

Applying Social Media Platforms in Self-studying English for Mechanical Engineering at Hanoi University of Industry

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ABSTRACT

Keywords: self-study, social media, benefits, drawbacks, solutions

The proliferation of social networks has led to an abundance of knowledge and diverse perspectives. Along with actively engaging in classroom learning, students now perceive social networks as valuable sources of educational content. To facilitate English language improvement for students in the faculty of Mechanical Engineering, educators have encouraged students to use various social media platforms such as Facebook, YouTube and TikTok to enhance vocabulary learning, improve pronunciation, and increase students' interest in learning English. Quantitative and qualitative methods will be used to answer questions about how learners utilize social media for self-studying English, which platforms they use, how often, and the benefits, challenges, and main goals. Data will be collected through questionnaires and interviews with second-year students at the Faculty of Mechanical Engineering, Hanoi University of Industry. The research analyzes the role of social media in supporting students' self-study of English and discusses the advantages, challenges, and practical solutions to enhance autonomous learning.

Introduction

Rationale of the study

It goes without saying that technology plays a critical role in today's classrooms. With the passage of time, there is a growing likelihood that both educators and students will abandon paper-based resources in favor of using just technology tools in their work. Students commonly use social media platforms such as TikTok, YouTube, Twitter, and Facebook for entertainment and communication around the world, but not everyone is aware that they may also be utilized for learning and exploring materials. Learning to use social media in the scope of ESL could bring major change because young people and children spend a large amount of time on these

social media platforms.

It has been observed that English is a challenging language among Vietnamese students who are enrolled in the Mechanical Engineering major program at Hanoi University of Industry (HAUI). Their syllabus is concerned with technical one and provides less time to English. Social media could fill this void, as it provides opportunities to learn in a stimulating, pertinent and non-restrictive environment that fits into the learners' daily schedule.

Significance of the study

Several methods have been used in this study, and the most significant of all is the approach taken toward language learning of an Engineer. Drilling/repeating methods in a language class can be somewhat tiresome and deflating. On the other hand, many social networking sites have fun classes. By taking advantage of the popularity of such platforms, it is possible to create a more interesting and efficient process of learning a language.

Research Aim

The primary aim of this research is to evaluate the effectiveness of social media platforms in enhancing the English language proficiency of mechanical engineering students at HAUI. This paper also takes the benefits and drawbacks of these social media as well as suggests some effective solutions to enhance students in self-studying of English.

Scope of the study

Participants of the study are third-year students of the Faculty of Mechanical Engineering, Hanoi University of Industry, Campus A: Minh Khai ward, Bac Tu Liem district, Hanoi. The students here have a supposed English proficiency ranging from A1 to B1 according to CEFR.

Literature review

English learning context at Hanoi University of Industry (HAUI)

Hanoi University of Industry has a long history and is well-known due to the diversity of fields, among which is the highly ranked faculty of mechanical engineering. The teaching of English classes is divided into basic, medium, and advanced levels, for which textbooks have been internally developed based on the needs of the students in question. Therefore, the proficiency levels within the student population range from A1 to B1, according to the Common European Framework of Reference for Languages. Traditional methodologies, though effective to a certain degree in the classroom environment, do not offer the immediate relevance and interactive elements of modern social media formats. Previous research has indicated that interactive and immersive learning environments significantly enhance language acquisition and retention (Richards & Rodgers, 2014; Harmer, 2007).

Social media to facilitate self-studying

Social media has become a valuable tool in education, enhancing engagement, communication, and collaboration. Studies show that it encourages self-directed learning, providing students with access to resources, peer interaction, and feedback beyond the classroom. Platforms like Facebook, Twitter, and YouTube promote motivation, collaborative learning, and reflection

(Istifci & Dogan Ucar, 2021). However, challenges such as information overload and distractions must be addressed (Feng, Wong, Wong, & Hossain, 2019). Understanding the role of each platform, including Facebook, YouTube, and TikTok, in facilitating self-studying is essential for maximizing its educational benefits.

Facebook

Facebook has almost always been viewed as a useful educational tool as it builds a community among the users which in turn helps to foster collaboration and exchange of ideas which is beneficial for learning (Manca & Ranieri, 2016). As an illustration, research carried out by Blattner and Fiori (2009) added an understanding that Facebook groups could actually improve the students linguistic and cultural skills through actual interaction with the native speakers which was quite crucial. Additionally, the platform's ability to mostly facilitate real-time interactions and for all intents and purposes provide access to a wealth of user-generated content makes it a valuable resource for language learners (Kabilan, Ahmad, & Abidin, 2010) in a great extent.

