Identification of Hardware and Software Used by The Teacher in The English Classroom at Private Junior High School in North Bali

Kadek Ade Prihatma Wijaya, Universitas Pendidikan Ganesha, Indonesia

Author Corresponding: *28adewijaya@gmail.com*

Abstract

The rapid integration of Information and Communication Technology (ICT) in education has transformed English language teaching, but its application in resource-limited settings such as private junior high schools in Buleleng, North Bali, remains underexplored. This qualitative descriptive study identified the types of hardware and software used by English language teachers in six private junior high schools and examined their roles in preparation, implementation, and evaluation. Data were collected through questionnaires and classroom observations, following Miles and Huberman's qualitative analysis framework. The study findings revealed that teachers utilize hardware, including laptops, smartphones, LCD projectors, internet connections, and audio amplifiers, as well as software, such as Microsoft PowerPoint, Microsoft Word, Online Dictionary, Canva, YouTube, Quizizz, and Kahoot, to enhance lesson delivery and student engagement. These devices support interactive learning, particularly in vocabulary and speaking skills, but their use varies, with some teachers not fully utilizing the software for assessment. Challenges such as unreliable Wi-Fi and limited teacher training hinder effective ICT integration. This study highlights the potential of ICT to create dynamic English classrooms while highlighting the need for infrastructure improvements and professional development. The findings offer practical insights for educators and policymakers to optimize the use of ICT in similar educational contexts.

Keywords: Procedures ICT; Hardware; Software; Teaching English;

1. Introduction

In the contemporary world, Information and Communication Technology (ICT) plays an essential role in numerous areas, ranging from everyday communication to large-scale industrial activities. ICT encompasses a variety of technologies that enable individuals and organizations to

efficiently manage, process, and share information through platforms like computing, the internet, telecommunications, and software applications (Dionis et al., 2022). Over the years, the widespread adoption of ICT has fundamentally altered industries, communities, and economies, introducing novel ways of interaction and collaboration (Kalluri, 2021). In education, the use of ICT has revolutionized conventional learning methods by providing interactive, flexible, and tailored educational experiences. It allows educators to apply digital tools and online platforms, enriching teaching strategies, while also offering students broader access to information, which fosters more engaging and personalized learning environments (Gupta, 2020). Technology can be utilized to optimize and streamline foreign language acquisition in instructional techniques. Computers, the internet, smart boards, mobile phones, video games, music players, and other similar devices are utilized in the process of learning a target language to enhance students' motivation and understanding of the language (Altun, 2015).

However, there are two types of ICT tools, namely non-web based and web-based learning. The first one is non-web learning that consisting of radio and television, films, language web, overhead project. The second one is filled from YouTube, e-mail, Blog, Skype, mobile phone, iPods (Alkamel et al., 2018). In line with that, there are media that can provide direct learning experiences to students which can influence student activity. As stated by (Barger et al., 2019) experiential learning process typically relies on an instructor guiding the learner in reflection and self-assessment, and aiding in connecting the tangible to the conceptual and vice versa. On the other hand, existing technological developments such as AI can be very helpful in student learning. Tools using artificial intelligence (AI) are part of the new and growing areas in educational technology, and many writers believe these tools could bring huge benefits between students and teachers (Pokrivcakova, 2019). AI-powered education (AIEd) gives learning experiences that is more personal, flexible, inclusive, and interesting. The use of AI applications has changed how Indonesian is taught in universities all over the country (Hasibuan et al., 2023). According to research, incorporating AI tools like chatbots, speech recognition, and automated assessments has really improved language learning. It gives students personalized experiences and makes speaking skills better. The Independent Learning Curriculum allows students to customize their learning and be active in the process. The evaluation and feedback systems encourage continuous improvement and student-focused learning. Basically, the role of a teacher in the classroom is none other than to provide, explain and guide students so that they can follow the existing learning according to teaching materials in the form of books. However, in current developments, a teacher is required to be more creative by adapting learning to current developments which are in line with the rapid development of existing technology, where in the latest curriculum, students are encouraged to take a more proactive role in their learning activities.

There's a lot of people talk about how Information and Communication Technology (ICT) can replace English as a Foreign Language (EFL) teaching, and my introduction touches on how tools like computers, smart boards, and even AI can make learning more exciting and effective (Dionis et al., 2022; Gupta, 2020; Altun, 2015; Pokrivcakova., 2019). But when you dig into the research, there are less talk about how this all plays out in a place like Singaraja, especially in private junior high schools. That's where I see a real gap we need to explore.

