The Students’ Engagement in Foreign Language Learning through ICT Incorporation

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Abstract
In this 21st century, the incorporation of Information and Communication Technology (ICT) has become a prominent practice in various educational domains, including the learning of languages in the classroom. However, there are a small number of teachers who are not familiar with incorporating ICT in their classrooms due to numerous causes. By the given situation, this study aims to identify the disparities in students’ engagement between English as a Foreign Language (EFL) classrooms that utilize Information and Communication Technology (ICT) and those that do not. Additionally, it seeks to determine the predominant and higher forms of engagement in these two types of EFL classrooms. A descriptive qualitative approach was applied in this research. To obtain the data, the authors examined the level of student involvement during teaching and learning activities in two types of classrooms: those that employed ICT (Information and Communication Technology) and those that did not. Subsequently, the acquired data was scrutinized and categorized based on the parameters of students’ involvement (behavioral, cognitive, and emotional). The results indicate that both classrooms are primarily characterized by students' behavioral involvement. The class that included ICT in its teaching and learning process experienced a 9.5% increase in students’ cognitive engagement. The implication of this research is to encourage teachers to incorporate ICT in the classroom so that the students’ three engagement types can be achieved better proportionally.

Keywords: EFL Classrooms; ICT; Students’ Engagement
1. Introduction

The evolution of teaching and learning method in this 21st century is characterized by digitalization in the teaching and learning activities, thus students in this era are called as digital natives. In response to the situation, incorporating digital practices into language education has become necessary. The significance of integrating information and communication (ICT) into language teaching led to a modernized educational approach. Consequently, educators are required to foster an optimal learning environment by involving technology in educational activities. Experts suggested that such an environment needs to prioritize personalized learning, dynamic learning spaces, personal and social responsibilities, critical thinking, digital literacy, collaboration, and communication skills. In addition, ICT integration empowers language educators to diversify teaching methods, support student-centered approaches by encouraging students to students’ participation, and increase efficiency in accessing authentic learning materials (Charalambidis, 2014; Ovilia & Asfina, 2017). Moreover, the integration of ICT enables language educators to vary teaching and learning activities, support the student-centered teaching method, train students to take an active role in learning and access a great range of authentic learning materials (Mai, 2020). From these perspectives, it is evident that the incorporation of ICT into teaching practices is essential in motivating and engaging students in the learning process to fulfill the challenges and demands of this 21st-century era.

Considering the importance of integrating ICT in the classrooms, research by Ratu & Komara (2021) explored that ICT tools have a motivational impact on students’ attention and learning, possibly increasing students’ motivation. Where the motivation, according to Richard & Renandya (2002) promoted the student’s learning success. Another advantage of ICT implementation in classrooms is providing students with broad and free access to online libraries and sources. Meanwhile, for teachers, ICT offers diverse authentic materials and assessment methods and supports various instructional strategies such as blended learning, collaborative learning, and task-based language learning, where these approaches are widely explored today. It also facilitates the provision of individualized feedback, guidance, and translation. Furthermore, online workshops, seminars, symposiums, and other training sessions assist teachers in enhancing skills (Ambarini, 2016; Biantoro, 2020a; Shopia et al., 2022). In summary, technology plays a multifaceted role in shaping education, supporting both teachers and learners in achieving course objectives. Therefore, understanding the link between students and the learning environment is crucial in comprehending how virtual learning environments can motivate and engage students, especially given their potential to offer more personalized experiences.

In the field of education, ICT integration typically refers to the incorporation of technology into the teaching and learning processes. Given that nowadays students are inherently proficient with technology and are more likely to excel in a technology-driven setting, the matter of integrating information and communication technology (ICT) in schools, particularly in the classroom, holds significant importance. The utilization of technology in education has made significant contributions to the pedagogical aspects. The integration of Information and Communication Technology (ICT) facilitates effective learning by providing assistance and support through its various elements and components (Jamieson-Procter et al. as cited in Ghavifekr et al., 2015a). The incorporation of ICT into the learning environment has been shown to have a good impact on student engagement and inspire effective, innovative, and demanding teaching and learning practices. In addition, Faslah (2011), in his research on technology implementation, argues that ICT can effectively involve students in meaningful learning. This is because the use of technology enhances student motivation and engagement. Therefore, by integrating technology into the classroom environment, students can be actively engaged in the learning process and have access to improved learning opportunities.

