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Leveraging Information and Communication Technology (ICT) to Enhance EFL Students' 4C Skills

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ABSTRACT

This study seeks to explore the 21st-century skills that English as a Foreign Language (EFL) students develop through the use of Information and Communication Technology (ICT) in the classroom. Specifically, it aims to examine how students at SMA N 3 Padang, a high school in West Sumatra, Indonesia, acquire the 4C skills—communication, collaboration, creativity, and critical thinking—when using ICT. The research follows a quantitative approach, utilizing a survey method. A random sampling technique was applied, selecting 115 students from a total population of 385. Data were collected through a questionnaire designed to assess 21st-century skills for EFL students, administered via Google Forms. Descriptive statistics were used to analyze the results and determine the percentage of students demonstrating these skills. The findings revealed that students exhibited notable proficiency in all four 21st-century skills, with communication at 73.6%, collaboration at 74%, creativity at 74.4%, and critical thinking at 75.4%. These results highlight the positive role of ICT in fostering students' 4C skills, with the data reflecting moderate to high levels of achievement. In conclusion, the study demonstrates that students effectively develop these crucial competencies through ICT integration in their educational experience.

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I. INTRODUCTION

An ideal learning style can significantly boost students' overall creativity, keep them actively engaged, help them effectively achieve learning objectives, and create an enjoyable learning environment. However, this ideal form of learning is only attainable with the support of a skilled instructor. In today's increasingly interconnected digital world, Information and Communication Technology (ICT) has become essential for 21st-century English education. The effective use of ICT provides students with valuable opportunities to enhance their English language skills, improve global interactions, and prepare for challenges in the digital age. By integrating ICT into the teaching process, the education system will become more flexible and accessible, making it easier for students from diverse backgrounds across the country to understand and thrive (Rathinaswamy, 2018).

The integration of Information and Communication Technology (ICT) is essential for enhancing the effectiveness of English language education. ICT helps break down geographical barriers, provides access to valuable resources, enriches learning materials,

improves communication, develops digital skills, and offers a more personalized learning experience. The COVID-19 pandemic significantly increased the use of ICT among English language learners. These technologies are now being leveraged to improve online collaboration and communication, provide innovative learning tools, and facilitate effective student assessments. In the post-COVID-19 era, ICT will continue to play a crucial role in making English language education more flexible, affordable, and sustainable. The anticipated success of ICT integration can guide policymakers and teacher educators in creating effective strategies and training for the rapid deployment of ICT-based pedagogical emergency responses, as well as contingency planning for future crises. Given participants' feedback on approaches to ICT learning, swift ICT training workshops, online resources, and peer collaboration appear to be the most impactful measures to support teachers during times of change (Lerer et al., 2022).

However, the reality of utilizing ICT for optimal learning may differ from our expectations. Several obstacles can emerge when integrating ICT into the learning process. For example, in Indonesia, students and teachers frequently face less-than-ideal learning environments. Sawitri et al. (2019) identified various challenges in Indonesia, such as unequal access to technology, inadequate infrastructure and networks, insufficient teacher training, a shortage of high-quality digital materials, and difficulties with assessment and evaluation. Basar (2021) argued that improving these conditions requires collaboration among key stakeholders, including the government, schools, educators, parents, and the wider community. Actions that could be taken include expanding access to technology, upgrading educational facilities, enhancing teacher training, reducing students' learning burdens, and strengthening parental and community support.

The Indonesian curriculum also promotes the use of ICT in teaching techniques through a facilitator and student-centered approach, as ICT encourages students to learn independently, think critically and creatively, and communicate and interact effectively. This helps prepare future generations to address global challenges. As a result, incorporating ICT into the curriculum—particularly in English subjects—is essential. Students can use ICT to enhance their English skills in a more active, creative, and productive manner. The current curriculum urges teachers to shift from teacher-centered to student-centered teaching practices, make optimal use of technology, meet the evolving needs of society and industry, promote national values and character, and acknowledge regional and community differences. One could argue that the use of ICT in education is not only beneficial but crucial.

