

Technological Tools Used in the EFL Teaching in Indonesia

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ABSTRACT

Nowadays, technology has developed tremendously, and various technological tools have been applied in education, more particularly in English as a foreign language (EFL) teaching. However, there has been no comprehensive report on the types of technological tools that have been used so far and how beneficial they have been. This article aims to review the development and application of technological tools by connecting them to the development of the stages of the World Wide Web, starting from Web 1.0 to Web 4.0 entailing Artificial Intelligence, and the outbreak of the Covid-19. The exploration of the varieties of the technological tools used in the EFL teaching will give insights to EFL teachers on the varieties of technological tools and their benefits for EFL teaching, especially in Indonesia. Reflecting upon the results of the exploration, it is suggested that EFL teachers consider any of the technological tools in their classrooms either for practical purposes or research.

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1. INTRODUCTION

The methodical development of language teaching began with the application Grammar Translation Method in the 19th century, followed by a series of methods such as the Direct Method at the end of the 19th century, the Audiolingual Method at the beginning to the mid of the 20th century, the Four Methods (Community Language Learning, Suggestopedia, Total Physical Response, and the Silent Way), and more recently the Communicative Language Teaching (Harmer, 2007). Regardless of the language teaching methodology adopted, language teaching deals with two major elements: content knowledge (knowledge about the language and its rules) and pedagogical knowledge (knowledge about strategies to teach and/or to learn language). Along with the recent development of technology, technological knowledge was introduced to go with the content knowledge and pedagogical knowledge, which was then known as Technological Pedagogical Content Knowledge or TPACK (Koehler & Mishra, 2005; Mishra, & Koehler, 2006). The word *technology* commonly refers to the latest advancements in electronics and computers. Thus, the use of technology is more related to the use of high technology than to the old-fashioned (or low) technology, and it is concerned with software rather than the equipment.

In the area of language teaching, technology is not something new as it has been introduced in the mid of the 20th century with the use of recorders, language laboratories, and video (Dudeny & Hockly, 2007). These forms of technology were operated on the basis of the functions of the equipment powered by electricity or electric battery. For example, a recorder was used to record utterances and it can be played and rewound. A video cassette was played by using a video record player. Following the introduction of computer technology in the 1960s, computer began to be used in language teaching. A computer is essentially a machine that can be used for various purposes based on a set of instructions. The computer has two basic elements: the hardware (all of the equipment attached in the computer and the software (the instructions that tell the computer what to do). The language teaching by using computer is included in the area of Computer-Assisted Language Learning or CALL. The great interest in CALL has lead to the formation of CALL related organizations such as CALICO (Computer-Assisted Language Instruction Consorcium), EUROCALL (European Association of Computer-Assisted Language Learning), IALLT (International Association for Language Technology), and WorldCALL (the worldwide professional association for teachers and educators interested in Computer Assisted Language Learning) (CALICO, 2017).

Computer was then used as a means to develop language learning materials and other related contents. People began to realize the need to share the language learning materials through local area networks (LAN). The LAN eventually expanded the connection into world level network which was called the World Wide Web.

Introduced by Tim Burners-Lee in 1989 (Choudhury, 2014), the World Wide Web has evolved from the first version used in the early 1990s to the World Wide Web used at present. The beginning version of the World Wide Web, or more commonly called as Web 1.0, was in the form of “read-only” applications. At this stage, websites were used as pages to deliver content (Weston, 2022). It is important to understand that the word *Web* differs from the *Internet*. The Web contains content and the Internet is the mechanism to disseminate the content. A book entitled “Virtual Connections” (Warschauer, 1995) documented the use of various types of Internet-based technology worldwide within this stage. This is evident in the contents of the book which include, among others, e-mailing, dialogue journaling, Internet newsgroup writing, e-mail keypalling, story sharing through e-mail, and individual writing exchanging. The book also recorded a number of online resources and web pages that language teachers and learners could visit such as online news, electronic library, travelling spots, cultural studies, Internet movie databases, teacher-designed web pages, and students publishing on the web.

The beginning version of the World Wide Web was followed by the second stage which was called the Web of People (Web 2.0) as users no longer read only, but they can “read and write,” reflecting the interaction among users through the web (Boulos & Wheelert, 2007). *Blogs*, *Facebook*, *MySpace*, and *YouTube* are some of examples of platforms characterizing the Web of People. In the Web 2.0 stage which began in the early years of the new millennium, users are able to create content, whether in blogs, videos, or photos, and other people can interact with it. For example, a tutorial video uploaded by a content creator (or a YouTuber) can be viewed by many Internet users. The viewers of the tutorial video can give an appreciation by clicking “like,” disseminate the video by clicking “share” and send messages to the content creator by writing the messages in the “Add a comment” space. Currently, over 25 years from the publication of Warschauer’s (1995) edited book representing former progress in technological tools for education, many of the technological tools used in the Web 1.0 and Web 2.0 stages are still used, yet there are a lot more advanced technological tools that are available.

The next version of the World Wide Web was called the Semantic Web (Web 3.0). This web version allows data to be shared and reused, showing more intense interaction among users and the data that they manage. *Instagram*, *Telegram*, *X* (previously known as *Twitter*), and *WhatsApp* which are popular nowadays are examples of applications in the Web 3.0. *WhatsApp*, for instance, can be used to send messages, documents, images, audio files, and videos. It can also be used to chat in a real time or to have direct talks through video calls. *WhatsApp* and other similar platforms have replaced the old-fashioned “short-message service” (SMS) text messaging. *WhatsApp* group as one of the features in *WhatsApp* is a practical platform for collaborative work, group management, and social relationship. Nowadays, almost all smart phone users are users of *WhatsApp* and have a number of *WhatsApp* groups for various social endeavours.