YouTube

The learner's interest in and motivation to use the YouTube as a platform for language learning may arise from the range and the scope of education, language tutorials or pronunciation videos and the task based learning that YouTube provides. It is stated by Watkins and Wilkins (2011) that listening and speaking skills of students can improve considerably when they are provided with YouTube videos, which allow them to hear native speakers as well as other accent variations. Furthermore, the tools include interaction tools like comments and subtitles where language skills can be practiced and content understood on various dimensions (Brook, 2011). The convenience of being able to go back to the learning material over and over again makes the site more effective as a teaching aid (Terantino, 2011).

TikTok

TikTok is a fairly recent application into the education environment but has been very popular for the attention-grabbing short-duration videos which are capable of teaching new words, new language concepts and offering new language practice (Sarkila, Islam, & Fatmawati, 2024). Different researchers observe that for the appropriate usage of TikTok, such short and concise content targeting younger populations is an attractive option for younger populations who might find routines boring (Qin, Omar, & Musetti, 2022).

Research gap

The previous studies (mentioned in the literature review) focused primarily on the benefits and drawbacks of digital tools and left out the way they are integrated into students' learning habits. Empirical work on independent English learning via social media for Mechanical Engineering non-English major students is limited. This study bridges this gap by examining the application of Facebook, YouTube, and TikTok to support self-study and classroom practice among second-year Mechanical Engineering students at Hanoi University of Industry in the expectation that learner autonomy and pedagogy will be encouraged.

Research Questions

To fulfill the purpose of the study, the survey and the interview sought to answer the following research questions:

- ✓ To what extent do learners utilize social networking sites for self-studying to improve their English proficiency?
- ✓ Which social media platforms are most frequently used by learners for self-study to enhance their English skills?
- ✓ How often do learners engage with social media platforms on their own to improve their English proficiency?
- ✓ What are the perceived benefits of using social media platforms for self-studying and improving English language skills?
- ✓ What challenges do learners face when using social media platforms for self-study to develop their English skills?
- ✓ What are learners' main goals when using social media platforms for self-study in learning English?

Methods

This study aims to analyze the advantages and disadvantages of students in the process of utilizing three popular social media including Facebook, Youtube and TikTok in self-studying Mechanical English at Hanoi University of Industry. The research questions will be answered by using both quantitative and qualitative analysis methods. The authors collect data through surveys and interviews.

Research setting

This study is being carried out at Hanoi University of Industry, and the intended participants are third-year students who do not major in English. The data-collecting process lasts for a semester, with 50 students are involved.

Participant selection

A questionnaire and an interview were employed to answer the research question and meet the objective of the paper. In a semester-long data collection process, 50 students took part in the study and answered the questionnaire.

The researchers selected ten students—five male and five female—to participate in semi-structured interviews. Data for this study was gathered using both a questionnaire and these semi-structured interviews. Each interview session lasted between 15 and 25 minutes, during which researchers recorded the conversations to capture detailed responses. Following the survey on participants' social media usage, each respondent took part in an interview for further insights.

Data collection instrument

To find out the answer for the research question, a questionnaire and an interview were organized.

Questionnaire

The questionnaire method was selected because this will enable the researcher to obtain a large volume of information in an extremely short period of time. This is quite helpful since the researcher decides to collect data from 50 participants.

We have developed a self-designed questionnaire in order to obtain the necessary information within the current study. All questions were multiple choice.

All these are in line with the Literature Review to find out students' attitudes towards three social media platforms: YouTube, TikTok, and Facebook, together with the influence of these applications in self-studying English.

Interview

Again, it would not be enough to conduct an analysis of data from the questionnaire alone, as it is only numbered, and it might be hard to make inferences about what participants chose. The interview method will cure this weakness by collecting students' rationale and providing further explanations for their choices. The interview was constructed based on the bedrock of the questionnaires.

For this interview, ten interviewees were randomly selected to answer a set of questions. These questions are closely related to the questionnaire in order to find more details and explanations about the results of scoring given by the participants.

These interviews are first transcribed and then interpreted for the purpose of this research.

