning is not new since educational practitioners such as teachers have implemented technology integration in their classrooms for decades. Implementing online learning cannot be separated from using an online learning platform, namely an internet-based learning media used in an online class with synchronous and asynchronous features that allow teachers and students to communicate virtually (Li, 2021). Online learning platforms thus become crucial tools during online learning (Liu et al., 2020), and the effective use of online learning platforms also influences students’ engagement in online learning (Tseng, 2020).

Furthermore, one of the most widely used types of platforms in online learning is Learning Management System (LMS). LMS is an online software that helps teachers and students regulate learning activities and monitor students’ learning progress and it has been integrated into the learning system at the university level (Amin & Sundari, 2020). Therefore, higher education institutions must determine the appropriate Learning Management System used within the university learning setting (Aldiab et al., 2019). In addition, Saidi et al. (2021) elucidate that choosing an appropriate

LMS is beneficial in establishing a conducive online learning environment for students.

## The Use of Online Learning Platforms

Online learning platforms have been widely used in language learning because they provide a substantial opportunity for teachers and students to access authentic language learning (Ramsin & Mayall, 2019). Besides, online learning platforms also enable students to adjust the language learning material based on their needs to achieve their learning objectives (Ho, 2018). According to Yang (2020), language teachers need to organize the learning material and maximize the use of virtual networks during the learning process. With the help of online learning platforms, language teachers can display the learning material in a way that attracts students' attention (Zhang, 2020).

In addition, Nugroho and Atmojo (2022) also describe that digital platforms help language learners access learning resources, submit assignments, or even communicate with their teachers and classmates. Based on Haron et al. (2015), a network platform is also helpful in language learning because it enables students to practice skills required in learning a language and improve their language ability. For instance, online learning platforms can help students practice reading and writing skills (Zhang, 2020). Besides, it can be used to teach listening and speaking skills to the students as well.

Furthermore, Nurohmat (2021) describes that English learners can achieve a higher score in online learning than in a traditional classroom. Similarly, Vien et al. (2019) mention that language teachers perceive their students to better comprehend the language learning material delivered through online learning platforms than when taught traditionally. Nevertheless, many factors can contribute to students' achievement in online learning besides online learning platforms, one of which is self-efficacy.

## Self-Efficacy

The concept of self-efficacy was initially presented by Albert Bandura, an American psychologist, in his social cognitive theory. Bandura (1997) describes self-efficacy as an individual's confidence in his capability to do a particular task. Afterward, the theory of self-efficacy continued to be developed to be more specific by various experts on their studies according to several aspects, including educational aspects, where students' self-efficacy has popularly been explored by educational psychologists (Genç et al., 2016; Ithriah et al., 2020; Yavuzalp & Bahçivan, 2020). According to Golparvar and Khafi (2021), students' self-efficacy is students' confidence in their ability to master competencies needed to achieve learning goals. Wei et al. (2022) emphasize that educational practitioners such as teachers need to know the factors that can influence the level of students' self-efficacy

in advance before designing the learning activities used in the classroom.

Researchers needed to develop a measurement tool such as a self-efficacy scale to measure self-efficacy. Joyce and Kirakowski (2014, p. 252) state that self-efficacy can be assessed using psychometric scales that represent one's belief in his ability to perform a specific action. For instance, researchers can start the statement used in the scale item by using «I can», «I am able to», or «I am capable of» phrases. Besides, the statement should describe a specific performance instead of a general one, as demonstrated by Yasin et al. (2022).

Referring to the construction of self-efficacy measurement, the self-efficacy scale has been developed and continues to be validated. For example, Zhou (2016) validated a ten-item self-efficacy scale to assess an individual's general perception of self-efficacy. The internal consistency of this questionnaire range between .76 and .83. Furthermore, numerous studies have begun to develop self-efficacy scale in more specific studies. For instance, a Self-Efficacy Questionnaire for Online Learning (SeQoL) designed by Tsai et al. (2020) has been used to observe the influence of self-efficacy in an online learning environment. This scale has five constructs: 1) self-efficacy to complete an online course, 2) self-efficacy to handle tools in a learning environment, 3) self-efficacy to interact socially with classmates, 4) self-efficacy to interact with instructors in an online course, and 5) self-efficacy to interact with classmates for academic purposes (Cadapan et al., 2022). Tsai et al. (2020) calculated the internal consistency of the SeQoL and indicated a high reliability of this scale (0.95). Furthermore, this questionnaire has also been tested for its validity, and it was also used in this research to collect the data. Because this scale was specifically designed to measure students' self-efficacy, it can assess self-efficacy in learning, including language learning.

## Self-Efficacy in Language Learning

Several studies have examined the relationship between self-efficacy and language learning in recent decades (Genç et al., 2016; Graham, 2022; Karbakhsh & Safa, 2020). Self-efficacy correlates positively with language learning success (Torres & Alieto, 2019). According to Apridayani and Teo (2021), enhancing students' self-efficacy will also influence students' achievement in language learning. This link exists because self-efficacy influences the amount of effort that learners put in when learning a particular language (Chou, 2017).

In addition, self-efficacy also influences students' self-regulated learning in learning a language (Bai & Wang, 2020; Su et al., 2018). Consequently, more efficacious students are more likely to have more substantial language mastery than other students (Chou, 2017). The impact of self-efficacy in language learning is also reflected in the student's goals,

which are relatively higher among self-efficacious students (Zahidi & Ong, 2023). Furthermore, Chen (2020) asserts that their self-efficacy level will increase when self-efficacious students are given more language exposure than expected. Therefore, instead of being depressed or stressed when faced with advanced tasks, students with a high level of self-efficacy will feel more challenged (Alqurashi, 2016). As the focus of the current study, online learning is challenging for most students in non-urban areas (Samane-Cutipa et al., 2022); therefore, teachers' use of online learning platforms needs to consider the dimensions of students' self-efficacy in order that students are more encouraged to success in online learning.

## Self-Efficacy and Online Learning Platforms

In an online learning classroom, self-efficacy may influence students' behavior and willingness to use an online learning platform (Yang, 2020). As the students firmly believe in their abilities, they can persist and cope with some technical problems in a virtual classroom (Altunçekiç, 2022). On the contrary, students who do not believe in their competencies in using LMS perceive that using the platform is complicated and not useful (Alshammari, 2020). Therefore, students should first be familiar with the learning management system used in the online learning classroom (Yang, 2020). Furthermore, self-efficacy positively impacts students' self-regulation (Wang & Sun, 2020). As a result, self-efficacious students can regulate their learning activities in online learning with the help of online learning platforms.

