



Exploring Digital Learning Support to Foster EFL Student Interests in Indonesian Higher Education

Shafa¹, Muhammad Azwar Paramma¹, Widya Noviana Noor¹, & Baharuddin Kordja²

¹UIN Sultan Aji Muhammad Idris Samarinda, Indonesia

²Poltekkes Kemenkes Makassar, Indonesia

Abstract: *Developments in education highlight the need for conventional learning approaches to evolve in response to technological advances in digitally integrated learning, including hybrid or digital learning approaches. Digital-based teaching in higher education has begun to be implemented comprehensively, although it is still full of challenges. This study aims to determine students' learning interest in digital-based instruction in the universities of East Kalimantan. It employed a purposive sample of 91 EFL students in their second and fourth semesters. This study reveals the potential for implementing digital-based instruction to support the increased interest in learning among EFL students in universities. It demonstrates the significance of digital learning as an adaptation of technological educational advances. However, implementing digital instruction in higher education is not effortless for students as end-users. Numerous students are resistant and unable to adjust to the shift towards online and digital learning. They tend not to participate actively in class and even ignore the material and assignments given. Therefore, these findings contribute to advancing future research on digital learning. They will also strengthen developments in digital learning based on user requirements and the learning context. In light of these findings, stakeholders in higher education need to make efforts to adjust the digital-based instruction applied to students' abilities and needs, as well as the context of the lectures being held. Further research is required to incorporate a broader range of substantial participants and diverse data in order to attain a more comprehensive understanding of students' learning interest in digital learning.*

Keywords: *digital learning, higher education, learning interest*

INTRODUCTION

Teaching and learning practices are essential to the comprehensive process of higher education (Gupta & Yadav, 2023). Acquiring knowledge in higher education entails the active engagement of educators and learners within a pedagogical setting, wherein the interchange of ideas and information occurs (Munawarah & Novianty, 2020). In student-centred learning, students assume the primary role, while instructors are facilitators responsible for enabling students to attain the intended learning outcomes. To foster more student engagement, educators must employ innovative approaches in designing and facilitating instructional activities (Halimah & Paramma, 2019; Morel, 2021). According to

Abduh et al. (2020), Shafa (2022a), and Yang (2018), the efficacy of the learning process is contingent upon students' engagement and enthusiasm, particularly concerning lectures with English as the medium of instruction that is not their native or often spoken language.

The acceleration of globalisation has opened up new opportunities for the digitalisation of second language acquisition (Kilickaya et al., 2022). The process of digitising higher education involves the utilisation of information technology and interactive learning platforms. Integrating technology with conventional instructional strategies in higher education has led to positive outcomes in enhancing the quality of education through digitalisation (Ahmed, 2021; Paramma & Shafa, 2022). Moreover, technology is a valuable tool for educators to enhance the instructional process. The implementation of digital technology in education helps to simplify the process of acquiring knowledge. Furthermore, the implementation of digital learning is projected to have positive impacts on educational achievements.

Digital technology has emerged as a crucial instrument for attaining inclusive and equitable education of high quality. Educational reform is primarily motivated by the dissemination of shared knowledge, which is the intent of the emergence of information technology. Integrating technologically advanced learning tools into educational institutions and schools has brought about a significant paradigm shift. These tools include mobile devices, smart boards, MOOCs, tablets, laptops, simulations, and dynamic visualisation (Haleem et al., 2022). The use of modern technologies has also impacted the viewpoints of educators in enhancing students' interest in learning.

According to Mappadang et al. (2022), students with high academic interest have a greater opportunity to realise better academic achievements. A high level of interest increases the motivation to learn successfully. Learning interest is an aspect that is closely related to learning outcomes. This study demonstrates that the use of technology in education can have positive effects on both learning outcomes and learning motivation. Conventional learning methods are viewed as less engaging and somewhat monotonous, so it is anticipated that digital learning will increase student engagement (Abduh et al., 2020; Mahfuz, 2021).

Developing an interest in any topic enables students to identify and acknowledge their own educational requirements (Shafa, 2022b; Slameto, 2015). Numerous aspects affect the development of interest in learning, including motivation, views towards educators and instructional content, family, educational infrastructure, and social relationships. These elements are dependent on one another and cannot exist independently. In the context of online learning, it has been shown that students often exhibit diminished levels of motivation due to a perceived lack of stimulation resulting from the monotonous pattern of the instructional system. Consequently, student engagement in learning is diminished (Abduh et al., 2020; Ana, 2021).

However, the higher education curriculum retains face-to-face learning techniques. As a result, the learning content in the lecture syllabus must be adjusted to meet the demands of today's digital learning innovations. Aside from that, lecturers play a significant role in motivating students to participate in the lecture

process. To promote optimal student participation in lectures, lecturers must present original and innovative learning materials backed by the most recent teaching styles, strategies, or methodologies (Mulyani et al., 2021).

The implementation of digital-based instruction in higher education remains challenging. Meanwhile, research into enhancing learning interest in digital-based instruction reveals how digital learning may boost self-confidence and motivation (Abdullah Alhebshi & Saeed Halabi, 2020; Awaludin et al., 2017; Basri & Paramma, 2019; Yuyun & Simamora, 2021). However, Đorđević (2017) demonstrates that lecturers continue to face challenges in using digital learning media in the classroom, despite their understanding of the need to incorporate digital learning in the classroom today.

The studies above highlight the need for conventional learning approaches to evolve in response to technological advancements into digitally integrated learning, such as hybrid or digital learning. Although a group of studies suggests incorporating digital learning into the learning process to maximise students' learning experiences (Australian National Training Authority, 2003; Garcia, 2012; Garrison & Kanuka, 2004; Hartley et al., 2005; Matheos & Cleveland-Innes, 2018), research on some of the obstacles to implementing digital learning remains (Đorđević, 2017).

Therefore, this research is conceived to contribute to developing digital-based instruction to increase student interest in learning. This is related to students' learning interest in digital-based lectures in Indonesian higher education, specifically in the English language departments of universities in East Kalimantan.

LITERATURE REVIEW

Digital-based Instruction in Universities

With the advancement and development of technology, new terminology and concepts for education have evolved, such as online learning, distant learning, and web-based training (Yoon et al., 2012). Digital learning is being used to increase student learning to boost teaching effectiveness or expand student knowledge and abilities (Holzberger et al., 2013).