Data analysis method

When the procedure of collecting data is completed, they will be analyzed by both quantitative and qualitative methods through questionnaires and interviews respectively.

The quantitative method is applied to analyze data collected from the questionnaires. Microsoft Excel was utilized to process the numerical data, as it allows for effective calculation and visualization of responses. For Questions 1 and 3, the quantity and percentage of those who responded with each alternative were calculated in order to find out trends for how frequently students make use of social media and whether they utilize it for English learning. For Question 2, the answers were coded based on the social media platform (YouTube, TikTok, Facebook), and compared subsequently to learn which one was most popular. For Questions 4, 5, and 6, multiple-choice questions were colligated and counted to measure frequent perceptions of advantages, disadvantages, and study purposes regarding the use of social media for self-studying English. The data are addressed through tables and bar charts to reflect well the students' use and perceptions of the social media platform while self-studying Mechanical English.

In order to gain a better insight into students' attitudes and the reasons behind their responses in the questionnaire, qualitative methodology was used. Semi-structured interviews with ten students were audio-recorded and then transcribed for detailed analysis.

Analysis of interview data follows Dudovskiy's procedure (2018), which includes:

- ✓ Repeating words and phrases: Picking out words and phrases repeated at high frequency for commonality of experience or attitude.

- ✓ Comparisons of primary and secondary data: Comparing interview results with questionnaire findings and the literature review in an effort to determine consistency or to determine contradictions.
- ✓ Look for missing information: Checking what substantial issues were excluded by respondents which one would otherwise expect to include.
- ✓ Analogies and metaphors: Looking for comparative terminology or metaphors used by interviewees in a bid to understand their views.

This qualitative approach helps to uncover the real rationale behind students' choices, and how and why social media sites are being used in learning English, especially the case of Mechanical Engineering at Hanoi University of Industry.

Results/Findings and discussion

Types of social media and time students use in self-studying English

Table 1

The most popular forms of social platforms among students who are studying English

	Mean	Standard Deviation
<i>Youtube</i>	4.71	0.62
<i>Tiktok</i>	4.16	0.78
<i>Facebook</i>	3.61	0.84

Table 1 depicts what social media platforms are popular for the purpose of improving the English language measured on a Likert scale. Below is the interpretation based on Mean (M) and Standard Deviation (SD). The findings in table 1 show that most of the respondents are mostly active on YouTube (M = 4.71, SD = 0.62), followed by TikTok (M = 4.16, SD = 0.78) and Facebook (M = 3.61, SD = 0.84). YouTube is easier to operate than the rest of the other social media platforms available. These findings align with the research by Ngo Nguyen Thien Duyen and Pham Huong Ngoc Uyen (2023), which emphasized the role of social media platforms, such as Facebook, WhatsApp, and online communities, in fostering learner autonomy and enhancing interaction in English language learning. According to Qin, Omar, & Musetti (2022), TikTok has captivation towards little learners because of its appealing features. In terms of social networking, Facebook is helpful; however, that is about all it can do, as far as uses of currency of structural learning go. In conclusion, most respondents use YouTube for English Language acquisition processes, while a considerable number of users access TikTok for bite-sized learning through eye-catching fun videos.

Students' weekly English self-study time on Facebook, YouTube, and TikTok for Mechanical Engineering 1 and 2 classes was assessed by a survey. Findings shown in figure 1:

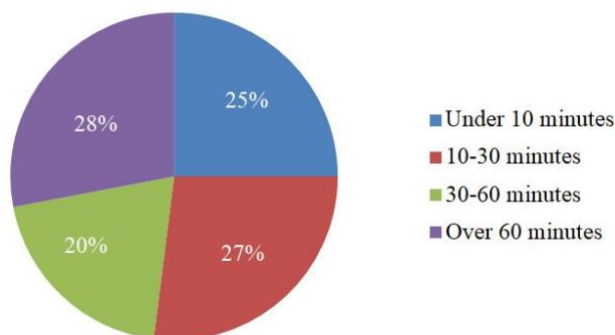
*Figure 1**Weekly English self-study time for students*

Figure 1 shows student self-study time for English on weekly. The mean study time was approximately 36.7 minutes ($SD \approx 28.4$ minutes). While 28% of students study more than 60 minutes evidencing a high level of commitment and prospective proficiency gains 27% students study 10-30 minutes weekly. About 20 percent spend 30-60 minutes studying. In general, the average time that students spend on independent study of English is limited. Hence, increasing the amount of time spent on self-study, especially of those in lower brackets will enhance language performance.