Nevertheless, the emergence of ICT in the education field does not always influence teachers to integrate into the teaching and learning process. It is evident that certain teachers nowadays are reluctant to utilize ICT although they know the benefits of incorporating ICT in the classrooms for some reasons.
which can be from the teachers and students’ digital literacy (Fauzan & Pimada, 2018; Khaloufi & Laabidi, 2017) as well as institutions’ support (Chouit et al., 2017). They exclusively employ their own conventional method to educate digitally native students. Based on the available evidence, this study aims to investigate the differences in student engagement between English as a foreign Language (EFL) classroom that utilize ICT and that do not. Additionally, this study seeks to determine the predominant and higher forms of engagement in these two types of EFL classrooms.

The advancement of ICT in the field of education has transformed the traditional teaching method into more contemporary approaches, hence impacting the learning environment and student involvement. ICT integration in the classroom transforms the learning environment into a virtual one. Through the incorporation of ICT, students get a deeper appreciation for the inherent worth of their learning, leading to heightened interest and engagement. Furthermore, by integrating ICT into the classroom, teachers can effectively employ the technology to individualize lessons, inspire students, and actively involve them in the teaching and learning process.

This study attempts to identify the disparities in student engagement between English as Foreign Language (EFL) classrooms that utilize ICT and those that do not. Additionally, it seeks to determine the predominant and higher forms of engagement. Therefore, the inquiries of this study were:

1. What type of students’ engagement is dominant and higher in two EFL classrooms?
2. What are the differences in students’ engagement between EFL classrooms that utilize ICT in the teaching and learning process and the classes that do not?

The significance of this study was to show the role of ICT and its effects on students’ engagement. It was conducted concerning how students and teachers currently experience the integration of ICT in the classroom. Thus, it is expected that the findings of this study can inform and give references to a variety of audiences, particularly in the education field, that will provide technology integration for further research. The outcome of this study will also facilitate the investigation of novel concepts for the usage and deployment of ICT resources in the educational domain, specifically focusing on the students’ participation to enhance learning success.

2. Literature Review

2.1 The Benefits of ICT Integration in Foreign Language Teaching and Learning

Many studies have demonstrated that the incorporation of ICT in foreign language learning has beneficial outcomes. However, the specific impacts resulting from the integration and employment of ICT are contingent upon its usage. There were several advantages to using ICT in foreign language instruction, benefiting both teachers and students (Charalambidis, 2014; Ovilia & Asfina, 2017). To enhance learners’ engagement, teachers find it more captivating to incorporate ICT, as it allows them to promptly respond and utilize up-to-date news. Additionally, ICT grants access to authentic online resources. Moreover, ICT empowers teachers to easily adapt teaching materials based on various factors such as circumstances, learners’ needs, and responses. Lastly, ICT facilitates teachers in providing prompt feedback to students. On the other side, ICT boosts motivation, leading to increased personal dedication and engagement. ICT also fosters independent learning and emphasizes the importance of collaboration and communication among students. Additionally, ICT has the potential to improve students’ learning attainment and results.

Furthermore, some previous studies examined the advantages of incorporating Information and Communication Technology in the instruction and acquisition of foreign languages. Initially, ICT is advantageous for students. In this example, the researcher built upon the findings of prior studies that proposed the idea of students’ engagement with authentic materials. These resources play a crucial role in enhancing students’ academic achievements (Al Arif, 2019; Sabiri, 2020; Sumarsono et al., 2017)). The integration of ICT facilitates tailored learning styles and feedback, while also facilitating students’ independent learning. Furthermore, ICT provides significant advantages for teachers, as it enables
language instructors to utilize various teaching methods, assessment, and enhance their professional growth. There is a consensus that the use of ICT by both teacher and students significantly enhances independent and effective learning and teaching activities.