For starters, we don't know enough about how local factors like spotty internet, teachers' comfort with tech, or even what parents think about using gadgets in class affect how well ICT works in Singaraja's EFL classrooms. My introduction mentions both old-school tools, like overhead projectors, and newer ones, like YouTube or Skype (Alkamel et al., 2018)but most studies just talk about the flashy web-based stuff without looking at whether simpler tools might work better in schools with limited resources. And while AI sounds super promising for tailoring lessons to each student (Hasibuan et al., 2023), I haven't found much research on how it's actually being used in junior high EFL classes, especially in a smaller town like Singaraja.

Plus, studies like Meriyanti & Jasmina (2022), Satyarini (2023), Jayanthi et al. (2016), and Debora Floris (2014) point out that ICT makes it easier for students to access learning materials,

which is great. But they mostly focus on short-term wins, like kids being more engaged or having more resources at their fingertips. What about the long haul? Does using ICT really help students get better at English over time, especially in a place where tech might not be everywhere? And while my introduction stresses that teachers need to get creative with tech, we don't have a clear picture of how teachers in Singaraja are handling these challenges things like not enough training or maybe even feeling unsure about diving into tech.

This study wants to fill those holes by looking closely at how ICT is used in EFL teaching at private junior high schools in Singaraja. I'm curious about what works, what doesn't, and how we can make it better, considering the unique challenges and opportunities in this community.

2. Method

As a preliminary study, the present study was conducted as library research that utilized previous studies related to the topic under investigation (Gorge, 2008). The following diagram describes how George's Diagram of the Library Research Process is adopted into the present study.
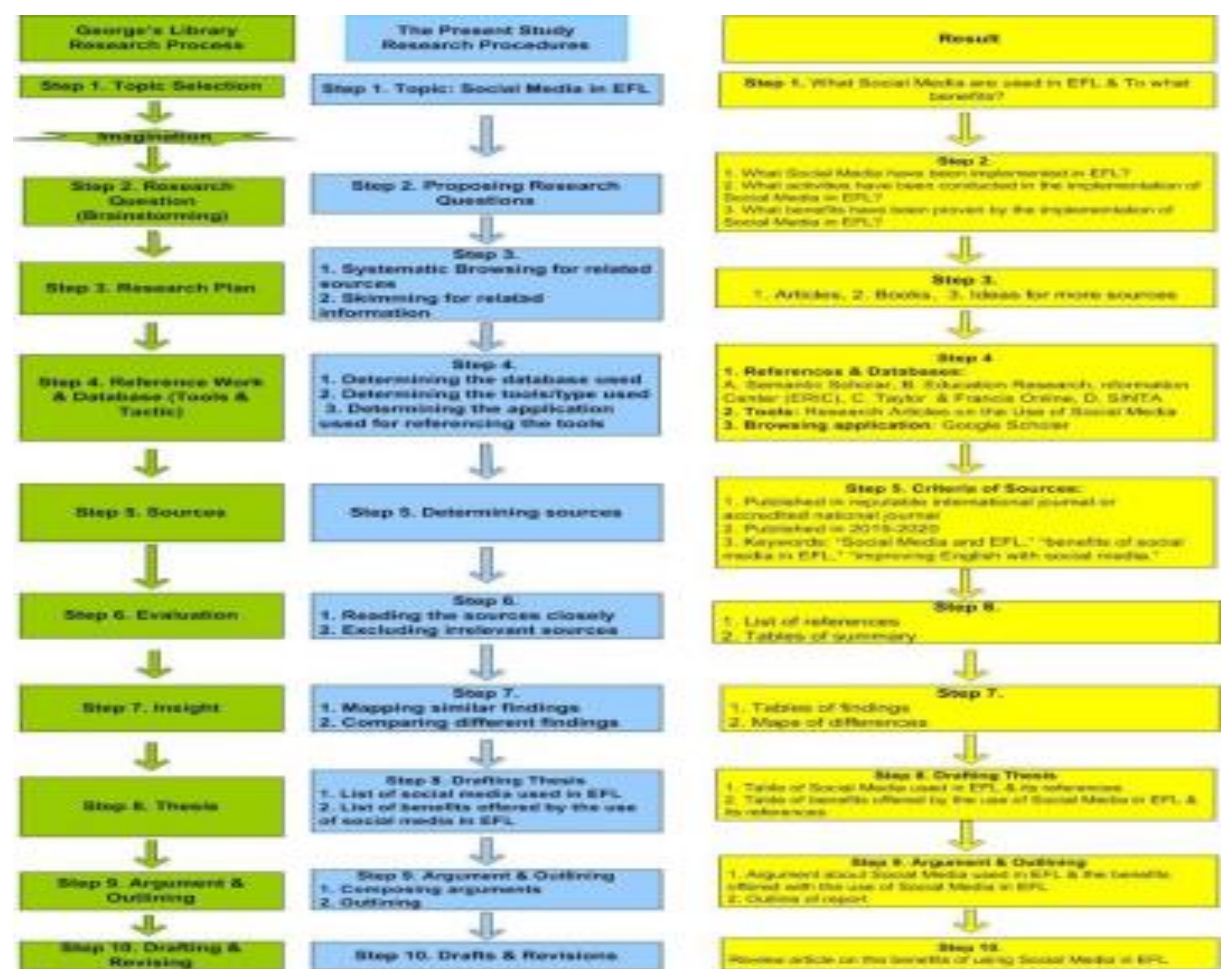