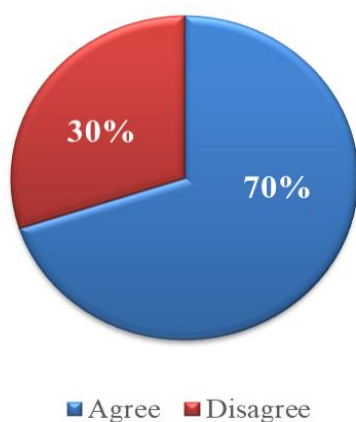
*Student evaluation of using social media in self-studying English**Figure 2**Student attitudes about using social media in self-studying English*

Figure 2 illustrates the students' attitudes about utilizing social media to learn English compared to traditional methods based on books. The mean score was 0.70 ($SD \approx 0.46$), indicating that 70% of participants recognize the benefits of social media over the traditional methods for learning English. However, only 30% of students are interested in traditional techniques. These findings were similar to Bui Thi Nga (2021), which highlights the positive attitudes of students about using online platforms for language learning, particularly in fostering self-study learning and expanding vocabulary. Bui's research also emphasized that the majority of students recognized the advantages of technology in enhancing language proficiency and global connectivity.

Advantages and disadvantages of using social media in self-studying English

Some advantages when using social media in self-studying English

When using platforms like Facebook, YouTube, and TikTok for self-studying English in the context of Mechanical Engineering, students can improve their sense of self-study and skills. In addition, it can help create learning excitement because these platforms provide various types of questions and exercises in various forms and vivid visuals. Moreover, by using these platforms, students can connect with instructors, professionals and other friends worldwide, creating a collaborative learning environment. Since then, students' interest and love for the subject will motivate them to improve their learning results.

Some difficulties when using social media in self-studying English Mechanical Engineering

As we can see from the results of the survey and interview, students still face some difficulties while using social media for self-study English Mechanical Engineering.

Table 2

Difficulties of students when using social media in self-studying English Mechanical Engineering

Difficulties	Agree	Disagree
Inappropriate documentation	16,7%	83,3%
Lack of time	30%	70%
Lack of guidance	73,3%	26,7%
Unstable or no Internet	90%	10%
No friends to learn with	76,6%	23,4%

As illustrated in Table 2, most students have difficulties using social media in self-studying English for Mechanical Engineering. The mean percentage of agreement across all difficulties was 57.32% (SD \approx 28.61%), suggesting that, on average, more than half of the students encountered challenges. The most significant problems identified were unstable or no Internet (90%). Additionally, peer assistance is a problem for 76.6% of students, highlighting the value of studying with peers. 73.3% of students said that they face with lack of guidance. Only 30% of students feel that lack of time is a problem, while 16.7% have challenges finding appropriate documentation. To sum up, Internet connection and guidance are the biggest difficulties for students when utilizing social media to self-study English in Mechanical Engineering.

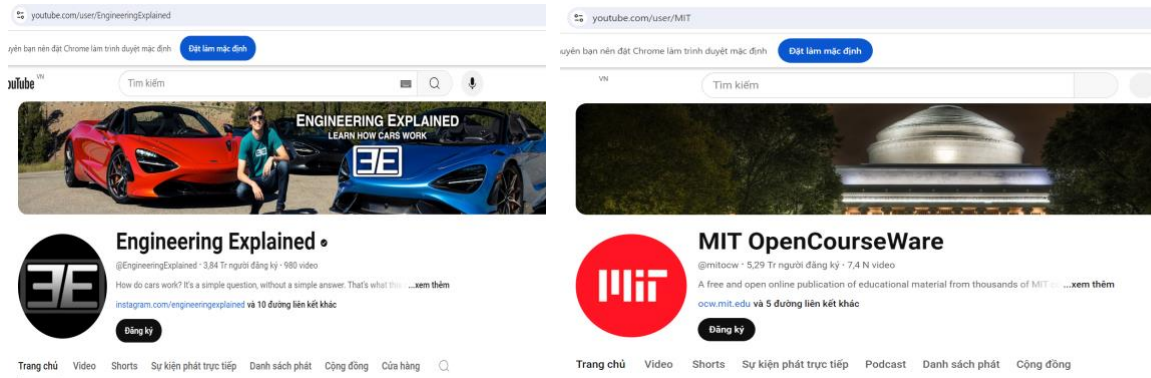
Some suggestions to use social media platforms YouTube, Facebook, and TikTok for self-studying English for Mechanical Engineering effectively.