To enhance students' self-efficacy, educational practitioners such as teachers can provide adequate support by providing clear guidance, relevant resources, and constructive feedback on students' assignments and performance to stimulate students' competence in different contexts and activities (Wei et al., 2022). In addition, the activities should encourage students' participation, and they should be student-centered (Zhang, 2020). For instance, a teacher can ask the students to participate in a discussion and share their ideas with the group members (Alsubhi et al., 2020). Besides, a teacher can display pictures or even videos that are interesting but still relevant to the learning material, and then they can ask the students to answer the questions provided according to the pictures or the videos (Zhang, 2020).

The use of online learning platforms can also influence students' autonomy in online learning (Nugroho & Atmojo, 2022) and increase students' competence in discovering and using online learning material beyond what is given by their teacher in the classroom (Li, 2021). Additionally, this helps students become more independent in an online learning environment and less reliant on their teacher (Al-Mubireek, 2019), since they can access the additional learning materials by themselves from the internet freely.

## METHOD

### Research Design

In this study, the researchers applied a quantitative approach, a standard research design investigating the correlation between the research variables (Lock et al., 2021). Moreover, the researchers used a survey method, which was based on a set of questionnaires to collect the data. This data collection is relevant to this study because it can quantitatively describe respondents' beliefs and behavior (Creswell & Creswell, 2017).

### Respondents

This research was based on data obtained from undergraduate students at three state universities in Indonesia. The respondents were in the third, fifth, and seventh semesters when the data were collected. Those students were selected because they had experienced learning English online during the Covid-19 pandemic. All students gave their consent to use their responses for the purpose of this research. The number of students who participated in this research was 133, which is an adequate sample size for a correlational study (de Winter et al., 2016).

During the Covid-19 pandemic, the students in these universities had full online classes around ten to 24 credits, depending on their semesters. During the class sessions, students had virtual meetings using Zoom or Google Meets. Other lecturers provided no video conference, but they used social media applications such as WhatsApp and Telegram. To deliver materials and classroom activities, the lecturers in these universities use simple LMS such as Google Classroom and Edmodo or sophisticated LMS such as Moodle. These online learning platforms were used for independent learning, quizzes, discussion, and assessment. According to Amin and Sundari (2020), most lectures in these universities used WhatsApp instead of LMS during the Covid-19 pandemic.

### Instruments

This study was based on two questionnaires using a Likert scale. The first instrument was used to measure the use of online learning platforms consisting of five constructs found in the literature, i.e. independent learning (Balderas et al., 2018; Miller et al., 2018; Wong et al., 2019), virtual meeting (Arifianto & Izzudin, 2021; Balderas et al., 2018; Huang, 2022), forum discussion (Alsubhi et al., 2020; Balderas et al., 2018), collaborative learning (Chiu & Hew, 2018; Kumi-Yeboah et al., 2017), and assessment (Alsubhi et al., 2020; Balderas et al., 2018). In this study, we did not specify what types of online learning platforms the lecturers used to teach their classes. However, we focused on the learn-

ing activities facilitated by these online learning platforms. In this questionnaire, we measured the frequency of these learning activities, and thus, the students were asked to rate the platform use from 5 (always) to 1 (never). The number of items in this questionnaire was originally 36, consisting of between three and 12 items for each construct. Table 1 shows the items used for each construct in the online learning platform questionnaire,

The questionnaire was validated using confirmatory factor analysis, where the items with a factor loading lower than 0.30 were removed, resulting in the removal of seven items. Thus, the number of items for the construct of independent learning was eight items, virtual meeting five items, forum discussion three items, collaborative learning seven items, and assessment six items. In addition, the internal consistency of the overall online learning platforms scale based on Cronbach alpha was .90, which shows a high consistency coefficient of the scale.

The second instrument was used to measure students' self-efficacy using a questionnaire proposed by Tsai et al. (2020), consisting of 30 items and five constructs. The first construct relates to EFL students' self-efficacy in completing an online course (8 items), and the second is about self-efficacy in interacting socially with their classmates during online learning (5 items). The third construct measures self-efficacy in handling tools in an LMS (6 items). Another construct covers self-efficacy in interacting with their lecturer in an

online course (5 items), and the last construct determines self-efficacy in interacting with classmates for academic purposes (6 items). Moreover, the internal consistency of the entire SeQoL by Tsai et al. (2020) was .95. Meanwhile, based on the data in the present study, the internal consistency was 0.93, which is very close to that of the original version.

### Data Collection

Using the scales above, the researchers collected the data by following the general steps of data collection in this research. Firstly, the researchers asked permission from the target universities to distribute the questionnaire in class. Distributing the questionnaire in person has been proven to guarantee a higher participation rate than sending the questionnaire online (Hodder & Wolfenden, 2017). Then, the researchers recorded all course schedules for each grade and asked permission from the lecturers who taught the classes on the listed schedule. We obtained the target participants' class schedules and classrooms from the lecturers teaching third, fifth, and seventh semester students. Afterward, the researchers distributed the questionnaires to the students in each class. They were informed that they did not have to complete the questionnaire if they did not want to, and they could return the blank questionnaire to the researchers anonymously. However, we did not receive any blank questionnaires returned to us. All participants were comfortable completing the questionnaire because their identifying details, such as name and student number,

**Table 1**  
*Sample of Online Learning Questionnaire Items*

| Construct              | Sample of items  |
|------------------------|--|
| Independent learning   | Lecturers asked us to answer questions based on the materials provided online.<br>Lecturers asked us to an independent assignment and submit it online.<br>Lecturers gave us a video to watch independently.   |
| Virtual meeting        | Lecturers taught our classes using a video conference application (such as Zoom, Google Meet, Webex, Microsoft Teams, etc.)<br>Lecturers taught our classes using audio calls (such as WhatsApp group calls, BigBlueButton, etc.)<br>Lecturers delivered a class using text messages in Social Media applications (such as Facebook Messenger, WhatsApp, SMS, etc.)  |
| Forum discussion       | We were asked to give our written opinion about the materials using group chatting applications (such as WhatsApp, Telegram, etc.)<br>Lectures asked us to discuss a topic through video or audio conference applications (such as Zoom, Google Meet, Webex, Microsoft Team, BigBlueButton, WhatsApp, etc.)<br>Lectures asked us to discuss a topic using learning management systems (such as Google Classroom, Edmodo, Moodle, etc.) |
| collaborative learning | Lecturers asked us to complete a group assignment online.<br>Lecturers asked us to give a group presentation online.<br>Lecturers asked us to assess our classmate works online.   |
| Assessment             | Lecturers delivered a test online.<br>Lecturers asked us to complete a project online as an assessment.<br>Lecturers have us oral examination online.  |

were not requested in the questionnaire. In addition, the researchers gave the students brief instructions on how to complete the questionnaires. It took the participants between 15 to 20 minutes to complete the questionnaire. After all participants completed the questionnaires, the researchers expressed their appreciation to the students and lecturers teaching their classes.

