

STRATEGIES AND CHALLENGES OF ICT INTEGRATION IN ENGLISH LANGUAGE LEARNING AT SMP NEGERI 2 SRAGEN, CENTRAL JAVA

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ABSTRACT

The incorporation of Information and Communication Technology (ICT) is vital for raising the quality of English language education, especially in increasing student involvement and accessibility to learning resources. Nonetheless, its execution also poses certain educational and technical difficulties. This study aims to analyze students' opinions of ICT utilization in English learning, investigate instructors' instructional methodologies, and identify obstacles to its implementation at SMP Negeri 2 Sragen, Central Java. This research utilized a mixed-methods approach including a sequential explanatory design. Quantitative data were gathered from 131 ninth-grade students via a 19-item questionnaire, while qualitative data were acquired through semi-structured interviews with three English instructors. The quantitative data were examined by descriptive statistics, and the qualitative data were determined via theme analysis. The results demonstrate that students mainly possess favorable views toward ICT integration, evidenced by mean scores between 1.85 and 2.13 for ICT advantages and 1.70 to 2.42 for student expectations. Information and Communication Technology (ICT) was determined to improve students' motivation, vocabulary development, and understanding, especially in listening and reading abilities. Educators employed several ICT resources, including Google Forms, Quizizz, PowerPoint, projectors, and AI-driven applications, to facilitate student-centered learning. Nonetheless, other concerns were recognized, such as inadequate infrastructure, unreliable internet connectivity, disparities in students' digital competence, classroom management difficulties, and students' overdependence on technology. In summary, the incorporation of ICT enhances student engagement and language acquisition; yet, its efficacy is contingent upon pedagogical design, students' digital proficiency, and institutional backing. Consequently, a more deliberate and equitable use of ICT is necessary to maximize its advantages in English language acquisition.

Keywords: *ICT; English language learning; Teacher strategies; Student perception; Challenges; Mixed method*

INTRODUCTION

Education and the study of English as a foreign language (EFL) have been significantly impacted by the rapid growth of information and communication technology (ICT) (Amir & Rustam, 2025; Dinh & Nguyen, 2025; Madhavi et al., 2023; Saranya & Saranya, 2017; Shahi, 2025; Shao et al., 2025; Yanovets et al., 2025). The integration of ICT in language classroom has been widely recognized as an effective approach to enhance learning motivation, provide access to authentic materials and promote learner autonomy (Ahmed Suliman et al., 2025; Eljazouli & Azmi, 2024; Garrote, 2025; Nuraeni et al., 2025). In addition, ICT enables teachers to deliver more interactive and flexible learning experiences through digital media, making the learning process more engaging than traditional approaches (Imam Zaky, 2025), this statement is

supported by (Rintaningrum, 2023) idea that the application of technology, such as educational applications and YouTube, can increase students' interest and participation in the English learning process, even though its implementation faces many obstacles and limitations in terms of digital capabilities, teacher preparation, and school facilities.

Previous studies have demonstrated that ICT plays a significant role in improving the English language learning outcome. For example (Al Arif et al., 2023) found that students tend to have a positive perception of the use of information and communication technology (ICT) due to its ability to provide diverse learning resources and support independent learning. Similarly, other studies report that ICT facilitates the delivery of authentic materials and increases student participation, particularly through the use of

digital platforms and multimedia tools(Sari & Abrar, 2024). These findings highlight the potential of ICT to enhance students' engagement and learning experiences in English classrooms.

Despite these benefits, the implementation of ICT in English language learning is still accompanied by various challenges. Several studies have identified issues such as limited technological infrastructure, unstable internet access and insufficient teacher training as major barriers(Bharti et al., 2024; Sari & Abrar, 2024). In addition, differences in students' digital literacy and difficulties in classroom management when using technology may affect the effectiveness of ICT depends not only on technological availability but also on pedagogical readiness and contextual factors in the learning environment.