Regarding the beneficial impacts and advantages of incorporating ICT in foreign language instruction and acquisition, the engagement of students has been highlighted as a significant benefit by the experts. ICT integration and students’ participation are interconnected. Therefore, it is feasible to carry out an inspection in such a condition.

2.2 Students’ Engagement

The concept of engagement in the context of teaching and learning a foreign language such as English is widely discussed as it holds significant importance. Students’ engagement refers to an individual level of interest and passion toward the learning process. It has a direct influence on their achievement and conduct (Khanifam, 2020). Furthermore, students’ engagement encompasses a students’ inclination, necessity, longing, and obligation to actively participate in and achieve success in the educational process, which fosters advanced cognitive thinking for long-lasting comprehension (Yuyun, 2023). These concepts imply that engaging students in classroom activities means actively participating in their own learning, driven by their own motivation, desire, interest, and passion for the teaching and learning process.

Table 1. Types of Engagement and Indicators

<table>
<thead>
<tr>
<th>Behavioral</th>
<th>Cognitive</th>
<th>Emotional</th>
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<tbody>
<tr>
<td>- conduct, such as completing homework and complying with school rules.</td>
<td>- Self-regulation, such as metacognition, effort.</td>
<td>- Relating to school such as satisfaction.</td>
</tr>
<tr>
<td>- work involvement, such as effort, attention, persistence.</td>
<td>- Instructional discourse, such as high-level evaluation, authentic questions.</td>
<td>- Relating to schoolwork such as valuing work;</td>
</tr>
<tr>
<td>- participation, such as class discussion, sport.</td>
<td>- Goal mastery, such as goal setting and task focus; - other indicators.</td>
<td>- Relating to the people at school such as liking the teacher.</td>
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</table>

Regarding to the student participation, Fredricks, Blumfeld and Paris as cited in Pilotti et al. (2017) have categorized it into three domains: behavioral, cognitive, and emotional engagement. The table below displays the three forms of engagement and their corresponding indicator as suggested by the articles.

Based on the information provided in the table above, the conclusion can be stated that behavioral engagement domain pertains to students’ behavior in class, their involvement in the activities, and their interest in academic tasks. On the other hand, cognitive engagement focuses on the students’ internal interest in the learning process, encompassing their personal qualities that drive them to make an effort in understanding and mastering the knowledge or skills presented in their academic work. Lastly, the emotional engagement domain addresses students’ feeling of belonging or significant towards their teacher, classroom, or school, including emotion like satisfaction, boredom, and interest.
2.3 Students’ Engagement in Traditional Classroom Vs ICT-Integrated Classroom

Li (2011) defined a typical classroom as an educational setting that primarily relied on a teaching method and places more emphasis on the content itself rather than the individual learners and their varying abilities and learning styles. The conventional classroom environment fails to engage the senses or encourage cognitive activity, instead promoting rote learning through memorization. ICT-integrated classroom refers to the utilization of electronic devices and online resources for instructional purposes. Through the utilization of diverse electronic delivery techniques, learning can be enhanced in terms of knowledge dissemination and interaction. The integration of ICT in the classroom promotes a student-centered approach, as opposed to the traditional classroom, which tends to be more teacher-centered.

The disparities in students’ level of involvement between a traditional alteration in the learning environment established by both types of classrooms (Inayati & Emaliana, 2017; Li, 2011). In the traditional classroom setting, the teacher plays a central role in the teaching and learning process. Students primarily focus on the teachers’ instructions, take notes on the information being presented, engage in independent thinking, and listen attentively to the teachers’ words. Consequently, the students are inactive as they are not actively participating in the learning process. In contrast, in an ICT-integrated classroom, students assume a central role. They possess a greater number of opportunities to respond to inquiries, pose inquiries, and collaborate with classmates to accomplish various tasks. These learning practices enhance students’ level of activity and engagement in the learning process.