Based on an analysis of students' difficulties when studying independently, the following strategies aim to increase the effectiveness of using YouTube, Facebook, and TikTok for English for Mechanical Engineering self-study.

YouTube

YouTube is a useful resource for students to self-learn English mechanical engineering. They can access topics like manufacturing procedures and machine design through specific channels like Real Engineering or Learn Engineering. Watching tutorials on CAD software or thermodynamics simplifies complex ideas while improving language. Utilize educational playlists for structured learning, take notes for reference, and engage in online discussions to

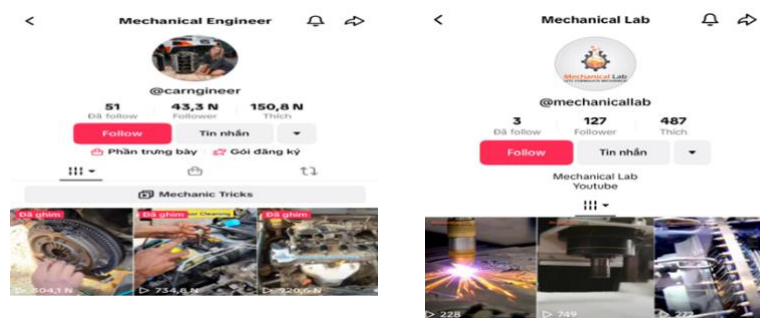
consolidate knowledge. YouTube's learning section and the ability to save videos also help in building a personalized curriculum. Channels like Engineering Explained and MIT Open Courseware are particularly valuable.



TikTok

Students can follow these suggestions to get the most of TikTok when self-studying English for mechanical engineering

- Pay attention to specialized accounts such as @mechanical.engineer, @mechanics_lab, and @tips.hacks.01 for videos about the use of tools, technology, and mechanical vocabulary.



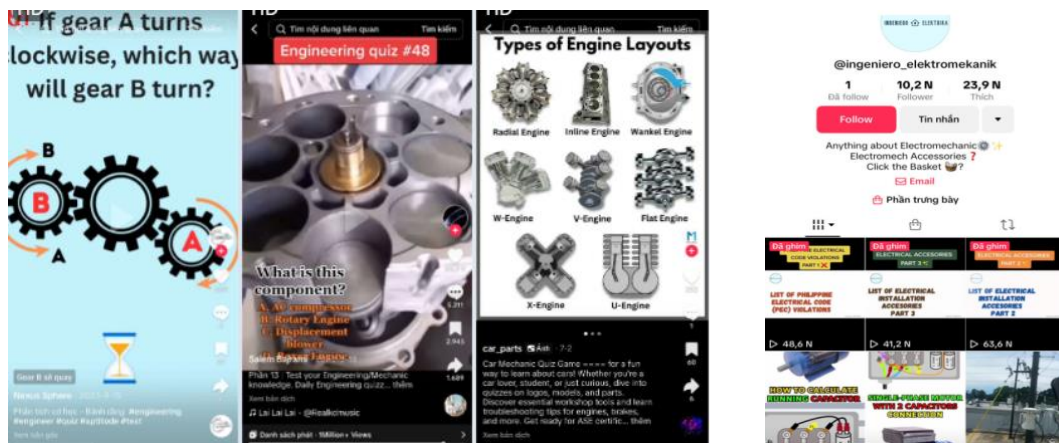
- Watch brief educational movies about tools, manufacturing procedures, or repairs to pick up terminology unique to your field.



- Use English-language search terms such as "machining" or "mechanical engineering" to find material.
- Practice the use of "Duet" or "Stitch" features to answer to videos by providing English explanations of procedures or tools.



