

# Utilizing Generative AI to Enhance EFL Learners' Learning Motivation: A Case Study

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## ABSTRACT

Artificial intelligence (AI) has become a topic that has increasingly received close review in recent years, and its impact is becoming more obvious in a variety of disciplines, including education. This study examines the integration of generative AI in Business English classes to enhance the motivation of EFL learners. A sequential explanatory mixed-methods research design was employed, involving both quantitative and qualitative data collection methods. The population comprised EFL students enrolled in the English Language Education Study Program at a public university in Indonesia. A purposive sample of 23 students taking a Business English course was selected for the study. Data were collected through questionnaires and interviews. During the eight-week experimental periods, the students engaged with the generative AI frequently. Quantitative data were collected through pre- and post-tests using a motivation questionnaire based on Self-Determination Theory (SDT), and analyzed through descriptive statistics and paired sample t-tests. Results showed a significant increase in motivation scores from 70.78 to 76.35 ( $p < .001$ ), with a very large effect size ( $\eta^2 = 0.99$ ), indicating the strong impact of the AI-assisted intervention. From the interviews, it was found that EFL learners experienced a significant increase in their learning motivation derived from the autonomous and controlled motivation, particularly the contingent self-esteem. The generative AI can also be a valuable tool for enhancing EFL learners' learning motivation by providing personalized feedback, fostering a sense of autonomy, creating a more interactive and engaging learning environment, and resolving psychological barriers. Further research should explore how this technology can be scaled to broader educational settings and examine its long-term impact on learners' motivation and language acquisition. Hence, it helps educators develop best practices for integrating AI tools effectively into the curriculum.

**Keywords:** *artificial intelligence, EFL, ELSA Speak, learning motivation*

## Introduction

Learning motivation plays a prominent role in language acquisition, academic success (Agustina et al., 2021) and continuity of the success itself (Wardani et al., 2020). It influences students' engagement, persistence, and language competency (Alizadeh, 2016 and Zhang et al., 2020). However, to make the students motivated and to maintain the motivation itself in learning foreign languages can be very challenging (Lăpădat & Lăpădat, 2024). When students sit in the classroom, it is not a guarantee that they are eager to learn. Highly motivated students are likely to make any classes pleasurable; meanwhile, unmotivated students may likely learn very little and mostly feel uncomfortable and frustrated (Filgona et al., 2020). Regarding the problems

above, many theories in learning motivation arise, one of them is Self-Determination Theory (SDT). SDT is an approach to understanding human motivation and personality. It primarily differentiates between two types of motivation: autonomous motivation, which is driven by personal interest and choice, meanwhile controlled motivation is influenced by external pressure or obligations (Deci & Ryan, 2008). Motivation is a condition where people move to achieve a particular goal (Rao, 2019 and Cahyono et al., 2022). According to Muhibbin & Marfuatun (2020), learning motivation is a developing psychological feature that is influenced by students' physiological conditions and maturity. When people are autonomously motivated, they have a desire to do actions (Deci & Ryan, 2008). According to Sidik & Sobandi (2018), intrinsic

motivation is motivation that comes from within an individual. This motivation usually develops from dreams, ambitions, and wishes toward something, so that he has the passion to attain it.

On the other hand, controlled motivation consists of both external regulations, which are: external circumstances and interjected regulations. External circumstances cover rewards and punishments (Yuliana, 2019). While interjected regulations refer to a type of motivation that is somewhat internalized, driven by factors such as desire for approval, the need to avoid guilt, contingent self-esteem, and involvement of ego (Deci & Ryan, 2008). From the theoretical review above about motivation, it can be concluded that there are two types of motivation, namely: autonomous or intrinsic motivation and controlled or extrinsic motivation, where this psychological feature is essential in determining the students' learning motivation.

Besides motivation, the teaching media used by the teacher also determines the student's willingness to learn. Students frequently become bored when the teaching and learning process simply uses books as a learning resource (Susanti et al., 2022). Especially the EFL learners, for where English is not their first language. They tend to have difficulties in acquiring the language. According to (Al-Seghayer, 2021), if the EFL learners are unmotivated, they will be silent, bored, frustrated and under pressure. (Exley, 2005) also added the dominant characteristics of the Asian EFL learners are passive, shy and quiet. Seeing these situations, it is necessary to raise students' motivation to make them active learners. In this case, teachers also need to be very creative and adaptive to new possible teaching media that are suitable with the characteristics of the students.