## Data Analysis

After collecting the data, the researchers analyzed the data by calculating the correlation between each construct in the independent variable (the use of online learning platforms) and each construct in the dependent variable (self-efficacy in online learning). The researchers used the Spearman correlation coefficient formula because the data were categorical data. In testing the hypothesis, the null hypothesis was rejected at a significance level of 0.05. The level of correlation

was assigned based on Schober and Schwarte (2018), as presented in Table 2.

## RESULTS

### Descriptive Statistics

Descriptive statistics are used to display the primary summary of the research data. The following are the descriptive statistics of the use of online learning platforms and EFL students' self-efficacy.

According to Table 3, the average use of online learning platforms is at a moderate level. Students were asked to complete online assessments and independent learning tasks more frequently than other online learning activities. In addition, the summary of EFL students' self-efficacy is shown in Table 4.

**Table 2**

*Interpretation of Correlation Levels*

| Correlation Coefficient Range | Description |
|-------------------------------|-------------|
| 0.00-0.10                     | Negligible  |
| 0.10-0.39                     | Weak        |
| 0.40-0.69                     | Moderate    |
| 0.70-0.89                     | Strong      |
| 0.90-1.00                     | Very strong |

**Table 3**

*Data Summary for Factors of the Use of Online Learning Platforms*

| Variable               | Min  | Q1   | Median | Q3   | Max  | Mean | SD   |
|------------------------|------|------|--------|------|------|------|------|
| Independent Learning   | 2.00 | 3.12 | 3.50   | 3.88 | 4.75 | 3.47 | 0.53 |
| Virtual Meeting        | 1.60 | 3.20 | 3.60   | 4.00 | 5.00 | 3.57 | 0.61 |
| Forum Discussion       | 1.33 | 2.67 | 3.00   | 4.00 | 5.00 | 3.22 | 0.84 |
| Collaborative Learning | 1.29 | 2.86 | 3.29   | 3.71 | 5.00 | 3.25 | 0.70 |
| Assessment             | 1.17 | 3.00 | 3.50   | 3.83 | 5.00 | 3.46 | 0.72 |
| Overall                | 1.55 | 3.10 | 3.45   | 3.83 | 4.45 | 3.41 | 0.52 |

**Table 4**

*Data Summary for Factors of EFL Students' Self-Efficacy*

| Variable                   | Min  | Q1   | Median | Q3   | Max  | Mean | SD   |
|----------------------------|------|------|--------|------|------|------|------|
| Course completion          | 1.38 | 3.38 | 3.75   | 4.00 | 5.00 | 3.63 | 0.62 |
| Social Interaction         | 1.20 | 3.20 | 3.60   | 4.00 | 5.00 | 3.60 | 0.66 |
| The use of LMS             | 2.00 | 3.67 | 4.00   | 4.50 | 5.00 | 4.06 | 0.57 |
| Interaction with Lecturers | 2.00 | 3.20 | 3.80   | 4.00 | 5.00 | 3.65 | 0.58 |
| Academic Interaction       | 2.00 | 3.50 | 3.83   | 4.00 | 5.00 | 3.77 | 0.56 |
| Overall                    | 1.90 | 3.50 | 3.80   | 4.00 | 5.00 | 3.74 | 0.48 |

Based on Table 4, the average score of EFL students' self-efficacy ranges between moderate and high levels. EFL students have higher self-efficacy in handling tools in a Learning Management System and lower self-efficacy in interacting socially with their classmates in an online learning environment. The following section deals with further analyses to seek the correlation between both variables.

### Correlational Analyses

This section presents the correlational result of research variables to determine whether there is a significant correlation between the use of online learning platforms and EFL students' self-efficacy in online learning. The correlational analyses were performed using Spearman Correlation Coefficient Formula, and the results are displayed in the following tables.

As presented in Table 5, all constructs of the use of online learning platforms are correlated with EFL students' self-efficacy in terms of course completion. The level of the correlation varied from weak to moderate level. The constructs that have a weak level of correlation are independent learning, virtual meeting, and assessment. Moreover, the overall correlation of all constructs between online learning platforms and EFL students' self-efficacy in completing courses given during online learning is moderate. A better illustration is presented in Figure 1.

Figure 1 shows that all constructs of the use of online learning platforms are correlated with EFL students' self-efficacy

in completing their course, and the correlation ranges between 0.30 and 0.48. Furthermore, the result of the correlation analysis between online learning platform usage and students' social interaction is displayed in Table 6.

Based on Table 6, almost all constructs of the use of online learning platforms are correlated with EFL students' self-efficacy in terms of their social interaction with their classmates during online learning. Only two constructs, namely virtual meetings and assessment, are not significantly correlated with EFL students' self-efficacy. The correlation levels for all constructs are weak. These correlation levels are presented in the scatterplots in Figure 2.

From the scatterplot in Figure 2, it can be concluded that two constructs of online learning platforms have no significant correlation with EFL students' self-efficacy in their social interaction with their classmates. Besides, the correlation level of other constructs ranges between 0.18 and 0.23, or weak correlation. Furthermore, Table 7 shows the correlation between EFL students' self-efficacy in handling tools in LMS and online learning activities.

According to Table 7, all constructs of the use of online learning platforms are significantly correlated with EFL students' self-efficacy using LMS. The level of correlation varied from weak to moderate level. Furthermore, the correlation level of collaborative learning constructs and the overall correlation between both variables is moderate because they have a correlation coefficient above 0.40. A visual illustration of the correlation is presented in Figure 3.

**Table 5**

*Correlation between Using Online Learning Platforms and Self-Efficacy in Completing the Course*

| Course Completion      | r    | p-value |
|------------------------|------|---------|
| Independent Learning   | 0.37 | 0.000   |
| Virtual Meeting        | 0.34 | 0.000   |
| Forum Discussion       | 0.40 | 0.000   |
| Collaborative Learning | 0.41 | 0.000   |
| Assessment             | 0.30 | 0.000   |
| Overall                | 0.48 | 0.000   |