Digital technology is frequently used in learning situations, such as synchronous and asynchronous learning, to overcome time, location, and scheduling limitations and to create learner-centred, individualised learning (Lin et al., 2017). From various points of view, academics who apply digital learning (Keane, 2012) categorise learning into four groups, as follows: (1) digital teaching materials, emphasising that students can learn by drawing information from the content of digital teaching materials, such as e-books, digital data, and other materials presented digitally; (2) digital tools, emphasising the use of digital technology, such as desktop computers, laptop computers, tablet computers, and smartphones, in continuing student learning activities; (3) digital delivery, emphasising the delivery of student learning activities via the internet, and channels such as intranets and satellite broadcasts; and (4) autonomous learning, emphasising students independently participating in online or offline digital learning activities.

The classroom learning process is significantly enhanced by digital learning, according to several studies conducted within the context of higher education. Nevertheless, several problems lead to the challenge of employing digital learning in the classroom. Kouninef et al. (2013) address the benefits and challenges of introducing IT-based learning in universities. The process of dynamic integration of technology into learning systems in higher education has grown significantly. Implementing digital-based learning can be complicated by a major transformation requiring extensive infrastructure support. As a result, improving the implementation of digital-based instruction in the education system requires proper infrastructural support to ensure smooth operations. It is essential to raise awareness of the use of digital learning in the educational process in order to improve student performance and lessen the impact of globalisation, as well as to keep up with innovations in education sector.

Digital Learning Support for Student Interest in Learning

Interest is the realisation that a specific object is highly appreciated, which elicits a great deal of attention from an individual towards that object (Crites, 1969). In addition, interest is the capacity to provide a stimulus that encourages someone to focus on activities based on actual experience (Crow & Crow, 1958). Then, students with specific desires will have a high level of interest and be more enthusiastic about accomplishing their goals.

Safari (2005) defines interest in learning as an expression of enjoyment in completing tasks that might inspire an individual's motivation to study. Learning interest is operationally defined as the value to a student of learning outcomes through analysing (1) happiness, (2) engagement, (3) attentiveness, and (4) participation. The four dimensions of determining learning interest are as follows:

- a. Happiness is behaviour that makes students feel alive, competent and creative as a source of learning energy, and fosters a positive attitude, which needs to be encouraged by a lecturer to arouse students' interest in learning (Bullough, 2011).
- b. Student engagement demonstrates their intent or interest in lectures. When students interact with other students and complete substantial duties, they are engaged in meaningful learning activities (Kearsley & Shneiderman, 1998).
- c. Attentiveness encompasses the forces that motivate people to act. Students inspired to learn are encouraged to pay attention, seek clarification from lecturers or classmates, and arrive on time. At this point, lecturers must address students' needs and concerns while encouraging them to engage more with the material. Lecturers should avoid overwhelming students with too much information, as this may cause them to lose interest in the subject (Keller, 1987, 2010).
- d. Participation is an exclusive concentration or activity based on observation and understanding. Attention can be thought of as students engaging in learning with enthusiasm and concentration and revisiting the previous learning materials prior to online or offline learning (Ginting, 2021).

Additionally, educational development studies have focused on research into digital-based instruction to improve interest in learning (Houda & Mustapha, 2021; Jose & Abidin, 2015; Kouninef et al., 2013). Houda (2022), Jose et al. (2015a) investigated the interests of students studying languages influenced by digital-based learning, and Kouninef et al. (2013) showed the role of supporting infrastructure in optimising digital-based learning in higher education. This research includes the EFL students' interest in digital-based instruction and how they show their interest in class. They provide explicit recommendations for instructors and students regarding the appropriate integration of digital learning tools in ELT. Nevertheless, it is important to note that the outcomes of various research may vary when larger sample sizes from other geographical areas are included.

RESEARCH METHOD

This study is descriptive quantitative research. The descriptive research method is a strategy that attempts to objectively explain a situation using statistics, beginning with data collection, data interpretation, as well as appearances and findings (Arikunto, 2014). The present study was conducted within several English language study programmes in East Kalimantan regions, encompassing Samarinda, Balikpapan, and Kutai Kartanegara. According to Sugiyono (2015), a population refers to a broad region or domain comprising entities or individuals possessing specific features and characteristics that researchers select for investigation and inference. The individuals involved in this study were undergraduate students from universities in East Kalimantan who were actively enrolled in an English study programme.

The researchers employed a purposive sampling strategy to generate the sample for this study. They employed purposive sampling to identify students whose lecture sessions were performed using digital-based learning material, depending on relevant characteristics (Kothari, 2004). The sampling for this study comprises digital learning classes that utilise digital instructional materials, digital devices, digitally delivered content, and with participants engaging in offline or online digital learning activities independently (Keane, 2012). Based on the employed purposive sampling strategy, a total of 91 students were recruited from second- and/or fourth-semester cohorts in the English literature study programme at Universitas Balikpapan, the English language education study programme at Universitas Kutai Kartanegara, and the English language education study programme at Universitas Muhammadiyah Kalimantan Timur. The demographic of the respondents is represented in the graph below.