Furthermore, the use of ICT in English Language Teaching (ELT) offers several benefits and plays a crucial role in implementing self-directed learning methodologies. Self-directed learning is an approach where students actively participate in their learning journey, taking responsibility for inquiry, information gathering, and problem-solving. Integrating ICT with self-directed learning provides students with numerous opportunities to manage and control their educational experience. This empowers students to be more active, engaged, and accountable for their learning by utilizing a variety of resources, interactive technologies, and online collaboration platforms. As a result, students develop essential skills such as critical thinking, creativity, teamwork, and independence, preparing them for success in an ever-changing world. The use of ICT can significantly enhance learners' freedom and autonomy, benefiting students at all levels. Learners are more motivated when they have access to the resources they need through the internet, email, multimedia, and other communication channels (Joshi & Poudel, 2019).

In contemporary Indonesian education, the curriculum mandates the use of ICT in learning and requires students to develop independent and creative learning skills. Previous studies have suggested that ICT can enhance students' communication and collaboration abilities, ultimately leading to increased critical thinking and creativity (Nurlaila & Amiruddin, 2023). Building on this prior research, the current study aims to identify the types of 21st-century skills acquired by English as a Foreign Language (EFL) students through the use of ICT in the classroom.

Information and Communication Technology (ICT) in English Foreign Language (EFL)

The acronym ICT stands for "Information and Communication Technology." This term refers to the use of technology to communicate and process information. In the context of language learning and teaching, ICT can be employed to enhance and expedite the learning process. Here are some suggestions for integrating ICT into language education.

This definition is supported by Fu (2013), who noted that ICT—encompassing computers, the internet, and electronic transmission equipment such as radios, televisions, and projectors—is becoming increasingly prevalent in education. Information and Communication Technology (ICT) improves access to education by enabling learning to occur anytime and anywhere. For instance, online course materials can be accessed at any hour of the day or night. Additionally, videoconferencing classrooms facilitate seamless and enjoyable interactions between students and teachers. It is reasonable to assert that ICT influences lives by making it easier for individuals to achieve their goals, particularly in education.

Furthermore, ICT can be employed in the classroom to promote language development. Teachers can use interactive whiteboards, multimedia presentations, and online learning platforms to engage students and provide a variety of learning opportunities. ICT facilitates language learning by granting students access to a wide range of resources, as well as opportunities for practice and conversation. It also enhances communication between students and teachers, making interactions more efficient. With the increasing digitization of education, ICT has emerged as a vital component in ensuring successful and effective teaching and learning processes, fulfilling critical roles for both instructors and students (Yermakkyzy, 2022).

ICT influences a system designed to simplify tasks, particularly in the learning process. It is transforming education by introducing essential elements into the learning environment, such as virtual scenarios (Sharma, 2020). ICT can serve as an effective means of providing educational opportunities. Future learning environments that do not incorporate any form of Information and Communication Technology (ICT) are problematic and challenging to envision.

In recent years, there has been rapid growth in the integration of ICT in education, especially among English as a Foreign Language (EFL) students who already use ICT as a medium for teaching. The purpose of this study is to review the current literature on the use of ICT in English as a Foreign Language, identifying potential benefits and drawbacks. The selected research focuses on the various ways ICT can enhance language learning and teaching processes, as well as the obstacles and limitations associated with its implementation.

21st Century Skill

The term "21st-century skills" refers to a set of competencies essential for success in the modern workplace. These skills encompass the qualities required in both educational and professional settings within today's economy. 21st-century abilities consist of a combination

of subject matter knowledge, specific skills, expertise, and literacy critical for thriving in business and life. These skills extend beyond technological literacy to include critical thinking, problem-solving, communication, and teamwork.

The World Economic Forum, in collaboration with the Boston Consulting Group (Ernnis, 2019), has defined the competencies necessary for success in the 21st century as "social and emotional learning (SEL), digital literacy, and higher-order thinking skills." These competencies are crucial for success in today's environment and encompass a broader range of skills. They combine soft skills such as effective communication, teamwork, analytical thinking, and creative problem-solving with hard skills, including the ability to analyze and use information and media, as well as a solid understanding of technology.

Furthermore, in the context of 21st-century skills, some competencies are categorized by a collaborative government-business organization into three types: learning skills (creativity and innovation, critical thinking and problem-solving, communication, and collaboration), literacy (information literacy, media literacy, ICT literacy), and life skills (flexibility and adaptability, initiative and empowerment, social and interdisciplinary skills), cultural competency (P21, 2007).