2.4 Previous Studies

There are numerous studies have conducted research on ICT Integration and students’ engagement. Research by Al Arif et al., (2023) demonstrated that integrating ICT in Foreign language teaching and learning has had favorable outcomes, with the primary benefit being increased student involvement. Another study, which comes from Azmi (2017a), revealed that ICT boosts autonomous learning, maximizes learning outcomes as well and motivates learners to improve performance in the EFL classroom.

In addition, Saleem & Zahrah (2017) conducted research which concerned on the impact of ICT on student learning achievement. The findings indicate a significant correlation between the availability, adequacy, and accessibility of ICT and students’ learning outcomes. Furthermore, other research has been conducted by Toma et al. (2023), who performed their research on the differences in students’ behavioral engagement in traditional vs E-learning classrooms. The findings of the study indicate that there is no substantial difference in students’ behavioral involvement between traditional classroom settings and e-learning environments. However, e-learning is more effective in promoting advanced cognitive skills such as inventive and critical thinking. Moreover, some other researchers have similar concerns, which revealed that a variety of factors, when combined with technology, impact student engagement and accomplishment.

3. Research Method

This study was qualitative research that employed descriptive design. In descriptive qualitative research, as Nassaji stated in descriptive analysis research, qualitative data may be collected but is typically analyzed quantitatively using statistical analysis such as frequencies, percentages, averages, or other methods to establish relationships (Nassaji, 2015). Such a design was chosen as this study endeavored to describe the differences in students’ engagement in two EFL classrooms; one classroom incorporated ICT, and another one did not incorporate ICT in the teaching and learning process. Also, this study attempted to describe which students’ engagement was dominant and higher in both classrooms.

The participants of the research are 7 male and 8 female students of the grade 7 of Sekolah Alum Ciceras Bogor. The students’ ages are in the range of 14-15 years old. During the research, the students attended two EFL classes. The first EFL classroom employed ICT, which consists of audio materials
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and slides. Meanwhile, the second classroom used teacher’s lecturing and discussion without implementing any ICT tools.

The data gained from students’ verbal and nonverbal interactions in two EFL classrooms. The authors utilized observation for students’ verbal and non-verbal interactions. Then, the document analysis was utilized to analyze the transcriptions of students’ verbal and non-verbal interactions as well.

This study took place at Sekolah Alam Cikeas which is located in Bogor. Specifically, this study observed and analyzed the students’ interactions of two 7th-grade classes at Sekolah Alam Cikeas. The classroom observation was used to observe the students’ engagement from their verbal and nonverbal interactions. Meanwhile, the document analysis was used to analyze the transcription of verbal and nonverbal interactions between the two classes.

The students’ interactions in the two classes were recorded, transcribed, analyzed, and then classified according to the criteria of students’ engagement: behavioral, emotional, and cognitive. The authors were initially doing library research to find the concept and theories of the student’s engagement and the ICT; then the researcher made an action plan for the research. Secondly, the researcher made an appointment to the school as well as to the teacher to do the classroom observation. During the observation, the interaction was recorded while the authors were examining the classroom situation and focused on the students’ verbal and non-verbal interaction in order to know the students’ engagements in those two classes. Then, the gained data was analyzed and classified by using the criteria of students’ engagement (behavioral, cognitive, and emotional) proposed by Fredricks, Blumenfeld & Paris as cited in Pilotti et al. (2017).

4. Results and Discussion

The aims of this research are to find out the types and the extent of the verbal and non-verbal students’ engagement, which occurred dominantly in two different types of language classrooms: ICT and Non-ICT employed classrooms. The result of data analysis, the transcribed data, and collaboration with the authors’ observation, classified by the types of engagement in each class, were presented in the form of percentages. The percentages showed: a) the value of students’ verbal engagements in non-ICT class, b) the value of students’ verbal engagements in ICT class, c) the value of students’ non-verbal engagements in non-ICT class, and d) the value of students’ non-verbal engagements in ICT class.