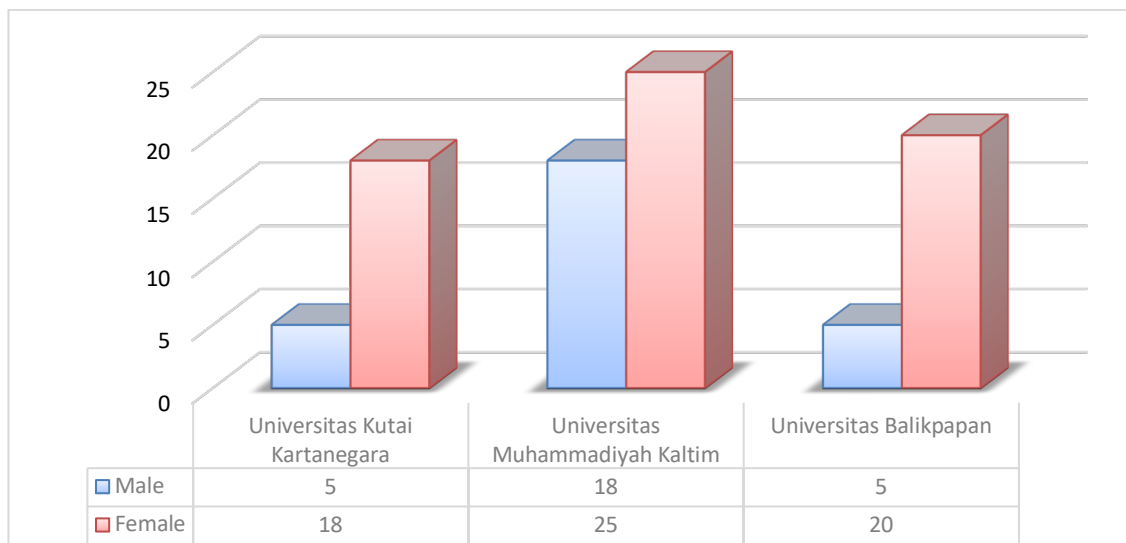


Figure 1. *Demographic of Respondents*

In this study, learning interest is operationalised as a variable to facilitate quantitative assessment. The current study focuses on the idea of student interest in learning, which corresponds with the level of satisfaction that students feel when participating in classroom activities. This interest can potentially ignite students' passion and motivation, thereby facilitating their motivation to participate in the learning process actively. According to the learning test established by Safari (2005), measures of interest in learning encompass four dimensions: student happiness, student engagement, student attentiveness, and student active participation.

The study employed two instruments, specifically questionnaires and observation. The researchers provided the questionnaire instrument directly to participants in an ongoing digital-based classroom. It included student demographic data and key questions about indicators of student interest in learning (Safari, 2005). Questions about indicators of student interest in learning encompass dimensions such as happiness, engagement, attentiveness, and participation. The survey instrument employs a Likert scale using a five-point rating range, wherein the options are as follows: 5 for "strongly agree," 4 for "agree," 3 for "neutral," 2 for "disagree," and 1 for "strongly disagree." In addition, researchers employed unfavourable queries with a response scale in the opposite direction. To mitigate the potential bias introduced by participants' tendency to select the "neutral" response, the choice labelled "neutral" was eliminated from the questionnaire.

Data analysis methods include data sorting based on variables and responder categories, data characterisation, and testing analyst needs. The data for each variable is explained using statistics. Descriptive statistics are used to calculate the highest and lowest scores, as well as the mean, median, mode, and standard deviation.

FINDINGS

Students' Learning Interest in Digital-based Instruction

According to research on digital-based instructional support for EFL students' learning interests, the average student response to digital-based instruction regarding their learning interests was moderate ($M= 3.79$; $SD = 1.068$). The overall mean value and standard deviation depicted in the table indicate that EFL students have positive and diverse responses to the role of digital-based learning that is currently being actively implemented concerning their interest in their classroom. In addition, the data presented in Table 4 indicate that most participants responded positively to the question of attentiveness about the role of digital-based learning in increasing their enthusiasm for their classroom.

Table 1. *Digital-based Instructional Support for EFL Students' Learning Interests*

Indicator	Item Number	Mean	Std. Dev.
Happiness	1, 2, 3	3.62	1.069
Engagement	4, 5, 6, 7, 8, 9, 10, 11	3.69	1.066
Attentiveness	12, 13, 14, 15, 16, 17, 18, 19	4.07	1.000
Participation	20, 21, 22, 23, 24, 25	3.66	1.126
Average		3.79	

Note. (N=91)

Further results from this survey are provided, taking into account each dimension considered in the questionnaire's development. The data obtained is presented based on the four dimensions for determining learning interest. These dimensions are presented as follows:

Students' Learning Interest Based on Their Happiness

EFL students' enthusiasm for digital-based learning comes from their happiness, as demonstrated by their readiness to learn. The extent to which students are familiar with digital-based learning and are accustomed to the digital media platforms they interact with in class indicates their learning happiness. The mean learning interest of students based on their happiness was moderate ($M=3.62$; $SD=1.069$).

Based on the survey, as many as 84.6% of respondents indicated that digital-based learning as an adaptation to new normal conditions made them more comfortable studying, as seen in Figure 1. In addition, 76.9% of EFL students felt more enthusiastic about learning during digital-based instruction, although only 57.1% enjoy digital learning via Zoom or comparable tools.

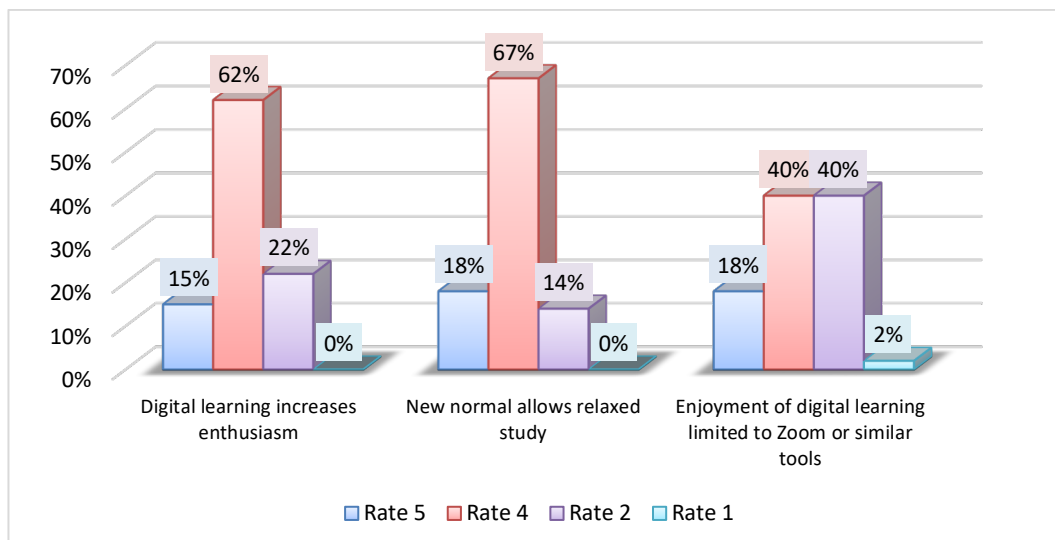


Figure 2. *Percentage of Students' Learning Interests Based on Their Happiness*

Besides, the happiness of digital-based learning among EFL students appears to be variable, and some are still not yet familiar with its use. We can find this in the fact that 22% of students stated that they were less enthusiastic about implementing digital learning in their classes, and 14% of respondents were still not secure with spending time studying through digital-based learning. In addition, a significant number of respondents, 40%, reported being dissatisfied with their training in Zoom and similar applications. Overall, however, the findings regarding the students' happiness with digital-based instruction are quite positive.