**Table 6**

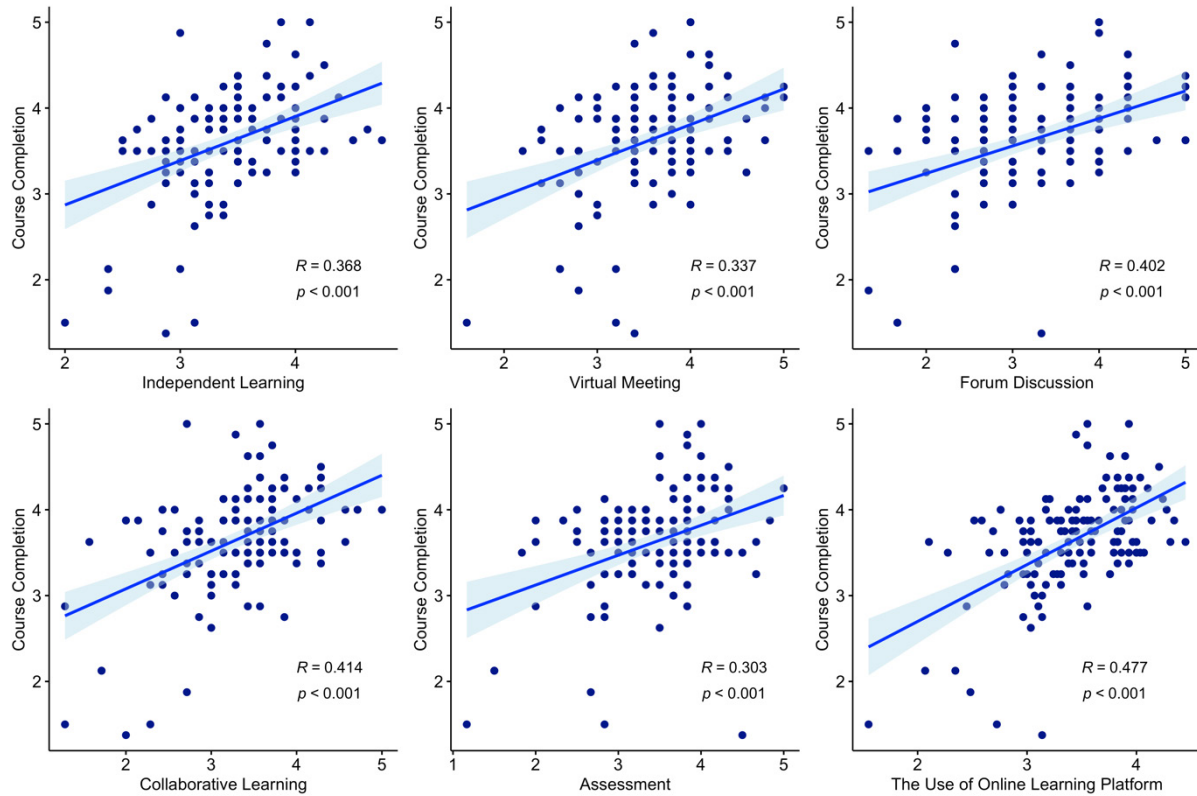
*Correlation between Using Online Learning Platforms and Self-Efficacy in Social Interaction*

| Social Interaction     | r    | P-Value |
|------------------------|------|---------|
| Independent Learning   | 0.23 | 0.007   |
| Virtual Meeting        | 0.14 | 0.101   |
| Forum Discussion       | 0.22 | 0.012   |
| Collaborative Learning | 0.18 | 0.034   |
| Assessment             | 0.07 | 0.395   |
| Overall                | 0.24 | 0.006   |



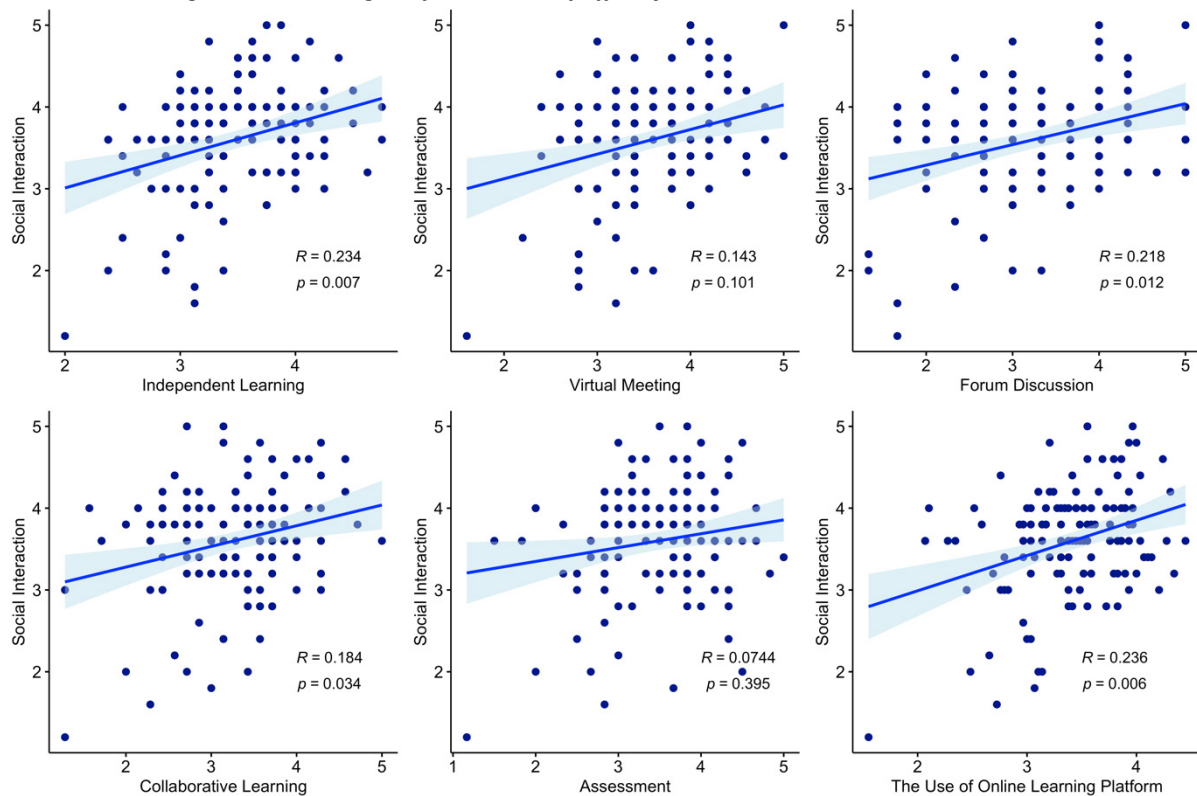
**Figure 1**

*Correlation between Using Online Learning Platforms and Self-Efficacy in Completing the Course*



**Figure 2**

*Correlation between Using Online Learning Platforms and Self-Efficacy in Social Interaction*





**Table 7**

*Correlation between Using Online Learning Platforms and Self-Efficacy in Using LMS*

| The Use of LMS         | r    | p-value |
|------------------------|------|---------|
| Independent Learning   | 0.34 | 0.000   |
| Virtual Meeting        | 0.29 | 0.001   |
| Forum Discussion       | 0.41 | 0.000   |
| Collaborative Learning | 0.32 | 0.000   |
| Assessment             | 0.32 | 0.000   |
| Overall                | 0.45 | 0.000   |

**Figure 3**

*Correlation between Using online Learning Platforms and Self-Efficacy in Using LMS*