As artificial intelligence (AI) has become increasingly popular in educational settings, this can be considered as one of the solutions to arouse students' motivation. AI is a branch of computer science. It entails creating computer programs to perform things that would normally require human intelligence (Gil de Zúñiga et al., 2024). Click or tap here to enter text. Meanwhile, generative AI is a branch of AI that produces new content, namely: audio, code, images, text, simulations, and videos (Feuerriegel et al., 2024). Compared to human intelligence, artificial intelligence offers several advantages. It is more durable, easier to replicate and distribute, more cost-effective, delivers consistent performance, and can complete tasks more quickly than human intelligence (Labadze et al., 2023). Using technology as a medium for learning can help students become more motivated (Puspitarini & Hanif, 2019). According to

(Szymkowiak et al., 2021) Students are attracted to teachers who involve current technologies into their curriculum and use them as a source to learn outside of the classroom. According to Yalçın İncik (2022) Using technology in the classroom has positive impacts such as increasing student interest, facilitating learning, improving technical skills, and providing faster access to information. Especially Generation Z, who are very much exposed to technology. Gen Z participants were largely positive about the potential benefits of generative AI, such as increased productivity, efficiency, and individualized learning, and expressed a desire to employ generative AI for a variety of educational reasons (Chan & Lee, 2023). One of the AIs that is possible to be used in facilitating speaking is the English Learning Speech Assistant (ELSA) Speak. ELSA Speak may be an extremely effective tool for learning English because it allows learners to learn not just vocabulary but also word choice and grammar. Additionally, ELSA Speak can boost student motivation. Students who interact with responsive and helpful AI tend to feel more secure in their speaking practice and more motivated (Karim et al., 2023).

Prior studies indicate that AI-enhance learning environments can improve academic performance (Janaki & Mariyappan, 2024), foster intrinsic motivation (Moybeka et al., 2023), foster engagement (Neo et al., 2022) offer adaptive feedback that strengthens language development, (Silitonga et al., 2023; Neji et al., 2023). Chiu et al., (2023) added that intrinsic motivation and the ability to learn effectively with the chatbot were influenced by students' self-regulation and their level of digital literacy. However, contrasting findings were reported by Huang et al., (2023) who noted that AI has the potential to significantly enhance the learning outcomes and engagement levels of students who possess a moderate degree of motivation.

Despite growing interest in AI-assisted language learning, most existing studies focus on general applications or specific skills such as writing and listening. Few have examined how AI tools like ELSA Speak influence speaking motivation, especially within Business English contexts. Moreover, motivational outcomes are often assessed broadly, without distinguishing between autonomous and controlled motivation as defined by Self-Determination Theory (SDT). This study addresses that gap by investigating how ELSA Speak supports both types of motivation, with particular attention to psychological factors such as contingent self-esteem and learner autonomy. By doing so, it contributes a nuanced

understanding of AI's motivational impact in EFL speaking classrooms, offering practical insights for technology integration in English language instruction. The following research questions are formulated to know the effect of ELSA Speak on students' learning motivation and to describe the EFL students perceive the impact of ELSA Speak on their autonomous and controlled motivation during English learning.

## Method

This study used a mixed-method approach to gather both numerical data and detailed personal insights from the participants (Creswell, 2012). The purpose of combining both quantitative and qualitative research is to gain a deeper understanding of a research problem. (Creswell & Clark, 2007) The participants consisted of 23 EFL undergraduate students from the English Language Education study program, all of whom were enrolled in a Business English course. The population included two Business English classes. Purposive sampling is used to select respondents on purpose because they are relevant to the traits that the researcher wishes to investigate. Therefore, it is expected that this subject would provide beneficial insight (Kelly, 2010). The students were chosen based on their active participation in the course and their willingness to engage with the ELSA Speak application over the eight weeks. The sample size was determined by considering the accessibility and practical constraints commonly encountered in classroom-based interventions. Although relatively small, this sample size was sufficient to detect meaningful changes in motivation during the intervention. The same participant group was also taking part in a separate research project focusing on speaking skills, while the current research specifically explores learning motivation.

The data were collected by using questionnaires and semi-structured interviews. A questionnaire is a way to collect data by giving people a list of questions or written statements for them to respond to (Sugiyono, 2017). A questionnaire utilizing a 5-point Likert scale, from 5 (Strongly Agree) to 1(Strongly Disagree) was employed to assess their learning motivation before and after being taught with generative AI, ELSA Speak in the Business English Class. This questionnaire was developed by using Self Determination Theory (SDT) by (Deci & Ryan, 2008). The instrument yielded a Cronbach's Alpha score of 0.74, demonstrating acceptable reliability and placing the questionnaire within a satisfactory category. Validity was supported by adapting well-established SDT-based items and reviewing them with expert input before implementation. The

quantitative data were analyzed using a descriptive statistics method, which summarizes data using indexes such as mean and median, and is followed by paired t-tests to determine if the difference is significant or not.