Students' Learning Interest Based on Their Engagement

Respondents' answers regarding their active engagement and contribution to the learning processes of digital-based instruction activities are shown in Figure 3. Almost all, or 95.6%, of students actively participate when digital learning occurs. Students have started to get used to the application of digital learning. Most, or 74.7%, spend their free time learning how to use digital learning media (9% "almost always" and more than 60% "often"). These results show students' enthusiasm in preparing themselves to develop their digital-based learning. Next, in the activities of digital-based instruction activities, the majority of students (more than 85%) can submit online assignments on time (more than 30% always and more than 50% often submit assignments on time). Almost 70% of the respondents actively take notes on material provided by lecturers through online class groups (nearly 10% are very active and almost 60% actively note down material).

Students' active engagement with digital-based instruction is shown in their activeness in developing material and their responses to discussions initiated by lecturers in online class groups. As many as 89% of the sample responded to discussions created by lecturers in online class groups (more than 20% were very active, and 65% actively responded and responded to discussions). Nearly 70% of respondents strengthened their understanding by searching for and studying additional learning materials besides YouTube videos or PowerPoint slides provided by lecturers (10% of respondents were very active, and almost 60% actively searched for supplementary materials).

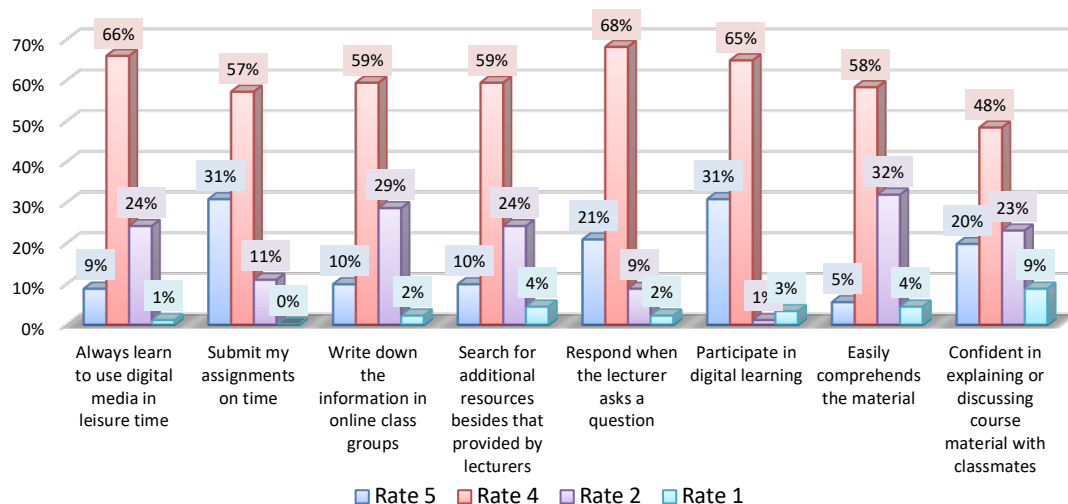


Figure 3. Percentage of Students' Learning Interest Based on Their Engagement

Furthermore, students' active engagement in digital-based instruction is shown in their confidence in being involved in the learning process, making it easier for them to understand the learning material provided by the lecturer. Most (or almost 70%) of respondents feel confident about participating in explaining or engaging in discussions related to lecture material in online class groups (WhatsApp, Telegram, etc.) (20% are very confident, and almost 50% are confident enough to participate in discussions). Regarding the learning materials provided by lecturers, some (nearly 65%) of the responses were easy-to-understand digital learning materials (5% were effortless to understand, and almost 60% were easy-to-understand material).

All students' engagement in digital-based instruction indicates that respondents are actively and positively involved in implementing digital-based learning. However, there are still some respondents who show an attitude that is less involved in digital-based learning activities. Only 24% of respondents rarely spend their free time learning how to use digital learning media. Some (11%) students still experience problems submitting assignments on time during the implementation of digital-based instruction, and 29% of respondents rarely take notes on material provided by lecturers through online class groups to help their understanding of learning. In student initiatives to strengthen learning material, 24% of students rely on lecturers' YouTube videos or PowerPoint slides only as learning material, while 36% of respondents feel they still have difficulty understanding the material provided by lecturers.

Apart from that, there are still many respondents who do not have the confidence to be actively involved in the learning process and do not respond to discussions initiated by the lecturer; 9% of respondents rarely respond when lecturers ask questions or start discussions in online class groups, and 23% lack the confidence to participate in explaining or engaging in discussions related to lecture material in class online groups (WhatsApp, Telegram, etc.). Moreover, 9% of students feel very insecure about appearing actively in class and expressing their opinions in order to be involved in discussions.

Students' Learning Interest Based on Their Attentiveness

The responses provided by the respondents on the extent of students' interest in learning, as shown by their overall attentiveness, generally demonstrate positive results. The respondents had differing viewpoints with mean of students' learning interest based on their attentiveness positive ($M=4.07$; $SD=1.000$). Figure 4 depicts responses from the respondents regarding their attentiveness to learning with digital-based instruction. Students' attention to their digital instruction process can be demonstrated by their initiative in learning, initiating questions, and independently browsing for content. Nearly all respondents (97%) indicated that they would actively ask their classmates or lecturers via chat if they had difficulty comprehending the learning material, with 46% being more active and 51% being more involved in asking questions. This initiative is also demonstrated by the fact that nearly all respondents (97%) said they actively sought out literature or additional material on the Internet if they could not answer assignment questions (almost 55% were very active, and nearly 45% actively sought other material). Aside from this, most respondents (96%) actively read books and web-based resources to expand their knowledge (almost 50% were very active, and nearly 50% actively read books and web-based resources).

In addition to taking the initiative in learning, students' attentiveness to digital-based instruction can be seen in how they pay attention to completing their assignments. Students can be responsible for tasks given and seriously and honestly complete exams and assignments. Almost all (91%) respondents could complete their assignments without duplicating their friends' assignments, and nearly all (91%) respondents preferred carrying out their assignments and exams to cheating. This shows that students' honesty and seriousness in carrying out and studying assignments and exams given by lecturers is still very positive.