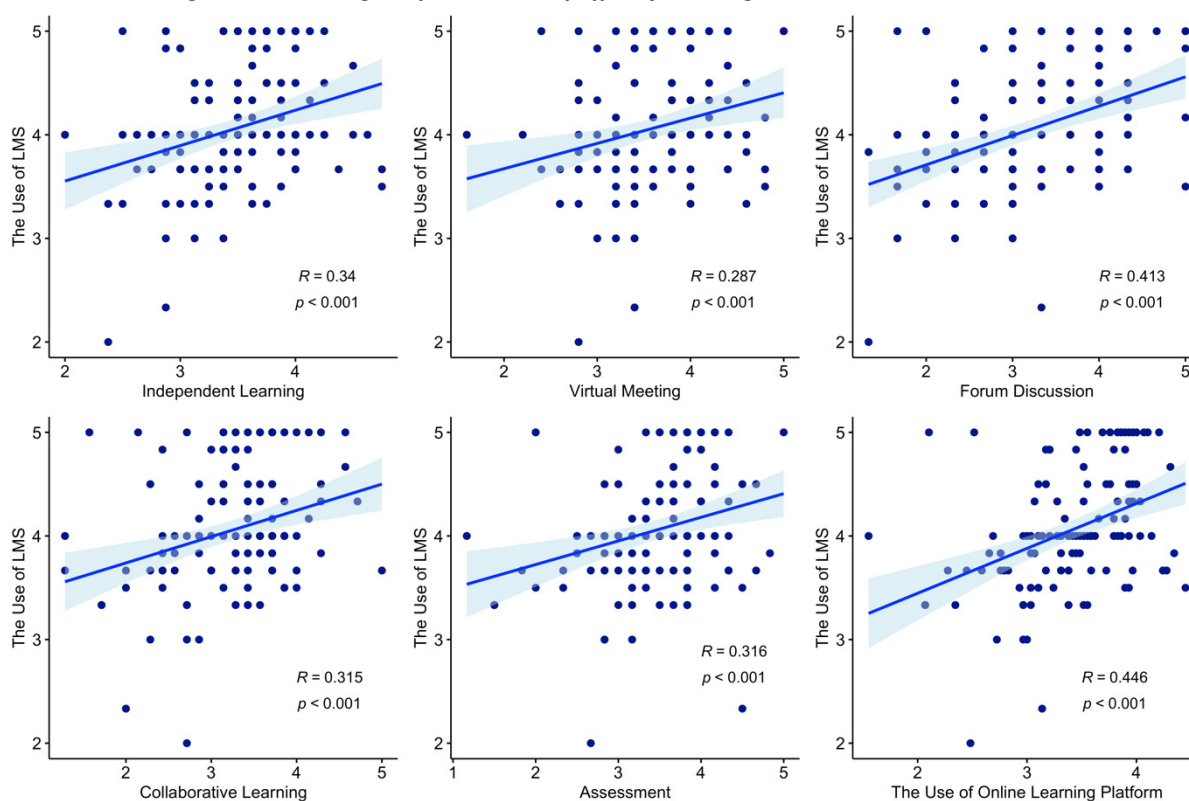


Figure 3 shows that the use of online learning platforms is correlated with EFL students' self-efficacy in handling tools in LMS. The correlation lines in the scatterplots show that the levels of correlation are high and moderate. Moreover, the result of the correlation analysis between using online learning platforms and students' self-efficacy in interacting with their lecturers is displayed in Table 8.

Table 8 shows a weak correlation between almost all constructs of using online learning platforms and students' self-efficacy in their interaction with the lecturers. In addition, the constructs that are not correlated to students' self-efficacy are virtual meetings and assessments ( $p$ -value  $> 0.05$ ). Moreover, the correlation levels of all pairs are weak. These correlations are illustrated in Figure 4.

Figure 4 shows how students' self-efficacy in interacting with their lecturers correlates to using online learning platforms. Two constructs of online learning platforms, i.e. virtual meetings and assessments, display almost flat lines, suggesting that the correlations are not significant. Furthermore, Table 9 shows the correlation between using online learning platforms and students' academic interaction self-efficacy.

According to Table 9, the correlation levels of most constructs are weak. In addition, the correlations are not evident between two constructs of using online learning platforms, i.e. virtual meetings and assessments, and the dependent variable. The illustration of correlations in Table 8 is presented in Figure 5.

**Table 8***Correlation between Using Online Learning Platforms and Self-Efficacy in Interaction with Lecturers*

| Interaction with Lecturers | r    | p-value |
|----------------------------|------|---------|
| Independent Learning       | 0.21 | 0.015   |
| Virtual Meeting            | 0.10 | 0.239   |
| Forum Discussion           | 0.18 | 0.040   |
| Collaborative Learning     | 0.22 | 0.011   |
| Assessment                 | 0.06 | 0.499   |
| Overall                    | 0.22 | 0.010   |

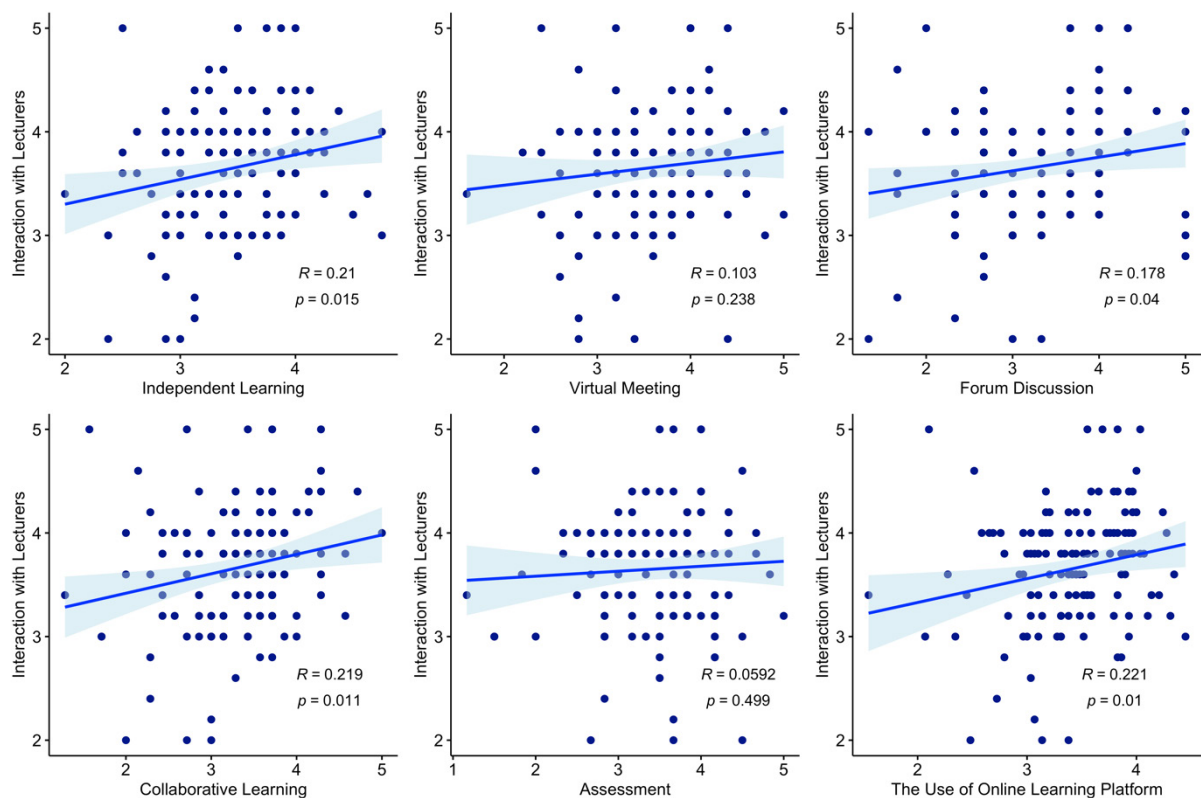
**Figure 4***Correlation between Using Online Learning Platforms and Self-Efficacy of Students' Interaction with their Lecturers*

