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Understanding Student Perspectives on ICT Implementation in a Public School in Batam City

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ABSTRACT

This research investigates the integration of Information and Communication Technology (ICT) into 21st-century English language learning, with a focus on understanding student perceptions and expectations. Conducted in collaboration with a public high school in Batam City, the study aims to explore teachers' perspectives on ICT in English Language Teaching (ELT), identify student needs for technology-based instructional materials, and propose strategies to enhance digital literacy for English learners. Through classroom observations and student surveys, the study reveals a generally positive attitude towards English learning and ICT integration among students, alongside areas for improvement in enhancing collaborative learning experiences. Despite teachers' readiness to implement e-learning, there's a perceived lack of sufficient ICT support in EFL classes. Interviews with Grade 11 students underscore the efficacy and enjoyment of online resources, with a desire for more innovative technology-based learning methods. Collaboration with University International Batam offers potential for implementing such methods, though logistical challenges remain. The findings reveal the importance of addressing gaps in ICT integration to optimize English language learning experiences for students.

Keywords: 21st-century learning, Information and Communication Technology (ICT), Digital literacy, Gamification in education, Teacher roles in technology integration.

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Introduction

a. Background

The 21st century has witnessed a transformative shift in education, characterized by the increasing integration of technology into various aspects of learning. This evolution, commonly known as 21st century learning, emphasizes the transformation from traditional teacher-centered approaches to student-centered methodologies. It is an innovative approach to new learning and teaching patterns (Marsevani, 2022). This research underscores the importance of collaborative and knowledge-building learning methods, highlighting the critical role of Information and Communication Technology (ICT) in this paradigm shift (Sumardi et al., 2020). The use of technology in education is essential to support ongoing progress and development (Badrah Zaki, n.d.). Despite the pervasive trend towards student-centered learning and digital literacy, challenges remain in the implementation of these ideals in real-world educational settings. According to Sumardi et al. (2020), many classrooms still employ a teacher-centered approach, using conventional methods such as lecturing and note-taking. This incongruence with 21st century learning principles raises questions about the actualization of these transformative ideals in everyday teaching practices. Student engagement should be considered, as well as the appropriate use of learning resources and the creation of an enjoyable learning environment, such as using interactive tools, like games or quizzes, to stimulate and enhance learning (Zahra & Febria, n.d.).

In English language teaching, digital literacy is emerging as an important component. Almazova et al. (2020) state, the comprehensive study recognizes the importance of digital literacy, which enables students to critically assess the authenticity of information and integrate online resources effectively. Serajuddin (2023) further emphasizes the demand for teachers to integrate technology-based learning environments, amplifying the need for educators to bridge the gap between traditional methodologies and modern pedagogical approaches. The ever-evolving digital media landscape presents opportunities for the dissemination of educational information, including platforms for e-learning (Christina Pondalos et al., 2022). One of the public schools in Batam City emerged as a noteworthy case study. The school, which was established in 1987 (Zam & Al Arif, 2019) has received 'A' accreditation and adheres to the 2013 curriculum as the researchers as the Merdeka Belajar Kurikulum Kampus (MBKM) program. Although equipped with a conducive learning

environment, there are still challenges to fully embrace ICT in teaching practices. E-learning is essential to increase student motivation, create successful digital portfolios, broaden perspectives, foster a sense of community, and benchmark progress with other schools around the world (Lasut, 2022). Integrating e-learning into the curriculum can address these challenges and further improve school educational outcomes.

The current literature on language teaching and ICT integration highlights several gaps and issues that our study aims to address. Despite the growing emphasis on student-centered learning and digital literacy, there remains a disconnection between theoretical ideals and practical implementation in real-world educational settings (Sumardi et al., 2020). Many classrooms still rely on traditional teacher-centered approaches, hindering the full realization of 21st-century learning principles. Additionally, while digital literacy is recognized as essential for modern education, there is a lack of comprehensive understanding of how to effectively integrate ICT into language teaching practices (Almazova et al., 2020; Serajuddin, 2023). Furthermore, existing research often overlooks the specific challenges faced by students and teachers in adopting and utilizing ICT tools in language learning contexts, particularly in public schools with limited resources (Zam & Al Arif, 2019).