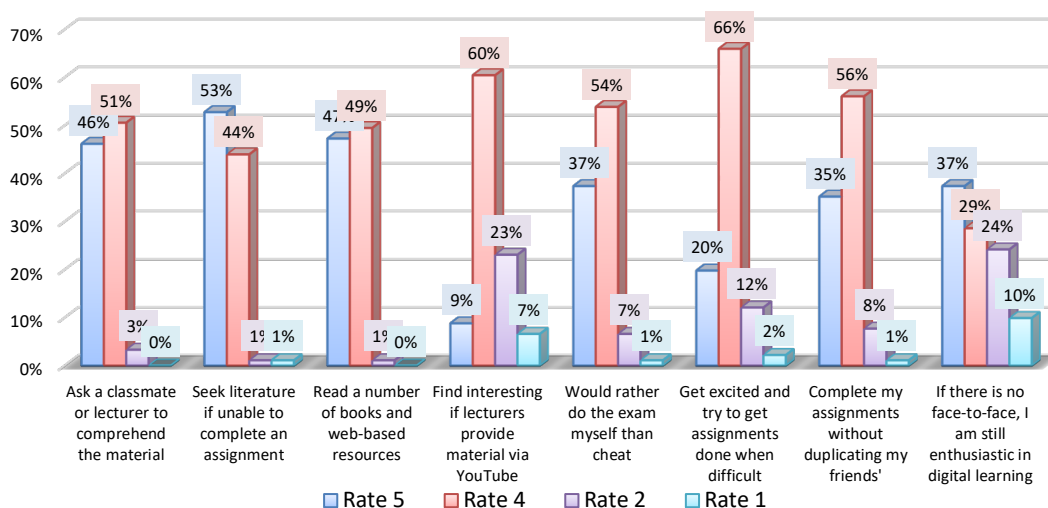


Figure 4. *Percentage of Students' Learning Interests Based on Their Attentiveness*

Furthermore, students' attentiveness to digital-based instruction can also be gauged by how they pay attention to the learning process they face in digital-based learning classes. The items queried include the use of digital-based materials by lecturers, students' efforts in carrying out their assignments, and their enthusiasm

for meetings held entirely digitally. Most (69%) respondents felt interested in learning if the material was provided in class groups (WhatsApp, Telegram, etc.) via YouTube videos (almost 10% felt very curious, and 60% felt curious about the material via YouTube videos) and the majority (86%) of respondents became enthusiastic and tried to do tasks that they considered difficult (20% were very excited and more than 80% were excited about working on challenging tasks). This shows how EFL students pay positive attention to the digital material and assignments they work on. Apart from that, 66% of the total respondents still feel enthusiastic about undergoing digital-based learning even though there are no face-to-face meetings taking place on campus (37% are very excited, and 29% are excited about attending lectures).

However, among all the items on this attentiveness indicator that showed a positive response, some respondents still gave different responses to the others, with 23% of respondents not interested in lecturers providing material via YouTube videos in online class groups. Apart from that, some respondents are dishonest in completing assignments and exams, with 7% of respondents still preferring to cheat in exams rather than do the work themselves, and 8% completing assignments by duplicating their friends' assignments. Apart from that, some students are not enthusiastic if there are no face-to-face meetings on campus and the assignments given are very difficult; 24% felt they were not excited about participating in digital learning without face-to-face meetings, and 12% felt bored and rarely completed challenging assignments.

Students' Learning Interests Based on Their Participation

EFL students' participation in the digital learning process shows the extent of their interest in the digital-based learning they undergo. Items queried in the participation indicator on student interest in digital-based instruction include preparation before starting and student participation during a series of activities in their digital-based learning. In general, the average response of EFL students towards their participation in digital-based learning was 3.66 (SD=1.126). In more detail, the question items in the respondent participation indicators appear in Figure 6.

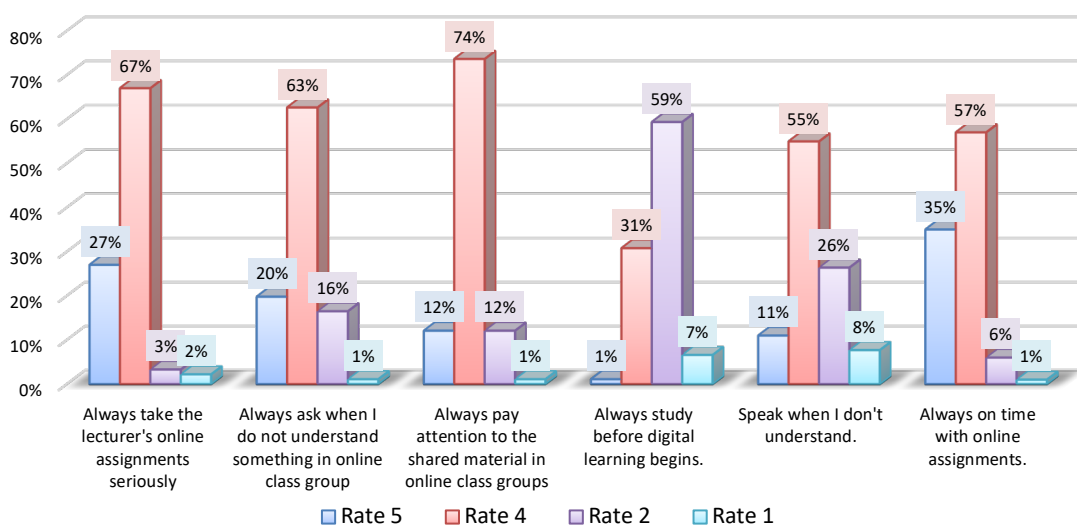


Figure 5. *Percentage of Students' Learning Interest Based on Their Participation*

Participation in digital-based learning by EFL students is evidenced by their concentration on the material and assignments presented by the lecturer, and by their preparation prior to beginning digital-based learning. Most respondents (86%) indicated that they always pay attention when lecturers provide material via class WhatsApp or Telegram groups (27% always pay attention, and 67% usually pay attention). Still, only a minority (42%) of participants always prepare themselves to study before their digital-based learning begins, with only 1% preparing themselves very well and 31% preparing themselves adequately.

In addition to their concentration and preparation for digital-based learning, EFL students' participation in digital-based learning can be examined in how they prioritise and manage time when completing digital assignments. Almost all respondents (94%) stated that they take their lecturers' assignments seriously even when learning is not conducted face-to-face (27% are very serious, and 67% are serious). This is directly proportional to the practice of submitting online assignments from students. Nearly all respondents (92%) acknowledged that they were always on time when submitting online assignments (35% were always on time, and almost 60% were on time when submitting online assignments).