Figure 1: Adapting George's (2008) model of Library Research Procedure

From figure 1 above, it illustrated the first step in this study identified the topic to be researched. In this step, the researcher identified several benefit of ICT in English foreign language. The second step was proposing the research questions, namely what is the challenge that faced by the teacher in teaching English foreign language by ICT, and what solution that can I give to the teachers to

improving learning activities. The third step was determining the research plan, including browsing and skimming for information related to the research questions by reading books, articles, websites. In the fourth step, three decisions were made. Firstly, the databases used for selecting the data sources were determined, namely Semantic Scholar, Education Research Information Center (ERIC), Google Scholar, Taylor & Francis Online (TANDFONLINE), and Science and Technology Index (SINTA). Secondly, the references used as data sources were determined, namely articles supported with relevant websites and applications for observing the ICT implemented in the previous studies. Thirdly, Google Scholar was decided as the application used for retrieving the articles. Due to the research's independent funding, the present study only used articles that are open source. The fifth step determined the criteria of the articles used as sources in this study: the articles were published in reputable international journals indexed by Scopus and national journal accredited by Science and Technology Index (SINTA), index SINTA 1, SINTA 2, and SINTA 3 and they were published between 2015 to 2020. The keywords used for retrieving the articles were "ICT in English foreign language," "ICT in learning English language," "benefit of ICT in English classroom." With these keywords, around forty-two articles were retrieved. They were closely read in the sixth steps, from which it was determined that most of the articles retrieved implemented ICT in teaching English foreign language. It was decided that the present study would be limited on the use of these three effect of using ICT in English learning, followed by the exclusion of articles irrelevant to the benefit, challenge and solution of ICT used. Another search was conducted to retrieve more articles related to the use of ICT in English learning using the keywords "ICT in English foreign language," "ICT in English classroom," "benefit of using ICT". These cyclic processes resulted in thirty-two articles used as sources in this present study: twenty-five were published in reputable international journals. Seven of them were published in accredited national journals.

In the seventh step, the twenty articles were then critically read to gain insights. The articles arguing for the benefit of ICT, the challenge of ICT used, and the solution that showed from each article to overcome the challenge. From these insights, theses for answering the research questions were proposed in step eight. In the next step, the thesis is then elaborated into arguments about what advantages are gained in using ICT in English language learning, what challenges arise in implementing ICT in English language learning, and what solutions are offered by the implementation. The framework is then developed into a draft research report in this article, which is then revised according to further reading of the article and suggestions from colleagues and reviewers.

3. Findings

The research when a general search on the use of ICT in EFL context was conducted using the general keyword "ICT in EFL context". The search results confirmed the data from Google Scholar on ICT in English language learning in several countries. It was then decided that this research would focus on several articles that explained the benefits that ICT can provide in English language learning in the classroom. The reading of the twenty articles summarized the mapping of the study's benefit of ICT as follows.

Figure. 1 The benefit of ICT used in Teaching English foreign language in the classroom by the teacher
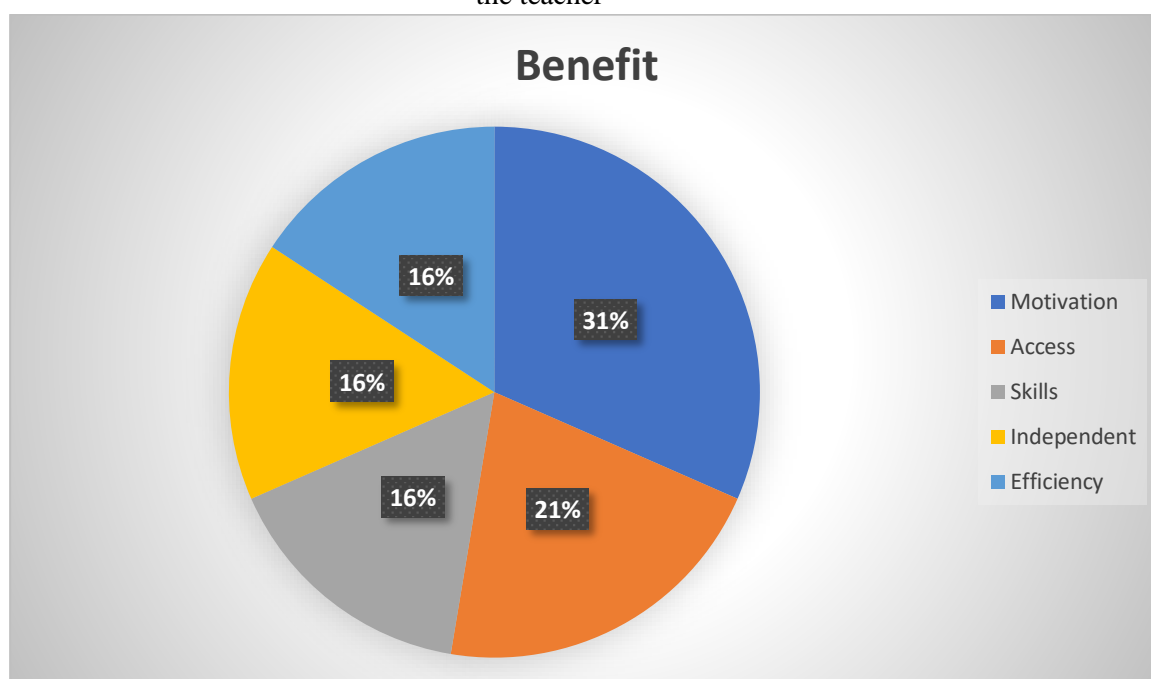
4. Discussions