Another initiative is the international research project, 21st Century Skills Assessment and Teaching (ATC21S). The ATC21S project identified 10 functions grouped into four categories: ways of thinking (creativity and innovation, critical thinking, problem-solving, and decision-making, learning, and metacognition), ways of working (communication and collaboration), tools for work (information literacy and ICT skills), and life in the world (citizenship, life and professional skills, personal and social responsibility). These skills form the foundation for effective student learning. It is essential to distinguish between 21st-century skills and digital skills, as they are often viewed separately (Griffin et al., 2012).

The core competencies required for the 21st century encompass several essential skills. Communication skills are vital in education, as they enable individuals to convey knowledge effectively while considering their audience and medium; strong communication is crucial for students to achieve their learning objectives. Collaboration skills are increasingly important due to the complex nature of tasks that necessitate student cooperation, as no one individual can possess all the necessary knowledge and skills. Consequently, students often work in groups with complementary abilities, relying on one another to accomplish their goals while maintaining a clear understanding of their roles. Creative thinking skills go beyond merely absorbing information; students must also convert knowledge into innovative ideas for problem-solving, which is critical for academic achievement and adapting to change. Lastly, critical thinking skills involve making informed conclusions based on careful contemplation and reasoning. This ability requires students to navigate vast amounts of incoming data, establish their perspectives, and formulate autonomous, reasoned ideas, making it a vital competency in today’s information-rich environment.

II. METHODS

This study employed quantitative research with a survey design to address the research question regarding the use of Information and Communication Technology (ICT) among English as a Foreign Language (EFL) students. The researcher randomly selected 115 participants from a total population of 385 students. The instruments used in this study included various questionnaires, specifically focusing on 21st Century Skills for EFL,

administered through Google Forms. A descriptive statistical test was conducted to analyze the percentage of the obtained results.

Data collection involved sending a Google Forms link to the class leader of the 11th-grade students, who then shared the link with their classmates and other 11th-grade students to complete the questionnaire. This collection period spanned four days, from Friday, February 2, to Wednesday, February 7, 2024. Prior to the main study, the researcher conducted a pilot test of the questionnaire on a sample outside of the 11th grade to assess its validity and reliability, utilizing IBM SPSS Statistics version 25 for analysis

Table 1. Validity of 21st Century Skill

No.	r-count	r-table 5% (115)	Significance	Criteria
1.	0.700	0.176	0.002	Valid
2.	0.714	0.176	0.008	Valid
3.	0.720	0.176	0.005	Valid
4.	0.780	0.176	0.000	Valid
5.	0.668	0.176	0.007	Valid
6.	0.612	0.176	0.022	Valid
7.	0.784	0.176	0.001	Valid
8.	0.824	0.176	0.000	Valid
9.	0.818	0.176	0.000	Valid
10.	0.874	0.176	0.000	Valid
11.	0.851	0.176	0.000	Valid
12.	0.332	0.176	0.212	Valid
13.	0.798	0.176	0.000	Valid
14.	0.851	0.176	0.000	Valid
15.	0.890	0.176	0.000	Valid

Based on Table 1, the r count of all items is more than the r-table (0.176). It can be said that all items of the questionnaire are valid.

Table 2. Reliability of 21st Century Skill

Reliability Statistics	
Cronbach's Alpha	N of Items
0.835	35

Based on Table 2, the results of the reliability analysis using Cronbach's Alpha showed that the questionnaire was reliable by showing α=0.835. (Mohajan, 2017).

Following the data collection, the researcher analyzed the gathered data to address the research questions and present the findings of the study. Based on the methodology outlined by Creswell & Creswell (2018), the researcher used descriptive analysis in IBM SPSS Statistics version 25 to interpret the results. This analysis revealed the percentage scale of the results, as adopted from Gunadi et al. (2022). To determine the outcomes of the analysis, the researcher derived a scale from the percentage results based on Gunadi et al. (2022), ensuring a clear understanding of the findings.