Although ICT integration has been widely explored, most previous research focuses on higher education contexts and tends to examine either students' perception or teacher practice separately. Empirical studies that simultaneously investigate student perceptions, teacher strategies, and implementation challenges at the junior high school level remain limited, particularly in developing country contexts where technological access and digital literacy vary significantly. Moreover, there is a lack of context-specific research that captures how ICT is implemented in real classroom settings, especially in Indonesian secondary schools. Therefore, a more comprehensive investigation is needed to understand how ICT is used, perceived, and managed in a specific educational context.

This study aimed to address these gaps by examining the use of ICT in English language learning at SMP Negeri 2 Sragen. Specifically, this study investigates student perceptions of ICT use, explores the strategies employed by teachers, and identifies the challenges encountered in ICT-based learning. The novelty of this study lies not only in its focus on junior high school context, but also in its integrative approach that simultaneously examines students' perceptions, teachers' strategies and implementation challenges, providing a more comprehensive and practice-oriented understanding of ICT integration in real-life classroom settings. By employing a mixed-method design, this study is expected to offer a more contextualized and in-depth understanding of ICT integration in English

language learning.

METHOD

This research utilized a mixed-methods approach including a Sequential Explanatory design. This design involved the collecting and analysis of quantitative data in the initial stage, succeeded by qualitative data collection to elucidate and enhance the understanding of the quantitative results. This design was chosen to achieve a thorough comprehension of the application of ICT in English language acquisition. During the quantitative phase, a questionnaire including 19 items was distributed to 131 students to assess their attitudes regarding the utilization of ICT in English language acquisition.

After processing and interpreting the questionnaire answers, the subsequent stage is to conduct interviews with three English educators. This stage aims to elucidate and enhance the quantitative data, specifically about the employed learning methodologies and the diverse challenges encountered throughout ICT deployment. This research design was selected to obtain a comprehensive knowledge of the implementation of ICT in English learning activities at SMP Negeri 2 Sragen through a synthesis of quantitative data analysis and qualitative interpretation.

The study was conducted at SMP Negeri 2 Sragen, the participants consisted of students and teachers. The questionnaire respondents were 131 ninth-grade students in classes A, B, C, D, E at SMP Negeri 2 Sragen. All students were actively involved in ICT-based English learning activities at school. The students were selected using purposive sampling, as this technique allows researchers to select participants based on specific criteria relevant to the research objectives. In this study, the main criterion was students' prior experience in using ICT in English learning, ensuring that the data collected accurately reflected their perception of ICT integration.

In addition, three English teachers were selected as participants, namely Mrs. Rita, Mrs. Partini, and Mr. Saiman. They were chosen based on clear criteria, including their experience in integrating ICT into classroom instruction, participation in professional development or training related to educational technology, and more than 15 years of teaching experience. These criteria ensured that the teachers had sufficient knowledge and practical experience to provide in depth information regarding ICT implementation.

Table 1. Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	9 D	1	.8	.8	.8
	9A	29	22.1	22.1	22.9
	9B	26	19.8	19.8	42.7

9C	26	19.8	19.8	62.6
9D	28	21.4	21.4	84.0
9E	21	16.0	16.0	100.0
Total	131	100.0	100.0	

Data was collected into two stages. In the quantitative stage, a questionnaire was administered to 131 students to examine their perceptions of ICT use in English language learning. The questionnaire was developed based on previous studies on ICT integration in language learning and adapted to the context of junior high school students. Several indicators were constructed, including ease of ICT use, learning motivation, its impact on language skills, and student perception of its effectiveness. The instrument employed a four-point Likert scale (strongly disagree, disagree, agree, and strongly agree).

The validity of the questionnaire was evaluated through expert judgement to ensure content relevance and clarity. Meanwhile, the reliability of the instrument was tested using Cronbach's alpha, which showed good internal consistency ($\alpha = 0.872$). In the qualitative stage, the researcher conducted semi-structured interviews with three English teachers, namely Mrs. Partini, Mrs. Rita, and Mr. Saiman. The interview guide was developed based on the research objectives and supported by relevant literature on ICT in language learning. the interviews focused on exploring the types of ICT tools used, teaching strategies, challenges encountered, and efforts made to overcome these challenges.