From Figure 1 above, it can be observed that out of the twenty studies selected as the source of data for the present study, three of them reported that ICT give benefit in increasing student engagement and motivation on the implementation of ICT in EFL contexts, followed by improved access to learning resources with four studies, enhanced language skills were found in three studies. Support for Student Centered Learning also were found in three studies. For the last, three studies stated that ICT brings benefit in Increased Teacher Efficiency in the EFL context. It should be noted that by any means, this diagram represents the actual numbers and percentage of researches that explained in used of ICT brings several benefit in teaching English.

However, it was revealed that ICT can provide benefits in Increasing Student Engagement and Motivation as a modern learning media, as shown by the fact that out of twenty existing studies, eight of them stated the truth of the benefits of ICT. (Artini et al., 2020; Meldia & Zakir, 2022; Akintunde et al., 2015; Dedja, 2015; Azmi, 2017;Musallam & Jaboob, 2021; Satyawan et al., 2021; Febriandikayasa et al., 2017). Eight of the study show the benefit of ICT based on the diagram above such as Improving access to learning resources in twenty article that used (Meriyanti & Jasmina, 2022; Satyarini, 2023; Jayanthi et al., 2016; Debora, 2014; Dedja, 2015; Azmi, 2017; Divayana et al., 2016; Sutama et al., 2022). Beside that there are six article explain about the benefit of ICT in English foreign language such as ICT can improve four skills in English by the students which is speaking, reading, writing and listening. (Meriyanti & Jasmina, 2022; Çakici, 2016; Dwiono et al., 2018; Dedja, 2015; Musallam & Jaboob, 2021). Five studies indentify benefit of supporting the students center learning which is it claimed could bring a better education by using ICT. Several research has stated that ICT allowing students to take responsibility for their own learning process, it supports independent learning and provides flexibility in managing the pace and content of study. (Debora, 2014; Rahimi & Yadollahi, 2011; Aminullah et al., 2019; Divayana et al., 2016; Elviani & Sudatha, 2023). Three of them reported the benefit of ICT that helpful for teacher such as ICT tools streamline lesson planning, content delivery, and student assessment. The

use of authentic materials, interactive assessments, and digital lesson plans makes teaching more efficient and effective. (Hafifah, 2020; Mullamaa, 2010; Ntongieh, 2016)

5. Conclusion and Suggestion

In conclusion, the integration of Information and Communication Technology (ICT) in teaching English at private junior high schools in Singaraja has proven to offer significant benefits, such as increasing student engagement, improving access to learning resources, and enhancing language skills. The application of ICT tools provides students with modern learning experiences that are interactive and engaging, supporting a student-centered learning approach. However, despite the benefits, several challenges persist. The most prominent of these include insufficient infrastructure, lack of teacher training in ICT, poor internet connectivity, and limited access to personal devices for students.

To address these challenges, it is essential to focus on key solutions. Teacher training and professional development are seen as the most critical measures, enabling educators to effectively utilize ICT tools. Improving ICT infrastructure, including better hardware and internet connectivity, is also crucial for overcoming the barriers to ICT integration. Additionally, institutional support in terms of policy, funding, and resources is necessary to ensure sustainable and effective ICT use in education. Lastly, while encouraging student-centered learning is important, it is viewed as a secondary priority compared to addressing the technical and training challenges.

The ongoing development and support for ICT integration in English teaching are pivotal for improving educational outcomes and equipping students with the necessary skills to thrive in a digital world. The findings emphasize the need for a comprehensive approach that includes both technological upgrades and pedagogical training to maximize the potential of ICT in education.

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