Table 3.The Category of the Percentage

No.	Percentage	Category
1.	0-45.9%	Very Low
2.	46-59.9%	Low
3.	60-73.9%	Moderate
4.	74-87.9%	High
5.	88-100%	Very High

Adopted by (Gunadi et al., 2022)

III. RESULT AND DISCUSSION

This chapter presents the results of the research, including findings and discussions derived from the questionnaire. The findings aim to address the research question: How are 21st Century skills acquired by English as a Foreign Language (EFL) students through the use of Information and Communication Technology (ICT) in the classroom?

Result of 21st Century Skill

The responses to the 21st Century Skills questionnaire, which comprised 20 statements, have been collected. These statements focused on the four key skills: communication, collaboration, creative thinking, and critical thinking.

Table 4. The Result of Communication

No.	Communication								
	Statement	5	4	3	2	1	Total	%	Category
1.	Learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT enhance my speaking, writing, reading, and listening	22	62	22	4	5	437	76	High
2.	My friends understand me better when I discuss ideas through Learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT.	17	51	33	8	6	410	71	Moderate
3.	I can engage well in a group chat WhatsApp by paying more attention to questioning and note-taking.	19	49	30	9	8	407	71	Moderate
4.	I can effectively switch from receiving ideas to providing ideas, back and forth between those in the communication situation.	21	56	28	8	2	431	75	High
5.	Learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT help me to analyze a situation and provide a better understanding of the sender, purpose, message, context, receiver, and medium of communication.	20	64	18	8	5	431	75	High
	Total 5 Item Percentage						368	73.6	Moderate

Response alternative: 1=strongly agree, 2=disagree. 3=neither agree, 4=agree, 5=strongly disagree

Based on Table 4, the results for Statement 1 indicate that learning applications (such as Quizizz, Kahoot, Mentimeter, etc.) from ICT enhance speaking, writing, reading, and

listening skills, with a percentage of 76% from a total frequency of 437. This suggests that the result for Statement 1 is high, according to Gunadi et al. (2022). For Statement 2, the statement "My friends understand me better when I discuss ideas through learning applications (Quizizz, Kahoot, Mentimeter, etc.)" received a percentage of 71% from a total frequency of 410, indicating a moderate result. Statement 3, which states "I can engage well in a WhatsApp group chat by paying more attention to questioning and note-taking," also shows a percentage of 71% from a total frequency of 407, suggesting a moderate result. Statement 4 reveals that "I can effectively switch from receiving ideas to providing ideas in a communication situation," with a percentage of 75% from a total frequency of 431, indicating a high result. Lastly, Statement 5, which states that "Learning applications (Quizizz, Kahoot, Mentimeter, etc.) help me analyze a situation and provide a better understanding of the sender, purpose, message, context, receiver, and medium of communication," also shows a high percentage of 75% from a total frequency of 431.

The results from Statements 1 to 5 indicate an overall percentage of 73.6% from a total frequency of 368, suggesting that these outcomes are moderate. Therefore, it can be concluded that some students have effectively communicated while utilizing ICT. However, there are still students who need to improve their communication skills when using these technologies.

Table 5. The Result of Collaboration

	Collaboration								
No.	Statement	5	4	3	2	1	Total	%	Category
6.	Learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT help me to get resources and ensure all team members work optimally.	19	57	31	6	2	430	75	High
7.	My friends understand me better when I discuss ideas through Learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT.	12	58	32	10	3	411	71	Moderate
8.	I can engage well in a group chat WhatsApp by paying more attention to questioning and note-taking.	13	57	31	12	2	412	72	Moderate
9.	I can effectively switch from receiving ideas to providing ideas, back and forth between those in the communication situation.	12	70	27	3	3	430	75	High
10.	Learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT help me to analyze a situation and provide a better understanding of the sender, purpose, message, context, receiver, and medium of communication.	22	64	22	4	3	443	77	High
Total 5 Item Percentage							370	74	High

Response alternative: 1=strongly agree, 2=disagree. 3=neither agree, 4=agree, 5=strongly disagree

According to Table 5, the results for Statement 6 indicate that learning applications (such as Quizizz, Kahoot, Mentimeter, etc.) from ICT helped me gather resources and ensured that all team members worked optimally, with a percentage of 75% from a total frequency of 430. This suggests that the result for Statement 6 is high (Gunadi et al., 2022). In Statement 7, the response indicated that my friends understand me better when I discuss

ideas through learning applications, with a percentage of 71% from a total frequency of 411, indicating a moderate result. For Statement 8, the percentage was 72%, showing that I can engage well in a WhatsApp group chat by paying more attention to questioning and note-taking, which also reflects a moderate outcome. Statement 9 reveals a high percentage of 75%, indicating that I can effectively switch between receiving and providing ideas in communication situations. Finally, Statement 10 received a high percentage of 77%, indicating that learning applications helped me analyze a situation and provided a better understanding of the sender, purpose, message, context, receiver, and medium of communication, with a total frequency of 443.