Data analysis in this study used techniques that were appropriate for the type of data collection, namely covering qualitative data from interview

results and quantitative data from questionnaire results. First Quantitative Analysis (Student Questionnaire), Analysis for quantitative data used descriptive statistics, tested through SPSS. The testing analysis procedure was as follows: reliability and validity testing to ensure the suitability of the questionnaire, calculating the average value for each perception indicator, and determining the analysis result categories, namely negative, positive, fairly positive, or very positive, according to the average value obtained. Second Qualitative Analysis (Teacher Interviews) Qualitative data analysis was conducted using the Miles & Huberman (2014) concept, which covers three core stages, namely Data Reduction, the process of sorting, grouping, and summarizing interview data according to the focus of the analysis, data Presentation to forming interview findings in a structured narrative format and drawing Conclusions to analyze data to identify obstacles and patterns in ICT implementation strategies. Third data Integration (Mixed Methods), the results of qualitative and quantitative analyses are then combined to interpret the data comprehensively. This integration focuses on clarifying quantitative data using qualitative results to obtain in-depth insights into the challenges and strategies encountered in ICT implementation when learning English.

FINDINGS AND DISCUSSION

Descriptive Statistics of Students' Perceptions on ICT Benefits

Table 1. Students' Perceptions on ICT Benefits

	N	Mean	Std. Deviation
1. The use of ICT helps me learn English effectively	131	1.85	.547
2. The use of ICT facilitates my understanding of English learning materials	131	1.94	.492
3. The use of ICT helps me improve my listening skills.	131	1.94	.592
4. The use of ICT helps me improve my reading skills	131	1.94	.565
5. The use of ICT helps me improve my speaking skills	131	2.00	.511
6. The use of ICT helps me improve my writing skills	131	2.13	.706
7. The use of ICT helps me acquire grammar skills	131	2.03	.554
8. The use of ICT helps me improve my vocabulary	131	1.90	.539
9. The use of ICT helps me improve my pronunciation	131	1.97	.568
Valid N (listwise)	131		

Based on the above table, 131 respondents (Valid N = 131) answered every question. Each indicator's mean value fell between 1.85 and 2.13. This range suggests that respondents generally had favorable opinions on the application of information and communication of information and communication technology (ICT) to the study of

English.

The statement "ICT helps me learn English effectively" received the lowest mean score, which had a mean of 1.85, with a standard deviation of 0.547. This finding shows that most respondents believe the use of ICT significantly helps improve vocabulary (mean =1.90), understanding of

material (mean =1.94), listening skills (mean =1.94), and reading skills (mean =1.94). The relatively small standard deviation values of these indicators indicate that respondents' perceptions are quite similar.

Writing abilities, on the other hand, had the highest mean score (2.13 with a standard deviation of 0.706). This result shows that the respondent's level of agreement with the contribution of ICT to writing is comparatively lower than other elements, even though it is still in the positive category. A greater range of opinion is also reflected in the higher standard deviation. Grammar proficiency showed a similar trend, with a mean score of 2.03. Respondents still tended to provide positive

evaluations for speaking (mean = 2.00) and pronunciation (mean = 1.97). These findings, however, emphasize that in order to attain more, they might need to be combined with other learning techniques, including practicing direct communication.

All things considered, these results demonstrate that ICT integration improves a number of aspects of English language competency. However, a more thorough pedagogical approach is still required to increase its efficacy in several productive abilities, especially writing and grammar.

Students' Expectations toward ICT Use in English Learning

Table 2. Students' Expectations toward ICT Use in English Learning

	N	Mean	Std. Deviation
10. I hope that the use of ICT will enable me to learn English more effectively	131	1.82	.552
11. I hope that ICT will be used more often in the learning process to help me improve my English language skills	131	1.97	.540
12. I hope that teachers will use ICT in English language learning	130	1.97	.658
13. I hope that teachers deliver authentic and up-to-date material through ICT in English language learning	131	1.91	.588
14. I hope that lecturers explain how to find and use online English learning resources	131	1.95	.606
15. I hope that ICT is used more often in the learning process so that English language learning is more enjoyable	131	1.89	.659
16. I hope that teachers will provide learning materials that can be accessed/used outside of class	130	1.76	.607
17. I want to continue communicating and discussing learning materials with teachers through ICT after class ends	130	2.42	.879
18. I hope to join an online English learning forum to improve my English skills	131	2.01	.662
19. I want the school to provide ICT facilities that can be used for the learning process.	131	1.70	.604
Valid N (listwise)	128		