Figure 5 shows two scatterplots with near horizontal correlation lines, while others are slightly sloped upwards, showing certain levels of correlation. Finally, the result of the overall correlation analysis between using online learning platforms and EFL students' self-efficacy is displayed in Table 10.

Table 10 shows significant correlations between the use of online learning platforms and EFL students' self-efficacy. The level of correlation varied from weak to moderate level. The constructs that have a weak level of correlation are virtual meetings, collaborative learning, and assessments.

The scatterplots in Figure 6 give a better illustration of these correlations.

Figure 6 shows that all constructs of the use of online learning platforms are correlated with EFL students' self-efficacy. The correlation lines in all scatterplots are trending upwards, which shows that the correlations are significant. To summarize the results of correlation analyses, Figure 7 shows the correlations between all constructs of the use of online learning platforms and all constructs of students' self-efficacy. Different line colors are used for clarity.

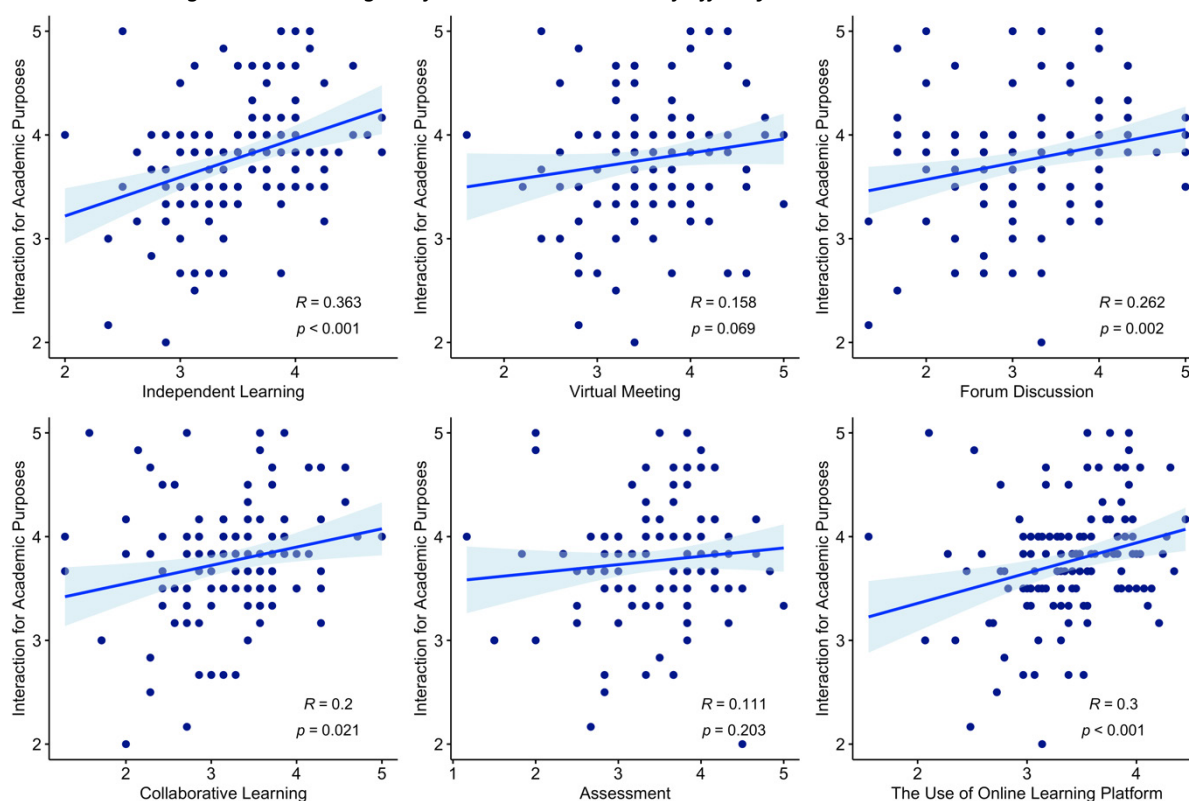
**Table 9**

*Correlation between Using Online Learning Platforms and Students' Self-Efficacy in Academic Interaction*

| Academic Interaction   | r    | p-value |
|------------------------|------|---------|
| Independent Learning   | 0.36 | 0.000   |
| Virtual Meeting        | 0.16 | 0.069   |
| Forum Discussion       | 0.26 | 0.002   |
| Collaborative Learning | 0.20 | 0.021   |
| Assessment             | 0.11 | 0.203   |
| Overall                | 0.30 | 0.000   |

**Figure 5**

*Correlation between Using Online Learning Platforms and Students' Self-Efficacy in Academic Interaction*



## DISCUSSION

This research aims to investigate whether there is a significant correlation between online learning platforms and EFL students' self-efficacy in online learning. The findings of this research indicate a positive correlation between almost all constructs of the use of online learning platforms (UOLP) and students' self-efficacy (SSE). More specifically, a moderate correlation was found in three constructs of UOLP, i.e., independent learning, forum discussion, and overall UOLP. This correlation shows the significance of using online learning platforms in determining EFL students' self-efficacy, which suggests that students will be more confident that they will be successful in online learning if their teachers use online learning platforms more frequently for independent

learning and forum discussion. In addition, the result is as expected because previous studies have found that using online learning platforms promotes students' autonomy in learning (Li, 2021; Nugroho & Atmojo, 2022). Besides, online learning platforms also encourage students to actively engage in a discussion forum (Alsubhi et al., 2020). Students' engagement in online learning activities can indirectly affect their self-efficacy through vicarious experience or verbal persuasion sources (Hodges, 2016). For instance, students can observe their classmates' successful performances and receive encouragement from their lecturers during those activities. Therefore, this finding is beneficial for lecturers in assisting their students in using online learning platforms effectively.