Meanwhile, a semi-structured interview was conducted to confirm the data obtained through questionnaires. The data generated from interview activities was in the form of interview transcripts containing answers regarding students' motivation in learning, accompanied by ELSA speak. The qualitative data were analyzed by using thematic analysis. Thematic analysis is a well-known and adaptable methodology that organizes qualitative data into patterns or themes (Braun & Clarke, 2006). A theme represents the key ideas and arguments underlying a specific notion. The researcher organizes the findings from the interview transcript into several themes linked to the research questions and provides an explanation to each. The researcher characterizes the findings as autonomous or controlled motivation. There is also a sub-theme on which elements belong to autonomous and controlled motivation that influence students' learning motivation. Interview data collection continued until thematic saturation was observed, meaning no new themes emerged after three interviews.

## Findings and Discussion

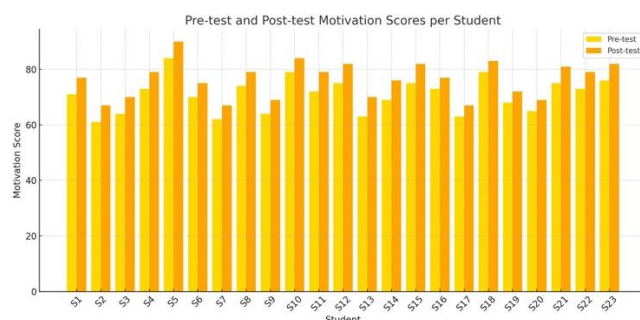
Based on descriptive statistical results, it was found that students' learning motivation in the pre-test and post-test was different. In the pretest, the average student motivation score was 70.7826 (good category). Meanwhile, the average post test score was 76.3478 (very good category). From this data, it can be seen that there are differences in student motivation before and after being taught by using ELSA Speak. This data was also supported by the difference in minimum and maximum values, where the minimum pre-test score was 61.00 and the maximum pre-test score was 67.00. Meanwhile, the minimum post-test score was 84.00 and the maximum post-test score was 90.00. This shows that the minimum and maximum pre-test scores are smaller than the minimum and maximum post-test scores. However, these differences need to be analyzed further to determine whether the differences are significant or not. So, proceed with inferential statistical tests using paired sample t-tests.

**Table 1**  
**Descriptive Statistics**

	Pre test	Post test
	23	23
	0	0
Mean	70.7826	76.3478
Median	72.0000	77.0000
Mode	73.00*	79.00

Std. Deviation	6.20818	6.42162
Variance	38.542	41.237
Range	23.00	23.00
Minimum	61.00	67.00
Maximum	84.00	90.00
Sum	1628.00	1756.00

To illustrate this improvement visually, Figure 1 displays individual motivation scores for all 23 students. As seen in the figure, the majority of students demonstrated a notable increase in motivation scores following the intervention.



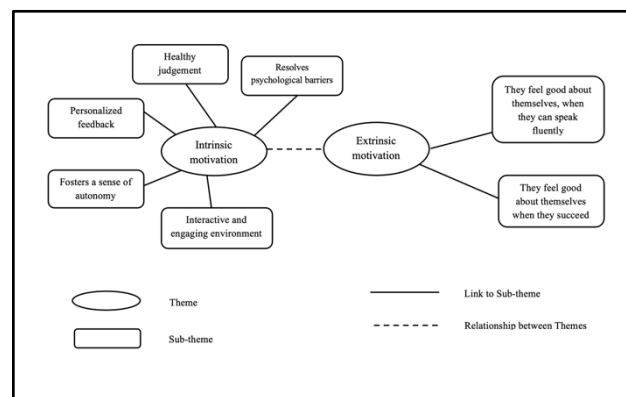
**Figure 1.** Pre-test and Post-test Motivation Score per Student

Before conducting further analysis, normality and homogeneity test were performed. The results of the normality test and homogeneity test can be seen in Table 2. The results of the normality test using Shapiro-Wilk show that the significance value is greater than  $\alpha$  0.05. The significance value of this normality test is 0.372 for the pre-test and 0.165 for the post-test. So from these data, it can be concluded that both data are normally distributed.