Based on the descriptive statistics table in the items 10 to 19, a total of 128 valid data points (listwise) were obtained from a total of 130 to 131 respondents. The obtained mean values varied between 1.70 and 2.42. This range generally suggests that the expectation that using ICT would allow for improved effectiveness was the statement with the highest expectations (mean = 1.82). Both the expectations that could be accessible outside of the classroom (mean = 1.76) and the need for schools to provide ICT facilities to help the learning process (mean = 1.70) received low ratings. These results highlight the critical need for institutional support and increased accessibility to technology-assisted learning.

Next, respondents expressed the expectation that ICT should be used more often in learning activities to improve language learning skills (mean = 1.97) and to make the learning process more enjoyable (mean 1.89). There is hope that teachers will use ICT to deliver authentic and up-to- date material and receive positive evaluations (mean = 1.91. In addition, the need for guidance for finding and using online learning resources is shown by the mean value of 1.95.

Even though most indicators show a strong tendency towards agreement, the statement

about wanting to continue communicating and discussing with teachers using ICT after class end has the biggest mean score of 2.42, with a standard deviation of 0.879. This number shows that the respondents' agreement level is relatively lower, and their answers vary more compared to the other items. In other words, not every student is ready to be interested in continuing academic interaction outside of formal study time using technology.

Participation in online English learning forums is still considered positive, even though the approval rating is relatively low (average = 2.01). This shows that digital community-based learning still needs encouragement, guidance, or more interesting activity designs to increase student engagement. Overall, the data shows that respondents have high expectations for the integration of ICT, especially in terms of providing the quality and appeal of learning. However, for activities that require continued involvement after school hours, ongoing support and management of interactions still seem necessary to ensure that technology is used to its fullest potential.

Qualitative Research Result

The findings of ICT in English language learning contain interwoven techniques and

problems, according to the qualitative findings from the interviews with three English instructors at SMP Negeri 2 Sragen. These elements are inextricably linked since instructors' strategies have a direct impact on how problems arise and are resolved in the classroom. Teachers frequently employ a variety of ICT resources, including projectors, PowerPoint presentations, smartphones, LCD screens, interactive tests (Quizizz), Google Forms, artificial intelligence-based tools, and language learning programs. According to Ibu Rita's interview, she frequently uses Google Forms, PowerPoint, AI, and a projector to assist in the delivery and evaluation of material. "Various things, but I usually use a projector, AI, PowerPoint, and Google Forms." (Mrs.Rita)

Based on an interview with Mrs.Rita, these resources aid in making difficult explanations easier to understand and grab students' attention when they are engaged in educational activities.

"The advantage is that technology simplifies and accelerates learning. Furthermore, technology can stimulate students' interest in learning, for example through TikTok, educational games, and apps like Duolingo. Duolingo can train students' speed and intelligence in thinking. Furthermore, Google Translate also helps student understand languages." (Mrs.Rita).

In a similar way, Mrs.Sri stressed the use of headsets for listening exercises and interactive websites like Quizizz to boost student participation, while Bapak Saiman discusses the usage of cell phones, teaching aids, and LCD to enhance classroom education. "I use cell phones, headsets during listening lessons, interactive quizzes such as Quizizz, and LCDs. There are many advantages, especially in communication and accelerating learning, because searching for information through AI has become easier. Students are also more flexible because they don't always have to use a dictionary." (Mrs.Sri). "I use mobile phones, teaching aids, and LCDs. The advantage is that students become more interested and focused in learning. The disadvantage is that teachers need more time to prepare learning equipment." (Mr.Saiman). By combining ICT with pedagogical techniques, educators employ flexible and adaptable instructional tactics. Mrs Rita emphasized the use of digital media-supported problem-based learning (PBL), in which students are urged to evaluate issues that are provided through online resources of film. "The methods I use are learning-based, such as Problem