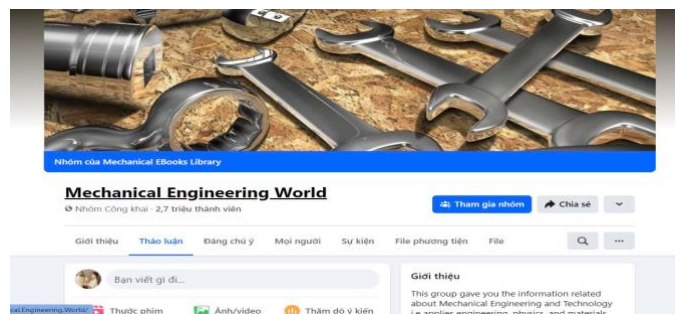
- To practice English and solidify understanding, make own movies and participate in challenges or quizzes to review terms.



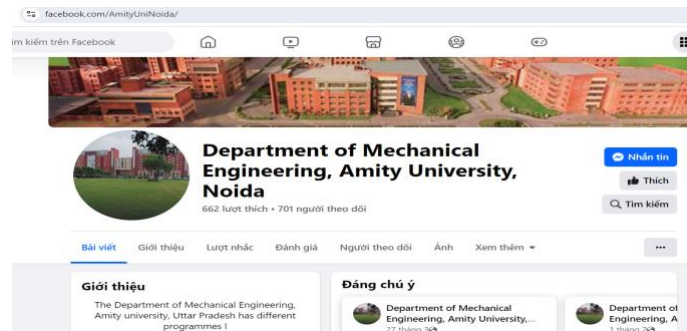
Facebook

Use Facebook to students' purposes when self-studying English for Mechanical Engineering on their own by doing the following:

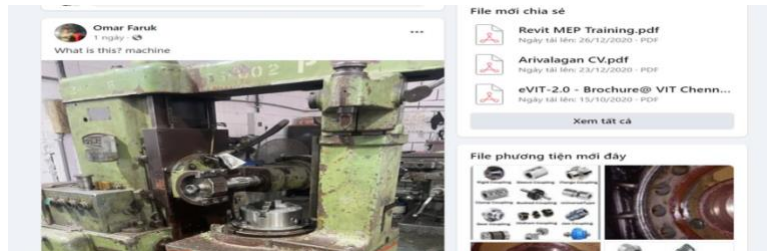
- Join industry groups that are relevant to the field using keywords like "Mechanical Engineering English" to gain access to study resources and discussions.



- Engage in Q&A and conversations to hone your communication and technical vocabulary.
- Follow pages of educational institutions or experts for articles, research, and instructional videos.



- Engage with posts by reading and commenting to enhance your reading and writing skills.



- Watch videos and live streams on Facebook Watch about technical topics. <https://www.facebook.com/MechanicalEngineeringTechnologyUnofficial/>
- If needed, create your own study group, and share materials to reinforce knowledge and English proficiency.

Conclusion

Students must spend a lot of time and money to learn English in general and English for mechanical engineering in particular. Effective language acquisition requires consistent practice. In order to succeed, students must actively seek out and engage in a variety of learning activities outside of the classroom to expand their knowledge and language proficiency. Social media platforms like YouTube, Facebook, and TikTok are excellent resources for self-studying. Teachers play an important role in this process because they provide support, guidance, and encouragement that help students develop self-discipline, positivity, and initiative in their learning.

In this article, the authors have introduced the concept of the role of social media in self-studying English for Mechanical Engineering. At the same time, the authors analyze the difficulties students face when utilizing Facebook, YouTube, and TikTok while self-studying English for Mechanical Engineering and propose some solutions. With the study analyzing students' difficulties when utilizing Facebook, YouTube, and TikTok in self-studying English for Mechanical Engineering at Hanoi University of Industry, it hopes to help students improve their English abilities.

This research has some limitations. Firstly, it was conducted only for Hanoi University of Industry students, which might be too specific in order to generalize for other vocational schools or universities. Secondly, the research interviewed mainly three websites—YouTube, Facebook, and TikTok—and did not investigate other useful websites like Instagram or LinkedIn.

Another weakness is that the study only spotted students' problems and offered generic solutions but did not critically analyze the effectiveness of some learning approaches or curriculum. Conditions like students' motivational levels, baseline English proficiency levels, and availability of technology were not taken into account but can influence the effectiveness of self-study through social media.

For future research, it would be useful to expand the participants from other technical universities or vocational colleges in Vietnam to provide a more comprehensive view of the difficulties and solutions. Examining how teachers guide students using social media self-studying is also important. Gaining experience in these areas will help to create more effective and practical ways of using social media to assist English learning for Mechanical Engineering students.

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Biodata

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