After the data is proven to be normally distributed, the analysis continues with the homogeneity prerequisite test. From the homogeneity results, it was found that the significance of the data showed a value of 0.817 which was greater than  $\alpha$  0.05. So it is concluded that the data is homogeneous and analysis using a paired t-test can be carried out.

After being tested using a paired t-test, it was found that the data significance value was 0.000. This data shows that the significance is smaller than  $\alpha$  0.05. So, it can be concluded that the difference in pre-test and post-test scores is significant. Because the inferential analysis used in this research uses a paired t-test, the effect size of the integration of the use of ELSA Speak to increase student learning motivation is measured using eta square. From the results of the analysis using eta square it was found that the value or coefficient obtained was 0.99. An effect size of 0.99 is categorized as very large. This means that the influence of the integration of ELSA Speak is very large in increasing student learning

motivation. In addition to the questionnaire, a semi-structured interview was carried out using a convenience sampling method to confirm the findings from the questionnaire about the effectiveness of ELSA Speak on students' learning motivation. Figure 2 is the thematic analysis of ELSA Speak on students' learning motivation.



**Figure 2.** Thematic analysis

In the current study, three participants were available and agreed to take part in the interview sessions conducted by researchers. The first student was coded as S-1, the second student was coded as S-2, and the third student was coded as S-3. Based on the result of the interview, students admitted that ELSA Speak can be a valuable tool for enhancing EFL learners' intrinsic learning motivation by providing personalized feedback, fostering a sense of autonomy, and creating a more interactive and engaging learning environment. The students

**Table 2**  
**Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre test	.129	23	.200*	.955	23	.372
Post test	.143	23	.200*	.938	23	.165

a. Lilliefors Significance Correction

\*, This is a lower bound of the true significance.

admitted that they use ELSA Speak because they believe that it will be giving significant improvement towards their speaking skills which definitely will be beneficial for their future career.

The interview with S-1 found that practicing with ELSA Speak is very flexible because it can be accessed anywhere. She also mentioned that she doesn't have to have friends to

practice English. She can practice her speaking skill with ELSA Speak. Moreover, when speaking with ELSA Speak, she doesn't feel embarrassed when she is making mistakes because she is not facing a human, but an application. It can be read in the following transcript.

"I am definitely happy practicing English speaking skills with ELSA! Even though I can already speak English, I don't always have friends to speak English with and also using ELSA, I can use it anywhere. It's more flexible and I don't feel embarrassed because I don't face humans but an application" (S-1, July 2024)

In addition, S-2 mentioned that she is very happy when the lesson is facilitated with ELSA Speak because ELSA gives a healthy judgment about her performance and also there are lots of interesting topics related to real life situations. It can be seen in the following quotation.

"Yes, I am very happy because ELSA gives a healthy judgment and there are lots of features and lots of content so we can practice not only on one topic but several topics, especially those related to everyday life." (S-2, July 2024)

Furthermore, S-3 added that she enjoys using ELSA Speak because of the personalized feedback. It can be seen in the following transcript.

"The main reason I enjoy using ELSA speak is because it immediately tells me what went wrong during pronunciation. The app provides constructive and personalized feedback, so I feel like each practice session is enjoyable and challenging." (S-3)

All respondents mentioned that ELSA Speak arouses their curiosity because when they make mistakes, they would like to know how to pronounce the words correctly. Also when they chose the topics to study, they are curious about the content and the activities. It can be seen on the following transcript.

"Practicing with ELSA also arise my curiosity because if, for example, I make a mistake, I will definitely be told, so later on, I know how to pronounce these words correctly" (S-1)

"Yes, it really sparked my curiosity, because

## DISCUSSION

The findings from the qualitative data clearly showed that students' motivation to learn increased significantly after using ELSA Speak. On average, their motivation scores rose from 70.78 before the intervention to 76.35 afterward, and this difference was statistically significant ( $p < .001$ ) with a very large effect size ( $\eta^2 = 0.99$ ). This means that the use of ELSA Speak had a

it has lots of very exciting topics and content." (S-2) "The speaking activities with ELSA Speak do increase my curiosity. Every time I receive feedback, I become more interested in understanding and correcting my mistakes." (S-3)

For the satisfaction aspect, all respondents agree that ELSA Speak makes them satisfied especially when they are able to accomplish the task. It can be seen from the following transcript.