Furthermore, EFL students demonstrate their participation in online-based learning by asking questions directly or through online class groups if they do not comprehend something in the lecturer's presentation. Some respondents (66%) actively asked in the event of anything they did not comprehend occurring in the lecturer's presentation (more than 10% were very active in asking questions, and 55% were actively asking questions). Compared to asking directly, more (83%) respondents said they preferred asking through online class groups if there was material they did not understand (20% were very active in asking, and 63% were actively asking).

However, a significant number of respondents still did not participate. This is evidenced by several items with inadequate responses regarding students' concentration, preparation, and participation in conveying their opinions during

digital-based learning in their classrooms. There, 59% of respondents did not prepare to study the course material before the beginning of class. Twelve percent of respondents admitted that they paid little attention to the material given in online WhatsApp or Telegram groups by lecturers. In online class groups (WhatsApp, Telegram, etc.), 16% of respondents said they rarely asked questions when they had difficulty comprehending the material. In fact, 26% of respondents who did not understand the material remained silent.

DISCUSSION

This research investigates students' interest in digital-based instruction in Indonesian universities, especially the English department of higher education in East Kalimantan. This research involved 91 respondents who, in their learning process, applied digital-based teaching to explore answers to the formulated research questions. Based on overall data from respondents, the average EFL students' learning interests on digital-based instruction was moderate ($M= 3.79$; $SD = 1.068$). The overall mean value and standard deviation depicted in the table indicate that EFL students have positive and diverse responses to the role of digital-based learning that is currently being actively implemented concerning their interest in their classroom.

Data on students' interest in digital-based instruction is based on four dimensions in determining learning interest introduced by Safari (2005), including happiness, engagement, attentiveness, and participation. In the first dimension, happiness, the mean learning interest of students based on their happiness, was moderate ($M=3.62$; $SD=1.069$). Most EFL students who apply digital-based learning stated that adapting to new normal conditions makes learning more comfortable; they feel more motivated to learn during digital-based teaching, and they appreciate digital learning via Zoom or similar tools. Bullough (2011) believes that happiness is behaviour that makes students feel alive, competent and creative as a source of learning energy and fosters a positive attitude, which needs to be encouraged by a lecturer to arouse students' interest in learning. However, the feeling of happiness in this dimension has not been fully fulfilled in EFL students who attend digital-based lectures. This is due to respondents' contradictory statements regarding students' learning interests based on their satisfaction, with some of the students indicating they were less enthusiastic about implementing digital learning in their classes and reporting feeling less secure while engaging in digital learning. Furthermore, 40% of respondents were unhappy with training via Zoom and similar applications. Student responses vary, and most have shown interest in digital learning, yet there is still a significant dissatisfaction with digital learning platforms.

In the second dimension, the mean learning interest of students based on their engagement was moderate ($M=3.69$; $SD=1.066$). Most EFL students responded positively regarding their active involvement and contribution to the learning process with digital-based learning activities. This is demonstrated by students' active engagement when digital learning occurs, using their spare time to study digital learning media, submitting assignments online on time, and actively noting the material provided by lecturers through online class groups. In addition, students actively respond to discussions instigated by lecturers in online class

groups, and strengthen their understanding by searching for and studying additional learning materials other than those provided by the lecturer. As stated by Kearsley & Shneiderman (1998), student engagement in learning is seen through their interactions in class, completing important assignments, and meaningful learning activities. The engagement of most students in digital-based learning shows that respondents are actively and positively involved in implementing digital-based learning. However, some respondents still show a lack of involvement in digital-based learning activities. Some respondents stated that they rarely spend their free time studying digital learning media and experience problems submitting assignments on time. Apart from that, many respondents still lack the confidence to be actively involved in the learning process and do not respond to discussions initiated by lecturers. Even a small number of EFL students feel inferior about appearing actively in class, expressing their opinions, or even getting involved in discussions.

In the third dimension, the average student interest in learning based on their attention is positive ($M=4.07$; $SD=1,000$). Almost all EFL students responded positively to the question of interest in learning, as shown by their attention. Students' attention to the digital teaching process can be demonstrated by their high initiative in learning, starting questions, and exploring learning content independently. Students' attention to digital-based learning can also be seen in how they pay attention to completing assignments. Most respondents could complete assignments without duplicating their friends' assignments and preferred carrying out their assignments and exams rather than cheating. This shows that students' honesty and seriousness in carrying out and studying assignments and exams given by lecturers is still very positive. Keller (2010) indicates that the attention given to learning includes inspiration and learning motivation that addresses students' needs and concerns while encouraging them to become more involved with the material being studied. However, among all the items in this attention indicator that showed a positive response, several respondents still gave different reactions to those of their colleagues. Several respondents were not interested in the material provided by lecturers via YouTube videos. Apart from that, there are still some respondents who are dishonest in completing assignments and exams. This can be seen from the fact that several respondents were less enthusiastic if there were no face-to-face meetings on campus, the tasks given were challenging, and they did not have the enthusiasm to complete challenging assignments.

In the fourth dimension, the mean learning interest of students based on their participation was moderate ($M=3.66$; $SD=1.126$). EFL students' participation in the digital learning process shows the extent of their interest in that ongoing process. EFL students have a very positive attitude towards digital-based instruction. This is demonstrated by most EFL students taking online assignments given by lecturers seriously and submitting them on time. Apart from that, almost all EFL students pay attention to the material presented by the lecturer. However, only some participants always prepare themselves to study before their digital-based learning begins. According to Ginting (2021), student participation in learning refers to students being involved in learning with enthusiasm and concentration and reviewing previous learning material before learning. Among these highly positive responses, many EFL students still tend not to participate in the learning process.

This is evidenced by several inadequate responses regarding students' concentration, preparation, and participation in expressing opinions during digital-based learning in their classes.