Based Learning (PBL) and other methods tailored to the students' conditions." (Mrs.Rita) Students can actively participate in debates and hone their critical thinking abilities with this method. In the meantime, Mr Saiman uses an ICT supported hybrid teaching approach that combines explanations and Q&A session to keep students' attention. "I use mobile phones, teaching aids, and LCDs." (Mr.Saiman). "I use a mix of methods depending on the material, such as lectures and Q&A sessions." (Mr.Saiman). "The advantage is that students become more interested and focused in their learning." (Mr.Saiman). Additionally, Mrs. Sri stressed that multimedia listening exercises and interactive tests contribute to a more pleasurable learning environment and boost students' motivation. "I use cell phones, headsets for listening lessons, interactive quizzes such as Quizizz, and LCDs." "There are many advantages, especially in communication and speeding up learning, because searching for information through AI has become easier. Students are also more flexible because they don't always have to use a dictionary."

However, alongside these strategies, teachers face significant challenges in ICT implementation. Students' over-reliance on technology is one of the main issues. According to Mrs Rita, students frequently rely too much on programs like Google Translate without making any terminology or sentence structure. This syndrome impairs deeper language comprehension and diminishes kids' capacity for critical thought. Classroom discipline presents another difficulty. "The disadvantage is that students can become too dependent on the application. If not guided, students do not think critically. For example, when using Google Translate, students tend to immediately copy the translation without understanding the meaning of the words and context in the text."

According to Mrs Sri, student who use smartphones during class occasionally play games or access non-academic content, which interferes with learning and necessitates on going supervision. "The negative impact is that students become less disciplined because they often play games. This makes teachers uncomfortable when teaching. In addition, there are social impacts such as promiscuity and bullying through social media. ". Technical preparation and time management sometimes show up as difficulties. ICT-based learning necessitates additional preparation time, according to Bapak Saiman, especially when it comes to device setup and equipment

maintenance. Teachers also pointed out that not every student has the same level of digital literacy, which requires them to set aside more time to help pupils use technology efficiently. "The disadvantage is that teachers need more time to prepare learning equipment". Overall, the qualitative results show that SMP Negeri 2 Sragen instructors have worked hard to include ICT into English language instruction using a variety of techniques. However, the effectiveness of these tactics greatly depends on teachers' capacity to handle technological difficulties, direct students' responsible ICT use, and strike a balance between technology and good teaching methods.

DISCUSSION

These study findings enhance comprehension of ICT integration in English language learning by linking students' perceptions, teachers' tactics, and implementation obstacles within an actual classroom setting. The results emphasize the instructional and contextual roles of ICT, rather than just corroborating prior studies. The findings indicate that ICT favorably influences students' motivation, engagement, and comprehension, especially in receptive abilities like listening and reading. This corroborates prior research demonstrating that ICT improves student involvement via interactive and multimedia resources (Akbar & Sadami, 2024; Han et al., 2024; Mahir, 2025). Nonetheless, a thorough examination indicates that the influence of ICT is not uniformly allocated among language competencies. The comparatively diminished efficacy in writing and grammar indicates that ICT utilization in this context remains predominantly input-focused. This suggests that although ICT enhances language exposure, it does not inherently foster productive abilities without the backing of suitable instructional design. According to Communicative Language Teaching, successful language acquisition necessitates both significant input and active language output. Consequently, ICT in this situation serves primarily as a means of understanding rather than as a facilitator of complete communicative ability.

Secondly, in response to the study question on instructors' tactics, the data indicate that educators actively incorporate ICT into student-centered learning methodologies, including problem-based learning and interactive activities. This aligns with prior research highlighting the significance of pedagogical alignment in ICT

integration (Alvina Damayanti et al., 2025; Masduqi et al., 2023). This study further demonstrates that teacher agency is essential in influencing the efficacy of ICT utilization. Educators are not merely consumers of technology; they are also decision-makers who tailor digital tools to meet classroom requirements. This indicates that the efficacy of ICT integration relies not solely on technological availability, but on the deliberate implementation by educators to enhance learning objectives.