The results of the verbal interactions of ICT and non-ICT classes are shown in Figure 1 and 2 below:

![Figure 1. Students’ verbal engagement in non-ICT-integrated class](image)

**Figure 1. Students’ verbal engagement in non-ICT-integrated class**
The overall result of the verbal engagements of Non-ICT and ICT integrated classes showed that the engagements in both classes were dominated by behavioral engagement (75% for the non-employed ICT class and 61% in the employed-ICT class) and followed by cognitive engagement (17% in non-employed ICT class, and 31% in employed-ICT class). Emotional engagement became the lowest number of engagement percentages by 8% for both classes. The finding highlighted that the percentage of cognitive engagement in the class that employed ICT was greater than in the class without ICT.

Meanwhile, the students’ engagements of non-verbal in ICT-employed and non-ICT-employed classes are shown in Tables 3 and 4.

![Figure 2. Students’ verbal engagement in ICT-integrated class](image)

![Figure 3. Students’ non-verbal engagement in non-ICT-integrated class](image)
Charts 3 and 4 showed students’ engagements in non-verbal areas, as well as in the previous charts, the behavior engagements are the highest percentage among other engagements in both classes. Moreover, it appeared to be the only type of engagement in ICT-integrated class by 100%. Meanwhile, Emotional engagement was presented by 25% in non-ICT classes.

The overall engagements of the verbal merged with non-verbal engagements are shown in Table 2 below:

<table>
<thead>
<tr>
<th>Engagement Types</th>
<th>Non-ICT Integrated Class</th>
<th>ICT Integrated Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural</td>
<td>N 12 %75%</td>
<td>N 13 %72%</td>
</tr>
<tr>
<td>Emotional</td>
<td>N 2 %12.5%</td>
<td>N 1 %6%</td>
</tr>
<tr>
<td>Cognitive</td>
<td>N 2 %12.5%</td>
<td>N 4 %22%</td>
</tr>
<tr>
<td>Total</td>
<td>N 16</td>
<td>N 18</td>
</tr>
</tbody>
</table>

The table above shows the overall engagement of verbal and non-verbal engagement in both ICT and Non-ICT classes. It shows that behavioral engagement is the dominant engagement in both classes, with as many as 75% in the non-ICT class and 72% in the ICT class. It meant that the non-ICT had 3% higher behavioral engagement. The emotional and cognitive engagement in non-ICT classes has similar values. They were 12.5%. In the class that employs ICT, Emotional Engagement appears to be 1%, and cognitive engagement is 22%. This value shows a significant difference in cognitive engagement between ICT and non-ICT classes, with the ICT class at 9.5% higher.

Disregarding the classification of student verbal or non-verbal engagement, the result showed that the main activities engagement administered by students in the class were completing tasks, discussion, and listening to teachers’ explanations, which were categorized as behavioral engagement. The second dominant type of engagement is cognitive engagement, which measures students’ eagerness, effort, and attention devoted to classroom activities. The lowest level of student engagement is emotional engagement, which is found dominantly through the authors’ observation as it is more to the students’ enthusiasm, smiles, and other affective expressions.
Information and Communication Technology (ICT) plays a pivotal role in modern education, revolutionizing the way students learn and the educator teach. Incorporating ICT in education enhances access to vast amounts of information, facilitates interactive experiences, and fosters critical thinking skills. During the research, the process of integrating ICT tools, such as the use of computers and educational software into the curriculum encouraged students to explore concepts in depth; this finding is in line with previous research conducted by Al Arif et al. (2023), Arifin (2018), and Faslah (2011). As students nowadays are natives of technology, they have a tendency to pay attention to digital tools incorporated into the class. As suggested by Charalambidis (2014) and Shopia et al. (2022), ICT employment is a way to fulfill the demand for digital literacy skills, which is essential for success in the 21st-century environment, empowering them to navigate and contribute to an increasingly digital world.