These findings imply that EFL students appreciate digital-based instruction as a learning solution today, where the demands of technological developments force adjustments to classroom learning implementation. EFL students from Universitas Balikpapan, Universitas Kutai Kartanegara, and Universitas Muhammadiyah Kalimantan Timur expressed the positive impact of the digital-based instruction process in increasing their interest in learning. Their positive learning interest includes the dimensions of happiness, engagement, attentiveness, and participation. However, implementing digital-based instruction in higher education does not always run smoothly for students as users. Some students are resistant and have been unable to adapt to changes in learning, which has increasingly been carried out online and digitally. These findings suggest that stakeholders in higher education need to make efforts to adjust the digital-based instruction applied to students' abilities and needs, as well as to the context of the lectures being held. Most students who have not been able to adapt to digital-based learning tend not to participate actively in class and even ignore the material and assignments given. Therefore, these findings provide recommendations to higher education stakeholders who are starting to implement digital-based instruction to assess student needs and institutional capabilities first.

These findings are related to several previous literature studies regarding implementing digital-based instruction in several educational institutions. Houda (2022) revealed that the integration of digital lectures is effective in promoting foreign language learning. This is proven by increasing student activity in participating in the empirical learning process. Furthermore, Jose et al. (2015b) recommend that students and lecturers integrate digital learning media into English language learning appropriately to provide significant outcomes for EFL students.

CONCLUSION

This paper emphasises the potential for implementing digital-based instruction to support the increased interest in learning among EFL students in universities. It demonstrates the significance of digital learning as an adaptation to technological advances in education. Implementing digitally based instruction is generating positive results in terms of student engagement. When digital instruction is implemented, EFL students are more motivated to participate actively in classroom teaching and learning interactions. Additionally, focusing on digital learning activities increases student enthusiasm for learning. However, implementing digital instruction in higher education is not effortless for students as end-users. Numerous students are resistant and unable to adjust to the shift towards online and digital learning. Therefore, the research findings on digital-based instruction contribute to advancing future research on digital learning. These findings will also strengthen developments in digital learning based on user requirements and the learning context.

The empirical findings presented in this study should be considered in the context of several possible limitations. Two major constraints methodologically

constrain this research. First, it focuses on students' experiences of digital-based instruction and its influence on their learning interest in the classroom. However, the demographic diversity of the respondents, which might have a direct or indirect impact on digital-based instruction and their learning interests, is not considered in this study. Therefore, this study is limited in the generalisability of the findings and does not examine the potential influence of variables in demographics such as gender, learning device support, educational background, socio-economic factors or student experience. Further research is required to incorporate a broader range of substantial participants and diverse data to attain a more comprehensive understanding of students' learning interest towards digital learning. Secondly, this research lacks an in-depth investigation of how digital-based instruction can impact EFL students' learning engagement and outcomes. Therefore, it is essential that future research explore more deeply the interaction between learning interest and the use of technology-based instruction to foster a more thorough understanding of its application.

ACKNOWLEDGMENTS

The researchers would like to express their gratitude to the Institute of Research and Community Service UIN Sultan Aji Muhammad Idris Samarinda for funding this research, as well as the students of the English departments of Universitas Balikpapan, Universitas Muhammadiyah Kalimantan Timur, and Universitas Kutai Kartanegara.

REFERENCES

- Abduh, A., Basri, M., Shafa, S., Patak, A. A., & Rosmaladewi, R. (2020). Voices of English department students on multicultural values in an Indonesian Islamic higher education. *International Journal of Language Education*, 4(3), 459–468. <https://doi.org/10.26858/ijole.v4i3.17829>
- Abdullah Alhebshi, A., & Saeed Halabi, M. (2020). Teachers' and learners' perceptions towards digital game-based learning in ESL classroom. *Journal for the Study of English Linguistics*, 8(1), 166. <https://doi.org/10.5296/jsel.v8i1.17353>
- Ahmed, M. R. A. (2021). Integration of media technology in English language teaching (ELT). *TESOL International Journal*, 16(4.3), 10–20. <https://www.elejournals.com/tij-2021/tij-16-4-3-2021/>
- Ana, R. F. R. (2021). Peran orang tua dalam menumbuhkan minat belajar siswa pada pembelajaran daring di SDN Kamulan 01 Kecamatan Talun Kabupaten Blitar. *Jurnal Bidang Pendidikan Dasar*, 5(2), 177–186. <https://doi.org/10.21067/jbpd.v5i2.5773>
- Arikunto, S. (2014). *Prosedur penelitian suatu pendekatan praktik*. PT. Rineka Cipta.
- Australian National Training Authority. (2003). *Blended learning: learning new skills in blending*. Australian National Training Authority.

- Awaludin, F. A., Abd Karim, R., & Mohd Saad, N. H. (2017). Padlet: A digital collaborative tool for academic writing. *Journal of Education and Social Sciences*, 8(1), 179–184. https://www.jesoc.com/wp-content/uploads/2017/12/KC8_84.pdf
- Basri, M., & Paramma, M. A. (2019). EFL students' perspective on the usefulness of ICT based learning in Indonesian higher education. *ELT Worldwide: Journal of English Language Teaching*, 6(2), 105. <https://doi.org/10.26858/eltww.v6i2.10515>
- Bullough, R. V. (2011). Hope, happiness, teaching, and learning. In C. Day & J. C.-K. Lee (Eds.), *New Understandings of Teacher's Work* (pp. 15–30). Springer Netherlands. https://doi.org/10.1007/978-94-007-0545-6_2
- Crites, J. O. (1969). *Vocational psychology: The study of vocational behavior and development*. McGraw-Hill.
- Crow, L. D., & Crow, A. (1958). *Educational Psychology*. American Book Company. https://books.google.co.id/books?id=j_gzAAAAMAAJ
- Dorđević, J. (2017). The role and scope of information communication technologies in the research of university teachers in Serbia. *TEME*, 425–438. <https://doi.org/10.22190/TEME1702425D>
- Garcia, H. F. (2012). *Power of communication: The skills to build trust, inspire loyalty, and lead effectively*. Pearson Education. https://books.google.co.id/books?id=y3_xYKmAteAC
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *Internet and Higher Education*, 7(2), 95–105. <https://doi.org/10.1016/j.iheduc.2004.02.001>
- Ginting, D. (2021). Student engagement and factors affecting active learning in English language teaching. *VELES Voices of English Language Education Society*, 5(2), 215–228. <https://doi.org/10.29408/veles.v5i2.3968>
- Gupta, O. J., & Yadav, S. (2023). Determinants in advancement of teaching and learning in higher education: In special reference to management education. *The International Journal of Management Education*, 21(2), 100823. <https://doi.org/10.1016/j.ijme.2023.100823>
- Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3, 275–285. <https://doi.org/10.1016/j.susoc.2022.05.004>
- Halimah, S., & Paramma, M. A. (2019). Attitudes and approaches of the EFL teachers on scientific approach in Indonesian school context. *Asian EFL Journal*, 23(3), 386–397. <https://www.elejournals.com/asian-efl-journal/asian-efl-journal-volume-23-issue-3-3-may-2019/>