Our study aims to contribute to the field of language teaching by addressing these gaps and issues. By focusing on the perceptions and expectations of students regarding ICT integration in their learning experiences, the researchers aim to provide valuable insights into the practical challenges and opportunities associated with technology-based language education. Through surveys and observations conducted at a public school in Batam City, the researchers aim to uncover students' enthusiasm for technology integration, as well as their concerns and needs for support in developing digital skills (Ansow et al., n.d.; Qaddumi et al., 2023). By shedding light on these dynamics, our study aims to inform educators and policymakers about the best practices for effectively integrating ICT into language teaching, ultimately enhancing the quality and relevance of language education in the 21st century.

b. Literature Review

The use of Information and Communication Technology (ICT) in education, especially in English Language Teaching (ELT), is a topic of growing interest. ICT includes various digital tools, like how Hashemi et al. (2022) used Quizizz, a game-based assessment tool in an English Classroom at SMAN 1 Tamban Barito Kuala Regency, or when Simeon et al. (2022) conducted

a study on vocabulary acquisition using a word-cross game. These technologies offer interactive and engaging learning experiences for the students.

Understanding what students think about using ICT in their language classes is crucial. Their perceptions, or how they see ICT in learning and expectations, and what they hope to gain from it, play a big role. The previous study conducted by Pardede (2020) concluded that participants held a positive and elevated view regarding the utilization of Information and Communication Technology (ICT) to enhance their interest and motivation. Additionally, the participants expressed a favorable and high-level perception of the impacts of incorporating ICT in the learning process. Furthermore, a positive and high-level perception of the educational values associated with ICT was observed among the participants.

Our research distinguishes itself from previous studies as it was conducted by fifth-semester students within a public school in Batam City. The participants involved in our study were 11th graders from XI IPA 4. In addition to employing interviews and questionnaires, our research also involved practical implementation.

c. Research Problems

1. What is the teacher's perception of ICT used in ELT?
2. What are the needs of the students in the design of instructional materials for technology-based instructional design?
3. What are the recommendations to help improve digital literacy, especially for those learning English?

Methods

The method the researchers use for this research is the mixed method. Utilizing mixed methods enables researchers to surpass the constraints of relying solely on quantitative or qualitative methodologies. This approach facilitates the acquisition of comprehensive information that would be unattainable through the use of either method in isolation. Then, in quantitative, researchers collect the numerical data by using questionnaires, and the researchers collect qualitative data by observing English teaching in class and interviewing both the teacher and the students (Almeida, n.d.). The school that the researchers are collaborating with is one of the public schools in Batam City that provides LMS for their teacher and students, from the observation, it shows that the English teacher rarely uses the

LMS provided by the school to support her teaching activities in class, but she still uses other online tools in her teaching (quizizz, Kahoot, etc).

a. Participant

The participants of this research are 46 students in class XI IPA 4 and the English teacher, Ms. D, in the targeted public school. The researchers chose the 11th grade as the participants because the 10th grade uses the Merdeka curriculum and the researchers can only do the observation and implementation before the 3rd the week of October because after that the week their learning process is done. Meanwhile, the 12th graders are preparing for their final year, so it is not recommended to observe and implement in the 12th grade.

b. Instrument

The instruments the researchers use in this research are a questionnaire and an interview sheet. The researchers made two questionnaires using Google Forms. One questionnaire consisting of 21 questions will be filled out by 46 students from class XI IPA 4. Meanwhile, the English teacher will fill out the other questionnaire, which consists of 30 questions. To ensure the quality of the questionnaires, the researchers adopted questions from other researchers and inserted them into our questionnaires. To measure the answers, the researchers use 1) Strongly Agree, 2) Agree, 3) Neutral, 4) Disagree, and 5) Strongly Disagree, and some questions are measured with yes or no.

c. Procedure

In the initial phase of our research, the researchers are in the process of identifying the target school, a crucial step that involves consultation with our lecturer. Following this, the researchers will reach out to the chosen school to provide a comprehensive explanation of our research project and seek permission, accompanied by the submission of an observation letter. Subsequently, the researchers will formalize the collaboration by requesting a Memorandum of Agreement (MoA) from the campus, which will be sent to the school for their endorsement. Once the groundwork is laid, the researchers will engage with the English teacher, collaborating closely with our lecturer, to formulate a structured observation plan within the classroom setting. This will be complemented by the development of a well-crafted questionnaire and interview blueprint for both students and the English teacher. Under the guidance of our lecturer, the researchers will conduct interviews with five willing students and the English teacher while administering the distributed questionnaires. The final stage

involves synthesizing the gathered information into a comprehensive report, presenting the outcomes of our observations, interviews, and questionnaire responses. This strategic and systematic approach ensures a rigorous and the well-rounded exploration of the chosen educational context.

d. Data Analysis

Data analysis is a process of transforming raw material into data that can be useful for decision-making and research projects. The data can be obtained by observation, interview, questionnaire, documentation, organization, and analysis to get the essential data the researchers will use to conclude.