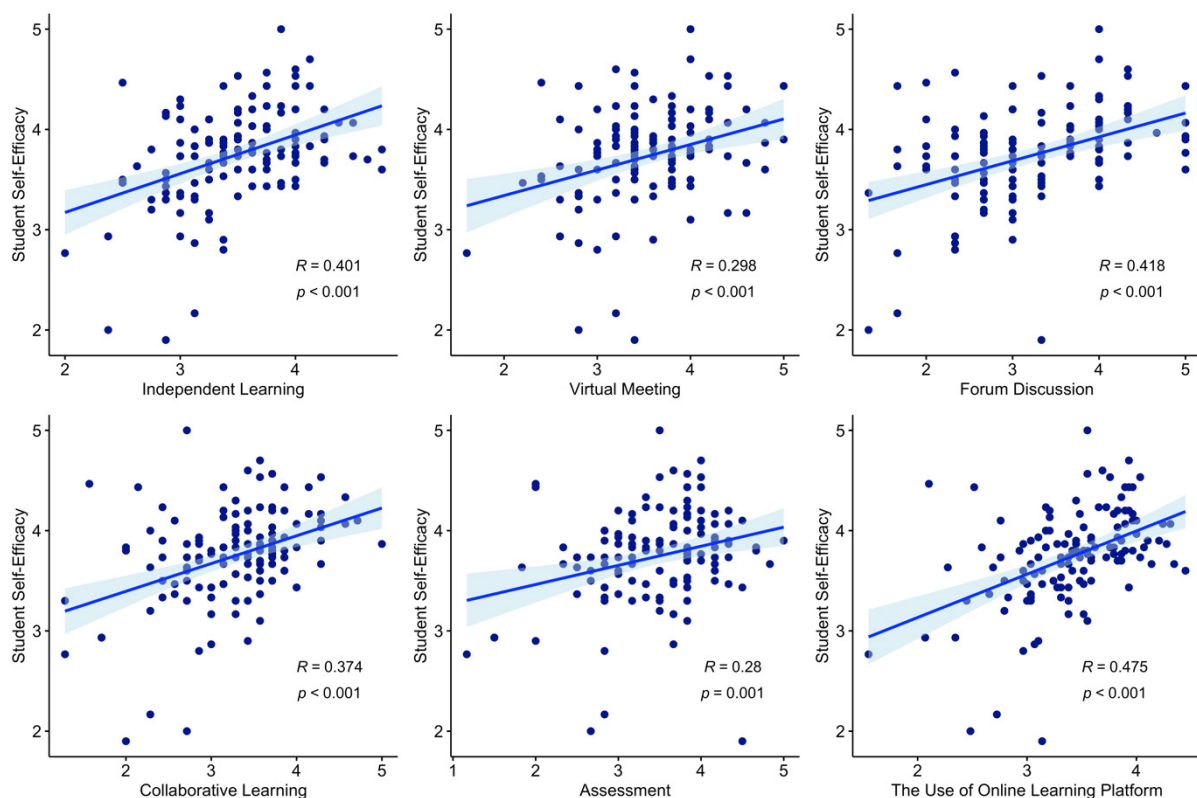
**Table 10**

*Correlation Analysis Results of the Use of Online Learning Platforms and EFL Students' Self-Efficacy in Online Learning*

| Students' self-efficacy   | r    | p-value |
|---------------------------|------|---------|
| Independent Learning      | 0.40 | 0.000   |
| Virtual Meeting           | 0.30 | 0.000   |
| Forum Discussion          | 0.42 | 0.000   |
| Collaborative Learning    | 0.37 | 0.000   |
| Assessment                | 0.28 | 0.001   |
| Online Learning Platforms | 0.48 | 0.000   |

**Figure 6**

*Correlation between the Use of Online Learning Platforms and Efl Students' Self-Efficacy in Online Learning*



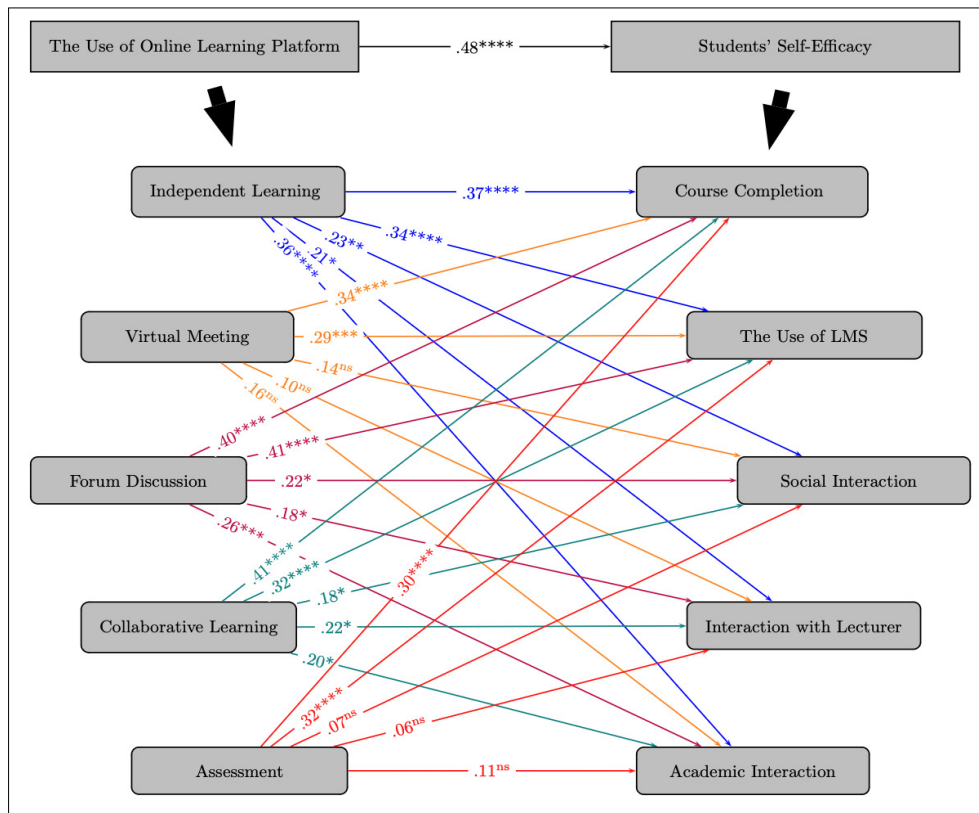
Similarly, students' self-efficacies in completing the online course and using LMS were also moderately correlated with all factors of online learning platforms except independent learning. The findings present a weak correlation between independent learning and both constructs of SSE. This result suggests that the learning activities involving independent learning, such as teachers asking students to read materials or complete assignments independently, did not affect students' belief of their success in completing the course of using LMS. These results are unexpected because independent learning is considered one of the most frequently used activities in online learning based on the data in this study. This unexpected result might be explained by students' mastery experiences and LMS use (Udin et al., 2022).