The results from Statements 6 to 10 indicate a percentage of 74% from a total frequency of 370, suggesting that these results are high. Therefore, it can be concluded that these students develop collaboration skills while utilizing ICT.

Table 6. The result of Creative Thinking

	Creative Thinking								
No.	Statement	5	4	3	2	1	Total	%	Category
11.	Learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT help me to imagine the unknown and impossible.	18	55	34	6	2	426	74	High
12.	Applications (Whatsapp, Zoom, Google, YouTube, Recorder, etc.) from ICT help me to actively reach into what is unknown to make it known.	19	67	24	5	0	445	77	High
13.	I entertain others (telling stories, making jokes, singing songs) through applications (Whatsapp, Zoom, Google, YouTube, Recorder, etc.) from ICT.	16	53	31	11	4	411	71	Moderate
14.	The new applications and features in smartphones/pc trigger my mind to design something new.	18	58	31	8	0	431	75	High
15.	The use of applications (Whatsapp, Zoom, Google, YouTube, Recorder, etc.) from ICT encourages me to find a new way of creating or improvising something.	16	61	28	6	4	424	74	High
Total 5 Item Percentage							372	74.4	High

Response alternative: 1=strongly agree, 2=disagree. 3=neither agree, 4=agree, 5=strongly disagree

Based on Table 6, the results from Statement 11 indicate that learning applications (such as Quizizz, Kahoot, Mentimeter, etc.) from ICT help me imagine the unknown and the impossible, showing a percentage of 74% from the total frequency of 426. This result can be considered high according to Gunadi et al. (2022). In Statement 12, the applications (such as WhatsApp, Zoom, Google, YouTube, Recorder, etc.) from ICT assist me in actively researching what is unknown to make it known, with a percentage of 77% from the total frequency of 445, indicating a high result. Statement 13 reveals that I entertain others (through storytelling, joking, and singing) via applications (WhatsApp, Zoom, Google, YouTube, Recorder, etc.), which shows a percentage of 71% from the total frequency of 411, suggesting a moderate result. In Statement 14, the new applications and features on

smartphones and PCs stimulate my mind to design something new, yielding a percentage of 75% from the total frequency of 431, which is high. Lastly, Statement 15 indicates that using applications (WhatsApp, Zoom, Google, YouTube, Recorder, etc.) from ICT encourages me to find new ways to create or improvise, with a percentage of 74% from the total frequency of 424.

From the results of Statements 11 to 15, the overall percentage is 74.4% based on a total frequency of 372, indicating that these results are high. Therefore, it can be concluded that these students develop creative thinking skills while utilizing ICT.

Table 7. The Result of Critical Thinking

	Critical Thinking								
No.	Statement	5	4	3	2	1	Total	%	Category
16.	I use learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT to find or explain definitions of words.	16	68	23	8	0	437	76	High
17.	I use applications (Whatsapp, Zoom, Google, YouTube, Recorder, etc.) from ICT to search for evidence to argue logically.	24	59	22	9	1	441	77	High
18.	I analyze the causes and effects of a problem by comparing and contrasting it with two or more subjects through applications (Whatsapp, Zoom, YouTube, Recorder, Google, etc.) from ICT.	20	59	27	8	1	429	75	High
19.	When I am uncertain about why something is happening, I use learning applications (Quizizz, Kahoot, Mentimeters, etc.) from ICT to find out what could result from it.	20	59	27	8	1	434	75	High
20.	Application (WhatsApp, Zoom, YouTube, Recorder, Google, etc.) from ICT helps me to decide on the worth of something by comparing it against an accepted standard of value.	15	66	23	8	3	427	74	High
	Total 5 Item Percentage						377	75.4	High