Third, regarding obstacles, our study indicates that ICT-related issues extend beyond technical limitations such as infrastructure and internet connectivity, which have been well documented in prior research (Ekowijayanto et al., 2024; Mokgadi & Moloi, 2025). This study emphasizes pedagogical and behavioral obstacles, notably pupils' overdependence on technology and issues in classroom management. Students often rely on programs like Google Translate without comprehending the meaning or context, potentially diminishing critical thinking and in-depth language processing. This discovery corresponds with the apprehensions expressed by (Alakrash & Razak, 2021), who contend that technology may obstruct learning in the absence of adequate direction and digital literacy.

Moreover, disparities in pupils' digital literacy levels influence the efficacy of ICT integration. This study demonstrates that while ICT is frequently linked to fostering independent learning, such autonomy is unattainable without adequate digital competence. This corroborates with studies suggesting that digital literacy is essential in influencing learning outcomes in technology-enhanced settings (Fayda-Kinik & Cetin, 2025). Insufficient digital abilities may result in disparate learning experiences among students in ICT. Another significant discovery pertains to the function of institutional support. Although educators exhibit adaptive tactics to surmount restrictions by utilizing available resources and adaptable pedagogical approaches, the sustained integration of ICT necessitates systematic assistance. Prior research in Indonesian contexts underscores the significance of infrastructure, training, and institutional preparedness (Hesti Putri et al., 2025; Nurkhamidah, 2020). Consequently, the introduction of ICT should not depend exclusively on individual teacher initiatives, but must be underpinned by a

comprehensive educational policy.

These findings hold significant implications for teaching and educational policy. From an educational standpoint, educators must provide ICT-based activities that not only convey material but also encourage active language production, especially in writing and speaking. This involves instructing pupils to utilize technology judiciously, rather than depending on immediate translation tools. Moreover, incorporating digital literacy into language education is crucial to guarantee that students can utilize information and communication technology (ICT) efficiently and responsibly. From a policy standpoint, educational institutions and stakeholders must ensure sufficient infrastructure, equitable access to digital resources, and ongoing professional development for educators. In the absence of such support, ICT integration may persist as inconsistent and less efficacious. Consequently, a more systematic and sustained strategy is essential to optimize the potential of ICT in English language acquisition. Consequently, ICT integration must be regarded not solely as technology adoption, but as a pedagogical process necessitating meticulous planning, equitable implementation, and ongoing support to effectively augment students' communicative skills.

CONCLUSION

This study reveals that the integration of ICT in English language learning at SMP Negeri 2 Sragen holds significant potential to enhance student engagement and facilitate language development, particularly in receptive skills. Nevertheless, its effectiveness is not solely dependent on the availability of technological resources, but rather on the quality of pedagogical implementation, students' level of digital competence, and the extent of institutional support. The primary contribution of this study lies in its comprehensive analysis that integrates students' perceptions, teachers' instructional strategies, and implementation challenges within the context of a junior high school. The findings underscore that ICT integration constitutes a complex and context-sensitive process, in which teacher agency and instructional design serve as critical determinants of learning outcomes. From a practical perspective, teachers are encouraged to develop ICT-based instructional activities that foster active language production and promote the critical use of technology, rather than

utilizing ICT merely as a medium for content delivery. At the institutional level, schools are expected to ensure the provision of adequate infrastructure, equitable access to digital resources, and sustained professional development to support effective ICT integration.

For future research, it is recommended to investigate ICT implementation across diverse educational levels and contexts, as well as to examine its long-term effects on students' productive language skills and the development of digital literacy. Additionally, further studies are suggested to involve larger and more diverse samples in order to improve the generalizability of the findings. Overall, this study emphasizes the importance of conceptualizing ICT not simply as a supplementary tool, but as a transformative component in English language education that necessitates deliberate pedagogical integration and continuous institutional support.

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