For instance, Al-Mamary et al. (2023) found that students who believed that they would not fail in performing a learning activity in LMS would not doubt their abilities, which later decreased their motivation to use LMS. Therefore, this present research is expected to help teachers make the best use of features provided by online learning platforms that enhance students' independent learning.

In addition, a significant correlation also exists between students' self-efficacy in completing an online course and collaborative learning at a moderate level. This result indicates that students who engage in collaborative learning more often are more likely to believe they will successfully complete online courses. In addition, Kumi-Yeboah et al. (2017)

**Figure 7**

Summary of Correlations between the Use of Online Learning Platforms and Students' Self-Efficacy



Note: ns p-value > 0.05, \* p-value < 0.05, \*\* p-value > 0.01, \*\*\* p-value > 0.001, \*\*\*\* p-value > 0.000

claim that collaborative learning activities can help students complete online courses by working with their classmates in group work. Besides, it can promote students' participation and engagement so they can have a better chance of success in an online course (Li & Yang, 2021). Budhyani et al. (2022) assert that peer learning can improve students' confidence and minimize their anxiety in an online learning class with assistance and feedback from their classmates. As a result, students' self-efficacy will increase when the class uses more collaborative learning activities. This current result has shown the significance of collaborative learning activities in improving students' self-efficacy, and therefore, teachers have to consider using this activity with the help of digital platforms in teaching an online class.

Furthermore, there is no correlation between three constructs of students' self-efficacy, those related to social and academic interactions, and two constructs of UOLP, namely virtual meetings and assessments. These results indicate that students' interaction was relatively poor during virtual class meetings using video conference applications. In addition, most assessments are delivered through online quizzes or testing applications, and thus, interaction was minimal. This is supported by Rahmat and Fachrunnisa (2021), who mention that students interact less using video meeting ap-

plications. Besides, Fitriyah and Jannah (2021) add that students' interaction with their teachers is considerably poor during the online assessment. The possible reason for these unexpected results might be some problems experienced by students in following the online learning instructions. According to Nehe (2021), interaction in video meeting applications can be more difficult due to uncontrolled class conditions and microphone sound crashing problems when students speak concurrently. Besides microphone issues, another reason for interaction problems is that most students prefer to turn off their cameras during virtual meetings, which reduces interactions (Wu et al., 2022). Regarding assessment, Suradi et al. (2022) mention that technical issues such as the quality of internet connection can affect students' belief in the success of online examinations because they fear their answers will be lost unexpectedly due to unstable internet connection. These results suggest that online learning instructors consider these issues. Several efforts can be undertaken to overcome the problem of interaction in an online classroom. For instance, teachers can provide immediate and direct feedback on students' work (Mafulah et al., 2023) and create breakout rooms with video application features where students can share their opinions on the materials (Libre, 2021). Another study suggests using interactive platforms such as Nearpod as a tool for

interactive learning (Kaddoura & Al Hussein, 2021). In addition, Tseng (2020) emphasizes the importance of teacher presence in an online learning setting; for instance, teachers can assist students when they have difficulty, or teachers can provide asynchronous video comments on students' tasks and evaluations.

Finally, this research had several limitations during the data collection, such as a limited population size because we only covered three universities in Indonesia. In addition, the sample size was adequate, but the data could have been categorized into some groups based on students' demographic information if the sample size had been larger. Therefore, future researchers are suggested to use a larger sample size from a larger population, covering several universities. In addition, the researchers suggest that future researchers analyze the data based on several categories, such as gender and grade point average, to seek the differences between each category. In addition, if a future related study addresses adult learners, the researcher is also recommended to consider an andragogical approach in designing the research instrument, as suggested by Kaddoura and Hussein (2021).

## CONCLUSION

This research investigates whether the use of online learning platforms is significantly correlated to EFL students' self-efficacy in online learning, specifically in English courses. Based on research findings, significant correlations were found between both variables. The correlation level ranges from weak to moderate, and the correlations were also absent for some constructs. Forum discussion and overall online learning platform usage are moderately correlated with students' self-efficacy in completing online courses and handling LMS tools, and overall students' self-efficacy. Besides, collaborative learning has a moderate correlation with course completion, and the correlation between independent learning and overall students' self-efficacy is also moderate. These results show that students will become more efficacious in their online learning if their teachers increase the frequency of independent learning, collaborative learning, and discussion in their online classes. Moreover, other constructs, i.e., independent learning, forum discussion, collaborative learning, and overall online learning platforms, are weakly correlated to students' self-efficacy in social interaction. On the other hand, two constructs of UOLP are not correlated with students' self-efficacy related to social and academic interaction with both their classmates and lecturer, i.e., virtual meetings and assessments. Based on these results, students' belief about their success in learning interaction is not affected by how their teachers use online learning platforms.

The present research suggests that educational instructors such as teachers consider using online learning platforms in

online learning settings, which has been studied to correlate with EFL students' self-efficacy in online learning. Regarding the research findings, the researchers recommend that teachers conduct forum discussion activities more frequently as they moderately correlate with EFL students' self-efficacy. Students can discuss specific learning material with their classmates and share their ideas confidently. Besides, students can observe their classmates' success when they perform a presentation, which can improve their motivation.

Regarding students' social and academic interaction issues with their peers or instructors, researchers suggest that teachers provide immediate feedback on students' performance and encourage them during online learning so they will feel more confident in their abilities. In addition, teachers can establish small group projects that can enhance students' participation and academic interaction with their peers. Furthermore, students can actively engage in virtual meetings using the breakout rooms feature, as they can communicate and exchange knowledge with their classmates within the rooms. Furthermore, students can increase their social interaction during virtual learning by exchanging messages through social media such as WhatsApp groups.

## ACKNOWLEDGMENTS

The data in this research was obtained through a professor research grant provided by Universitas Syiah Kuala with grant contract number 141/UN11/SPK/PNBP/2022 (Penelitian Profesor).

## DECLARATION OF COMPETING INTEREST

None declared.

## AUTHORS' CONTRIBUTION

**Asnawi Muslem:** conceptualization; investigation; supervision; writing – review & editing.

**Usman Kasim:** funding acquisition; investigation; supervision; writing – review & editing.

**Faisal Mustafa:** data curation; formal analysis; methodology; writing – review & editing.

**Siti Sarah Fitriani:** project administration; resources; writing – review & editing.

**Maulidia Rahmi:** data curation; visualization; writing – original draft.



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