Response alternative: 1=strongly agree, 2=disagree. 3=neither agree, 4=agree, 5=strongly disagree

Based on Table 7, in Statement 16, the use of learning applications (such as Quizizz, Kahoot, Mentimeter, etc.) from ICT to find or explain definitions of words shows a percentage of 76% from the total frequency of 437. This indicates that the result for Statement 16 is high, according to Gunadi et al. (2022). In Statement 17, using applications (like WhatsApp, Zoom, Google, YouTube, Recorder, etc.) from ICT to search for evidence in order to argue logically reveals a percentage of 77% from the total frequency of 441, indicating a high result. Statement 18 demonstrates that I analyze the causes and effects of a problem by comparing and contrasting it with two or more subjects through applications (WhatsApp, Zoom, YouTube, Recorder, Google, etc.), resulting in a percentage of 75% from the total frequency of 429. In Statement 19, when I am uncertain about why something is happening, I use a learning application (such as Quizizz, Kahoot, Mentimeter, etc.) from ICT to explore potential outcomes, which shows a percentage of 75% from the total frequency of 434. Lastly, in Statement 20, applications (like WhatsApp, Zoom, YouTube, Recorder,

Google, etc.) from ICT assist me in evaluating the worth of something by comparing it against an accepted standard of value, with a percentage of 74% from the total frequency of 427.

From the results of Statements 16 to 20, the overall percentage is 75.4% from a total of 377, indicating that these results are high. Therefore, it can be concluded that these students develop critical thinking skills when utilizing ICT.

Discussion

The data analysis revealed that students have acquired the four 21st-century skills, commonly known as the 4Cs.

Table 8. The Findings of 21st Century Skill

No.	Indicator 21st Century Skill and Autonomous Learning	Total	%	Category
1.	Communication	368	73.6	Moderate
2.	Collaboration	370	74	High
3.	Creative Thinking	372	74.4	High
4.	Critical Thinking	377	75.4	High

Based on Table 8, the data indicates that communication skills reached 73.6%, suggesting that students have demonstrated some proficiency in this area, though there is still room for improvement. Collaboration skills scored 74%, indicating a high level of achievement in this skill set. Creative thinking skills reached 74.4%, also reflecting a high level of competency among students. Lastly, critical thinking skills achieved a score of 75.4%, suggesting that students have developed these skills effectively.

The findings of this study reveal that students are acquiring these four essential skills—communication, collaboration, creative thinking, and critical thinking—through the use of Information and Communication Technology (ICT). The study highlights the usefulness of ICT in fostering the development of the 4Cs, as learners must be able to ask and answer key questions, provide constructive feedback, generate solutions to problems, and communicate and collaborate with others during the learning process. Engaging in both group and individual discussions enhances communication and cooperation skills (Trilling & Fadel, 2009).

IV. CONCLUSION AND SUGGESTION

Based on the results above, the findings of this research indicate that the students displayed competency in 21st-century skills, particularly within the 4C skills framework: communication, cooperation, creativity, and critical thinking. Communication skills were determined to be moderately proficient, scoring 73.6%. This suggests that while students possess some communication abilities, there is still significant potential for improvement. In contrast, cooperation skills achieved a high competency level of 74%, indicating that students have effectively developed their collaborative abilities.

Furthermore, creative thinking skills were found to have a respectable competency level of 74.4%, reflecting a significant capacity for innovative problem-solving. Similarly, critical thinking capabilities exceeded expectations, with a high proficiency level of 75.4%, suggesting strong critical thinking abilities. The findings demonstrate that students, particularly those categorized within the 4C framework (communication, cooperation, creativity, critical thinking), have made considerable progress in their use of ICT. This

improvement is evidenced by their high levels of expertise in teamwork, creative thinking, and critical thinking.

Based on the conclusions of this research, the researcher offers several suggestions for teachers, students, and future researchers. For teachers, it is recommended to integrate ICT more frequently into the teaching and learning process, as ICT offers numerous benefits, particularly in developing 21st-century skills. Additionally, given the demands of the curriculum in Indonesia, teachers are encouraged to incorporate ICT into their teaching methodologies.

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