- Hartley, P., Woods, A., & Pill, M. (2005). *Enhancing teaching in higher education: new approaches for improving student learning*. Routledge.
<https://books.google.co.id/books?id=z86EzHmIK-4C>
- Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology*, 105(3), 774–786.
<https://doi.org/10.1037/a0032198>
- Houda, B., & Mustapha, B. (2021). *ICT Based Model: Teaching EFL through Online Courses*. Proceedings of the 3rd International Conference on Applied Research in Education, 19–40.
<https://doi.org/10.33422/3rd.areconf.2021.06.225>
- Jose, J., & Abidin, M. J. Z. (2015). Application of information and communication technology tools for English language teaching in an Omani context. *Arab World English Journal* 2, 51–67.
<https://awej.org/images/AllIssues/Specialissues/CALLjuly2015/4.pdf>
- Keane, T. (2012). Leading with technology: 21st century skills= 3Rs+ 4Cs. *Australian Educational Leader*, 34(2), 44.
<https://doi.org/10.3316/informit.895597893475453>
- Kearsley, G., & Shneiderman, B. (1998). Engagement theory: A framework for technology-based teaching and learning. *Educational Technology*, 38(5), 20–23. <https://www.jstor.org/stable/44428478>
- Keller, J. M. (1987). Development and use of the ARCS model of instructional design. *Journal of Instructional Development*, 10(3), 2–10.
<https://doi.org/10.1007/BF02905780>
- Keller, J. M. (2010). *Motivational Design for Learning and Performance*. Springer US. <https://doi.org/10.1007/978-1-4419-1250-3>
- Kilickaya, F., Kic-Drgas, J., & Krawiec, M. (2022). Tertiary language lecturers' preferences and views on the use of Internet resources for EFL listening. *Teaching English with Technology*, 22(2), 27–50.
<https://tewtjournal.org/download/tertiary-language-lecturers-preferences-and-views-on-the-use-of-internet-resources-for-efl-listening-by-ferit-kilickaya-joanna-kic-drgas-and-marek-krawiec/>
- Kothari, C. R. R. (2004). *Research Methodology: Methods & Techniques*. New Age International.
- Kouninef, B., Djelti, M., & Kourbali, B. (2013). Appreciations and constraints for ICT use in higher education in Algeria. *Life Science Journal*, 10(3), 51–56.
<https://doi.org/10.7537/marslsj100313.278>
- Lin, M.-H., Chen, H., & Liu, K.-S. (2017). A study of the effects of digital learning on learning motivation and learning outcome. *EURASIA Journal of*

Mathematics, Science and Technology Education, 13(7).
<https://doi.org/10.12973/eurasia.2017.00744a>

- Mahfuz, A. (2021). Penggunaan media pembelajaran berbasis konvensional dan teknologi informasi oleh guru dalam proses belajar mengajar di sekolah. *TANJAK: Journal of Education and Teaching*, 2(1), 55–62.
<https://doi.org/10.35961/tanjak.v2i1.148>
- Mappadang, A., Khusaini, K., Sinaga, M., & Elizabeth, E. (2022). Academic interest determines the academic performance of undergraduate accounting students: Multinomial logit evidence. *Cogent Business & Management*, 9(1), 22. <https://doi.org/10.1080/23311975.2022.2101326>
- Matheos, K., & Cleveland-Innes, M. (2018). Blended learning: Enabling higher education reform. *Revista Eletrônica de Educação*, 12(1), 238–244.
<https://doi.org/10.14244/198271992524>
- Morel, G. M. (2021). Student-centered learning: context needed. *Educational Technology Research and Development*, 69(1), 91–92.
<https://doi.org/10.1007/s11423-021-09951-0>
- Mulyani, M., Fidyati, F., Suryani, S., Suri, M., & Halimatussakdiah, H. (2021). University students' perceptions through e-learning implementation during COVID-19 pandemic: Positive or negative features dominate? *Studies in English Language and Education*, 8(1), 197–211.
<https://doi.org/10.24815/siele.v8i1.17628>
- Munawarah, M., & Novianty, R. (2020). Interpersonal communication between lecturers and students in influencing student's learning motivation. *MaPan*, 8(1), 140. <https://doi.org/10.24252/mapan.2018v8n1a11>
- Paramma, M. A., & Shafa, S. (2022). Increasing novice EFL learners' vocabulary based on short Islamic stories in an Islamic higher education. *Borneo International Journal of Islamic Studies*, 4(1), 62–76.
<https://doi.org/10.21093/bijis.v4i2.6142>
- Safari. (2005). *Penulisan butir soal berdasarkan penilaian berbasis kompetensi*. APSI Pusat.
- Shafa, S. (2022a). Racism in social media: A critical discourse analysis of Youtube comments. *IJELTAL (Indonesian Journal of English Language Teaching and Applied Linguistics)*, 7(1), 235–244.
<https://doi.org/10.21093/ijeltal.v7i2.1307>
- Shafa, S. (2022b). EFL students' views of the multicultural education in an Indonesian Islamic higher education. *Dinamika Ilmu*, 22(2 SE-Articles).
<https://doi.org/10.21093/di.v22i2.4863>
- Slameto. (2015). *Belajar dan faktor-faktor yang memengaruhinya*. Rineka Cipta.
- Sugiyono. (2015). *Metode penelitian kombinasi (mix methods)*. Alfabeta.

- Yang, M. (2018). Learning motivation among university English language majors under hierarchical teaching model. *Educational Sciences: Theory & Practice*, 18(6), 3543–3549. <https://doi.org/10.12738/estp.2018.6.265>
- Yoon, J., Kwon, S., & Shim, J. E. (2012). Present status and issues of school nutrition programs in Korea. *Asia Pacific Journal of Clinical Nutrition*, 21(1), 128–133. <http://www.ncbi.nlm.nih.gov/pubmed/22374568>
- Yuyun, I., & Simamora, F. Y. (2021). Use of YouTube to support EFL students' listening skills. *ELLTER Journal*, 2(2), 1–12. <https://doi.org/10.22236/ellter.v2i2.7512>