"If I find words that I rarely encounter and finally know how to pronounce them, then maybe I will feel satisfied." (S-1)

"Yes, of course in some things, such as pronunciation, it can help achieve targets because each pronunciation will be corrected so that the next pronunciation will be even better." (S-2)

"Practicing with ELSA Speak gives me a great sense of achievement and personal satisfaction. Each time I see my score improve or receive praise from the app, I feel that my efforts are recognized, and I am motivated to keep learning." (S-3)

Regarding extrinsic / controlled motivation, students stated that they use ELSA Speak because they genuinely believe that practicing with ELSA can improve their speaking skill which will be beneficial for the future. It can be seen on the following transcript.

"My main motivation is to improve my English-speaking skills for personal growth and a better future. The reward for me is the improvement itself" (S-1)

"I believe that practicing with ELSA will provide benefits in the future, such as a successful career. When I achieve my goal in life, I feel good about myself" (S-2)

"Yes, I learn with ELSA Speak because I believe this activity will greatly benefit me in the future. Nowadays, good English skills are the main requirement in every job vacancy. By mastering English, I am confident that I can open up more career opportunities and achieve success in my chosen field." (S-3)

strong impact on improving students' overall motivation in learning English. This result supports previous studies such as (Karim et al., 2023) and (Puspitarini & Hanif, 2019), which found that AI tools can boost learners' confidence, make learning more interesting, and encourage greater participation, especially when feedback is personalized. Compared to (Huang et al., 2023) who reported only a moderate effect, the stronger



results in this study may be due to ELSA Speak's focus on speaking practice and its ability to give immediate, supportive feedback.

The interview data helped explain the reasons behind the increase in motivation. Many students shared that they felt more interested and engaged when using ELSA Speak because they could practice on their own, without pressure or embarrassment. They enjoyed being able to track their own progress and felt motivated simply because they were learning something useful and enjoyable. These experiences reflect autonomous motivation, where students are driven by curiosity, interest, and a sense of satisfaction, similar to what (Deci & Ryan, 2008) describe in Self-Determination Theory.

At the same time, some students also mentioned being motivated by external goals. They felt encouraged to improve their speaking skills because they wanted better grades, good job prospects, or to feel more confident in social situations. These reasons reflect controlled motivation, especially the idea of contingent self-esteem, where students feel proud when they perform well and gain recognition. These insights are consistent with findings from (Sidik & Sobandi, 2018) who explain that motivation can come from both internal and external sources when technology makes learning more accessible and enjoyable. Students in this study appreciated that ELSA Speak allowed them to practice anytime and anywhere, without being judged. They also valued the real-world topics, the clear feedback, and the personal relevance of the lessons, all of which contributed to keeping them motivated.

On top of that, the students have a positive attitude towards the existence of AI in language learning. This is in accordance with the characteristics of Gen-Z who are generally optimistic about the potential benefits of generative AI (Chan & Lee, 2023). It is also found that students often followed their teachers' who integrated technology into instructional process

In summary, this study found that ELSA Speak helped students become more motivated not only in general, but in specific ways. It supported both their personal desire to learn (autonomous motivation) and their goal-driven efforts (controlled motivation). This suggests that generative AI tools like ELSA Speak can play an important role in motivating students in English learning, especially when used in courses like Business English, where speaking ability is essential.

## CONCLUSION

This research shows that generative AI, ELSA Speak, can be a valuable tool for improving EFL learners' learning motivation. Several key points should be emphasized regarding the findings and discussion of this study, as outlined below: research findings show that ELSA Speak has a significant positive impact on student learning motivation, EFL learners who use ELSA Speak experience a significant increase in their learning motivation derives from the intrinsic and extrinsic motivation, particularly the contingent self-esteem. The students reported that they are more motivated to learn English because ELSA Speak makes learning more fun, interesting and rewarding. Additionally, ELSA Speak helps learners overcome psychological barriers associated with language learning, such as speaking anxiety and fear of making mistakes. By providing a secure and supportive learning environment, ELSA Speak allows students to practice their speaking skill confidently without any anxiety or embarrassment. The implication of this study suggests that integrating AI tools into language instruction, particularly for speaking skills can promote more autonomous, engaged and motivated learners. As AI becomes increasingly embedded in educational contexts, it is essential for educators to explore how such tools can be aligned with pedagogical goals, especially for digital-native learners like those in Generation Z. The limitation of this research lies on the sampling technique, number of samples and the approach used was pre-experimental. As a result, it is advised that further study involve a bigger sample size, involve a control group, and use a quasi-experimental approach. (Szymkowiak et al., 2021)

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