The current studies compared how students were engaged in both types of classrooms, with and without ICT. The classrooms showed stark and significant differences in how the students were engaged. This finding is in line with Sandy & Mukti (2020) and Zhang (2016). In the non-ICT classroom, the learning activities were relied on memorization and less exploring information as the information is gained from the teacher and the textbook, which also asserted by Ghavifekr et al. (2015b) and Khaloufi & Laabidi (2017). Therefore, it limited the students’ opportunities for exploring authentic materials. Conversely, the classroom equipped with ICT fostered a dynamic and personalized learning environment. Students customized their materials based on their level of comprehension. In the ICT-employed class, students were more engaged as their attention and focus were on the material preserved by electronic tools; this is in line with the findings of Azmi (2017b) and Biantoro (2020b). However, in this class, students interact less with the teacher or other students if the teacher does not control the ICT usage. It is shown by the decrease in behavioral engagement percentage as the cognitive engagement percentage was higher. Fortunately, the composition of engagement types in the ICT classroom was better proportional than in the traditional class by decreasing the over-dominant behavioral engagement.

The occurrence of students’ engagement in the class, in an ICT classroom was higher than the class without ICT, specifically cognitive engagement. This research is in line with Pilotti et al. (2017b), Yuyun (2023), Inayati & Emaliana (2017), and Ratu & Komara (2021b) this implied that ICT did not only enhance the learning experience but also promote students’ engagement in the classroom. Interactive ICT tools such as educational applications captivate students’ interest and attention by making learning more interactive and relevant to their lives. During the class, the use of ICT cultivated students’ learning interest, which is shown by students talking less about unrelated materials with their classmates. This decreased distraction and allowed the educators to differentiate instruction and provide better feedback to some students as the other students were focused on the materials. Therefore, the learning outcomes were enhanced.

Not only from the perspectives of the students, the teachers should boost their knowledge and skills in the use of ICTs. There might be some problems or obstacles to the use of ICTs that should be considered. Some obstacles to the application of ICT in teaching English are ICT equipment problems, limited internet access, lack of utilization of applications on cell phones, and age constraints (Fauzan & Pimada, 2018). Those obstacles should be overcome. Overall, ICT empowers students to become active participants in the classroom, which fosters a lifelong passion for learning and inquiries.

5. Conclusion

How the students engage in the classroom activities brings impact to the situation that appears in the classes. The difference in situations is based on the types of engagements that occurred. As the data analysis has proved that integrating ICT gained more cognitive engagement, according to the authors’ observation, it shows that the situation in both classes appears to be different as well. The students in the ICT-integrated class, as they were more cognitively engaged, worked independently; it seems that students were more concerned about finishing the given task. Moreover, the students indicated a willingness to learn new materials, as they seemed to pay attention when the audio material collaborated.
with the teacher’s explanation delivered. These are the advantages of ICT-employed classroom related to the students’ engagement.

On the other side, the traditional class, non-ICT class, obtained more students’ emotional engagement. At the class, students were emotionally more connected rather than in the ICT-employed classroom. However, the small number of students’ emotional engagement in the classroom need to be addressed to educators which implement online or long-distance classes. Therefore, the educator in online classroom is suggested to consider and raise the students’ emotional engagement such as by giving personal attention to each student, giving more individual feedback, embrace students’ personal learning style, etc. so that there are balanced behavioral, cognitive and emotional engagements in the classroom.

The results of this research are in line with previous results which stated that the uses of ICT in the classroom support the success of foreign language learning. It also leads to the novelty of this research which explores students’ engagement in modern classroom context. Students’ engagement was explored decades prior to the massive technology emergence in education. However, it is still relevant to be examined today as the learning situation and environment are changing. For further research, it is suggested to explore the students’ engagement in broader context and samples. For example, research on the students’ engagement in distance learning, blended learning, and 21st century skills integrated class, etc.

The limitation of this research is that the research was conducted in merely one school, as it was difficult to find face-to-face classroom during the pandemic era. The limitation decreases the broadness and coverage of the finding. For the next research it is suggested to conduct research related the engagement in online or blended classroom with broader data and coverage so that the research would gain considerable and more reliable results.

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