1. Data analysis

The analysis of students' attitudes and behaviors towards English language learning and the integration of Information and Communication Technology (ICT) unveil a predominantly positive trend. A substantial majority of students (74.42%) take pride in using English at school, enjoying interactions with friends and teachers (69.77%), and expressing motivation to extend language use beyond the classroom, including online platforms (74.42%). These findings align with a prior study emphasizing enduring positive feelings and motivation among students in the context of English acquisition. Regarding seriousness in learning, the data indicates diverse and committed approaches. Approximately 32.56% engage with foreign TV/media, 27.91% participate in formal lessons, and 37.21% actively practice English at school. An additional 39.53% learn English due to academic requirements, reflecting a blend of personal interests and institutional mandates. The perception towards ICT use in English language learning underscores a focus on in-class ICT (39.53%) and accessible materials (20.93%), with a noteworthy aspect being the identified need to enhance ICT integration for improved collaborative learning experiences.

In the analysis of students' attitudes towards ICT integration, mixed responses emerge, as 60.49% believe ICT enhances English skills, while 37.21% express neutrality. This suggests a need for further exploration and efforts to address reservations, fostering a more positive attitude among students. However, students' expectations towards ICT use are generally positive, with a majority (58.14%) believing it enhances effectiveness, 63.09% expressing that teachers should incorporate it into instruction, and 46.51% desiring more frequent ICT use for an enjoyable English learning experience. Collectively, these findings underscore students'

favorable attitudes towards integrating ICT into English education, emphasizing a preference for interactive and accessible learning experiences.

2. Data Reduction

The more data the researchers get, the more complicated it is to summarize. So it is essential to use data reduction to get a better picture for our data collection. The researcher will choose the questions in the questionnaire that they think suit the situation in the classroom.

3. Data Presentation

The data will be presented in both a description and a diagram. Presenting the data will help researchers to understand better what the researchers have and help us plan our next step.

4. Conclusion and data verification

From the data, the researchers will conclude the issue of implementing in the targeted high school and suggest how the researchers can help.

Result and Discussion

a. Students Questionnaire

The comprehensive analysis of students' attitudes and behaviors towards English language learning and the integration of Information and Communication Technology (ICT) reveal a consistently positive trend. In terms of motivation and affection, a majority of students (74.42%) take pride in using English at school; enjoy speaking it with friends and teachers (69.77%), and express motivation to use it beyond the classroom, including online platforms (74.42%). The current findings are consistent with prior research conducted by Ansow et al. (n.d.), which also highlighted the enduring positive feelings and motivation exhibited by students towards the acquisition of English language skills. Ansow's study emphasized the sustained enthusiasm and pride students feel in utilizing English both within and beyond the classroom context. This alignment underscores the robustness of the observed trend and strengthens the validity of the current research findings regarding students' attitudes towards English language learning.

Regarding seriousness in responding to learning, diverse and committed learning approaches are evident, with 32.56% engaging in foreign TV/media, 27.91% participating in

formal lessons, and 37.21% actively practicing English at school. Additionally, 39.53% learn English due to academic requirements, reflecting a mix of personal interests and institutional mandates. The perception towards ICT use in English language learning reveals a focus on in-class ICT and accessible materials, with 39.53% recognizing in-class ICT use and 20.93% feeling there are opportunities for communication beyond class. However, a need for enhancing ICT integration to improve collaborative learning experiences is highlighted. The need analysis in integrating ICT in the class indicates mixed responses, with 60.49% believing ICT improves English skills but 37.21% expressing neutrality about the overall attitude toward ICT integration. This suggests a requirement for further exploration and efforts to address reservations, fostering a more positive attitude among students. Finally, students' expectations towards ICT use in English language learning underscore a positive outlook, with a majority (58.14%) believing ICT enhances effectiveness, 63.09% thinking teachers should use it in instruction, and 46.51% expressing a desire for more frequent ICT use to make English learning enjoyable. The findings collectively emphasize students' favorable attitudes toward integrating ICT into English education, highlighting a preference for interactive and accessible learning experiences.

Table 1. Students Attitudes and Behaviors towards English Language Learning and the Integration of Information and Communication Technology (ICT) Reveals a Consistently Positive Trend

| Criteria | Statement | SD | D | N | A | SA |
|---|--|--------|--------|--------|--------|--------|
| Motivation: affection | I am proud to use English in the school. | 2.33% | 0% | 39.53% | 23.26% | 34.88% |
| | I love being able to speak English with my friends and teachers. | 4.65% | 0% | 34.88% | 25.58% | 34.88% |
| | I will use my English language skills to access the internet or magazines that are in English. | 2.33% | 0% | 23.26% | 32.56% | 41.86% |
| Seriousness in Responding to Learning: Behavior | I improve my English by following foreign TV/media programs. | 6.97% | 9.30% | 32.56% | 23.26% | 27.91% |
| | I took lessons to improve my English skills. | 25.58% | 18.60% | 20.93% | 13.95% | 20.93% |

| Criteria | Statement | SD | D | N | A | SA |
|--|---|--------|--------|--------|--------|--------|
| | I practiced English by implementing it at school. | 9.30% | 27.91% | 37.21% | 20.93% | 4.65% |
| | I am learning English because I need it for my studies. | 11.63% | 2.33% | 20.93% | 25.58% | 39.53% |
| Students' Perception towards ICT use in English Language Learning | Teachers have used ICT in the English learning process. | 9.30% | 9.30% | 39.53% | 20.93% | 20.93% |
| | Teachers have provided learning materials that can be accessed or used outside the classroom. | 2.33% | 11.63% | 20.93% | 30.23% | 34.88% |
| | Teachers have provided opportunities for students to communicate, share, and discuss through ICT outside the classroom. | 6.97% | 18.60% | 39.53% | 13.95% | 20.93% |
| | Using ICT can improve my English skills in Speaking, Listening, Writing, Reading | 9.30% | 4.65% | 32.56% | 25.58% | 27.91% |
| Need analysis in integrating ICT into the class | Using ICT applications and instruments helps me to collaborate with peers to learn English. | 11.63% | 6.97% | 44.19% | 23.26% | 13.95% |
| | I have a positive attitude towards the use of ICT in learning the English language. | 16.28% | 20.93% | 46.51% | 9.30% | 6.97% |
| Students' Expectation towards ICT use in English Language Learning | I hope that the use of ICT allows me to learn English more effectively. | 6.97% | 6.97% | 27.91% | 30.23% | 27.91% |
| | Teachers need to use ICT in learning English for students. | 9.30% | 6.97% | 44.19% | 20.93% | 18.60% |

| Criteria | Statement | SD | D | N | A | SA |
|----------|---|-------|-------|--------|--------|--------|
| | I hope ICT is used more frequently in the learning process to make English learning more enjoyable. | 9.30% | 2.33% | 41.86% | 25.58% | 20.93% |
| | Teachers need to provide learning materials that can be accessed/ used outside the classroom | 9.30% | 6.97% | 20.93% | 34.88% | 27.91% |
| | I hope the teachers inform how to find and use online English learning resources. | 6.97% | 0% | 41.86% | 20.93% | 30.23% |

The table below shows varied student opinions on e-learning. While 34.88% agree it offers schedule flexibility, 60.47% remain neutral. Regarding cognitive benefits, 44.19% agree e-learning improves thinking skills, and 39.53% agree it enhances problem-solving. However, 46.51% and 53.49%, respectively, are neutral on these aspects. The data suggests diverse views, with many students being uncertain or neutral about e-learning. This highlights the need for further exploration to understand the factors influencing these perceptions and to enhance the effectiveness of online education.

Table 2. Varied Student Opinions on E-Learning

| Criteria | Statement | D | N | A |
|--|---|--------|--------|--------|
| Perception of Students Towards e-Learning | E-learning assures schedule flexibility. | 4.65% | 60.47% | 34.88% |
| | The e-learning environment improves thinking skills. | 9.30 % | 46.51% | 44.19% |
| | The e-learning environment enhances problem-solving skills. | 6.97% | 53.49% | 39.53% |

b. Questionnaire Results from Teachers

Describing the teacher's perspective based on the questionnaire is the teacher beliefs of in-service English teachers regarding the use of ICT in the student life domain indicate that they believe in the positive role of ICT. The English teachers generally agree on the use of ICT in the student life domain. In terms of ICT support for learning in EFL classes, the findings

reveal that English teachers agree that ICT does not sufficiently support learning in EFL classes. Regarding the beliefs of English in-service teachers about the use of ICT in education today, the results suggest a general agreement among teachers. Results from the questionnaire indicate that English teachers believe ICT can improve learning and teaching goals in EFL classes. When it comes to teachers' readiness to implement e-learning, the findings show that English teachers are ready to implement e-learning.

The findings regarding English teachers' perspectives on ICT integration align with the theory suggesting the positive role of ICT in enhancing students' learning experiences. As indicated by Hashemi et al. (2022) and Simeon et al. (2022), ICT tools offer interactive and engaging learning opportunities, which resonate with the belief among English teachers in the positive impact of ICT on students' lives. However, despite this general agreement on the usefulness of ICT in the student life domain, the findings also highlight English teachers' concerns about the insufficient support provided by ICT for learning in English as a Foreign Language (EFL) classes. This discrepancy underscores the need to bridge the gap between theoretical ideals and practical implementation, echoing the sentiment expressed by Pardede (2020) regarding the importance of understanding students' perceptions and expectations regarding ICT integration. Nevertheless, the results indicate English teachers' readiness to embrace e-learning methods, suggesting a willingness to adapt teaching practices to leverage the potential benefits of ICT in language education.

c. Interview with students

The researchers conducted interviews with five Grade 11 students from IPA 4. Three students expressed their motivation to learn English as a desire to study abroad, while one student aims to communicate with friends, and another sees English proficiency as valuable for future job opportunities. When asked about online resources, all students found them effective and enjoyable. Regarding technology-based learning in class, the consensus was that it is fun, and one student mentioned it would be particularly beneficial for those seated at the back. While students have used e-learning occasionally for tests, manual attendance is still prevalent, though one student mentioned e-learning is used for attendance. Regarding collaboration with the University International Batam, three students expressed hope for innovative technology-based learning in English class, while two students hoped for motivation to encourage the students in their school to join UIB.

The Grade 11 student interviews from IPA 4 resonate with findings on ICT integration in education. Three students express motivation to learn English for studying abroad, aligning with Pardede (2020). One student highlights English proficiency's value for future job opportunities, echoing previous research. The consensus on the effectiveness of online resources reinforces ICT's engaging learning experiences, supported by Hashemi et al. (2022) and Simeon et al. (2022). Moreover, students' hope for innovative technology-based learning aligns with positive attitudes towards ICT integration, suggesting potential benefits for enhancing language learning experiences through technology.

d. Interview with teacher

Our interview with Miss D, the English teacher from the research target Public school in Batam City, revealed that she faces challenges in managing a large number of students, making it difficult to use e-learning for attendance. Despite this, she incorporates technology like Canva, Kahoot, Quizizz, and Quiz Puzzle in her teaching, reserving traditional methods for assignments. Miss D finds no issues creating teaching materials with technology but notes that some students lack the necessary devices, and attention can be a challenge due to students' affinity for games. While VR technology would boost motivation, budget constraints and time limitations make it impractical for her 50-minute classes. Miss D welcomes the idea of University International Batam contributing to ICT development and is open to implementing new technology-based learning methods in her class.

In conclusion, the comprehensive analysis of students' attitudes towards English language learning and ICT integration reveals a consistently positive trend, with the majority of students exhibiting pride in using English and expressing motivation to extend its usage beyond the classroom. However, there's a need to enhance ICT integration for improved collaborative learning experiences, as highlighted by mixed responses and reservations among students. From the teacher's perspective, while there's a general agreement on the positive role of ICT in student life, English teachers believe that current ICT support for learning in EFL classes is insufficient, although they are ready to implement e-learning. Interviews with Grade 11 students highlight varied motivations for learning English, with a consensus on the effectiveness and enjoyment of online resources and positive attitudes towards technology-based learning in class. Collaboration with University International Batam is anticipated to bring innovative technology-based learning methods to English classes,

fostering motivation among students. Despite facing challenges, Miss D, the English teacher, is open to collaborating with University International Batam to enhance ICT development and implement new technology-based learning methods in her class, recognizing the potential benefits despite logistical constraints.

Conclusion

This project aimed to identify challenges and propose solutions related to the integration of technology in the classroom at the target high school. Employing a mixed-methods approach involving online questionnaires and interviews with students and teachers, the team explored the current state of technology utilization. The collected data revealed a notable underutilization of the school-provided e-learning platforms by the English teacher, despite a general inclination towards incorporating technology in teaching practices. To address this, the team proposes a solution involving the strategic combination of the school's e-learning platform and the Quizwhizzer website. While recognizing the teacher's existing use of technology, the emphasis is placed on enhancing the effectiveness of the e-learning resources provided by the school through the incorporation of Quizwhizzer, aiming for a more comprehensive and engaging approach to technology integration in the English language classroom.

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