The latest stage was called “Symbiotic Web” or “Ubiquitous Web” (Web 4.0) showing its nature as “read write, concurrency web” and it enables users to interact with the machines “in a more personalized way” (Choudhury, 2014, pp. 8099-8100). Simply stated, the machines are capable of reading the information on the web, react and execute the tasks assigned to the machines orderly and fast with excellent performance. The Artificial Intelligence (AI) in the web manages the commands and displays the results in an extraordinarily clever way. To satisfy my curiosity and to test how fast and how intelligent an AI-driven platform is, I tried to operate the *Toolsaday* (2023) platform that can help users create a story plot (or narrative texts) instantly. There are three space bars that I had to fill: “story idea,” “genre,” and “theme.” In the “story idea,” I wrote,

Sarah picked up an old dictionary from the bookselves. When she opened the cover of the dictionary, she found an envelope. Being curious to know what it is in the envelope, she opened it. She was surprised when she found that it was a map of her house, and she noticed there was an X mark behind the ornament statue in the backyard of her house.

In the “genre” bar I wrote “Mystery” and in the “theme” bar I wrote “Education.” Then, I clicked “Generate content.” In a second, a story plot emerged with a title “The Hidden Secret” containing a number of sentences organized under four elements: (1) The Discovery, (2) The Investigation, (3) The Revelation, and (4) The Resolution. (see the Appendix)

Reflecting upon the development of the Web from the prototype to the version with AI-driven applications, this article aims to explore the various technological tools that have been used in the teaching of English as a foreign language (EFL) in Indonesia. The use of technological tools in education has a strong basis as it is supported by a number of rules of the Indonesian government. In the literature, the term “technological tools” that is used in this article is also mentioned as “digital applications,” “digital platforms,” “digital tools,” “Information and communication technology (ICT) platforms,” and “ICT tools,” Hamied (2009) identified at least three rules that support the use of technological tools in education: (1) the Decree of the President of the Republic Indonesia Number 20/2006 on the National Chair of ICT, (2) The Instruction of the President of the Republic Indonesia Number 5/2008 regarding Network for National Education and Internet for Senior High Schools, and (3) The Rule of the Minister of the National Education Number 38/2008 on the Management of ICT in the Department of National Education. To explore the technological tools used in the EFL context in Indonesia, the contents of this

article are organized into some sections based on the period of the development of the technological tools. It covers technological tools in the pre-millennial era, those used in the millennium, those used during the Covid-19 pandemic and in the post-pandemic contexts, and the use of AI-driven technological tools.

2. TECHNOLOGICAL TOOLS USED IN THE PRE-MILLENNIAL ERA

There has been limited number of research studies that can inform about the use of technological tools in Indonesia in the years before 2000, the new millennium. The technological tools commonly used in the pre-millennial era were exactly like those mentioned by Dudeney and Hockly (2007), namely recorders, language laboratories and video. A tape recorder or an audio cassette player was the common tool brought to the classroom in teacher-training and education institutions in Indonesia which managed the English Intensive Course (EIC) program, among others IKIP Negeri Malang, IKIP Negeri Surabaya, and IKIP Negeri Semarang (Cahyono, 1994). The EIC program began in 1993 was aimed at developing students' skills in English to the point that they are competent in natural conversation. For this purpose, the teachers taught customized and graded learning materials adapted from Lindell's (1991, 1992) to first-year students who had various English proficiency levels. Meanwhile, analog language laboratories were used in the universities and colleges that have English departments. Language instructions in laboratories aimed to expose the students to the target language they are learning as they took a series of Listening courses: Basic Listening, Intermediate Listening, and Advanced Listening. Normally, the teacher selected the material of the day from the available audio cassettes and played it from the teacher's console. The students listened to the audio material from their booths. The listening activity was followed by a question and answer session in which the teacher asked a question to each of the students.

Video is a beneficial source of materials to expose the students to the target language and to help them acquire intercultural communicative competence (Cahyono, 1997), but video viewing was only occasionally conducted. I remember one of my teachers in the English department invited my classmates and me to attend a video session to be shown in the afternoon of a certain day. We watched the movie telling about a family life and how members of the family interacted to each other at home. There was no question-and-answer session when the video was over. Instead, the teacher asked about our impression of the story and whether we liked the video show program or not. Knowing that we liked it very much, he told his plan to invite us again to watch a different video on another day. Video viewing was also one of the activities that students could do independently when they came to the English Self-Access Centre at the university where I am currently teaching, that is *Universitas Negeri Malang*. Thus, video has been an evergreen medium of learning resource for learning various English language skills and language elements. It can be used across different time. More recently, for example, video is reported to be an effective source of learning when it is presented classically in the classroom (Muslem et al., 2022; Suparmi et al., 2017), played streaming in *YouTube* channels (Nofrika, 2019), and used as materials in mobile learning (Imelda et al., 2019).

Radio and television were also used to help students learn English especially in the informal education contexts, Kang Guru Radio managed by the Indonesian Australian Language Foundation (IALF) broadcasted English programs as part of the cooperative mission between the Indonesian and Australian Governments. In the television programs of the government, the Television of the Republic of Indonesia (TVRI), there used to be two English programs which attracted many students. The first one was "Your Letters" program which was presented by Mr. Anton Hilman. In this program, he answered questions from TV viewers, especially students, on problems they experienced in learning English and explained the solutions. The second program was learning English and its cultures presented by Ms. Nisrina Nur Ubay. She showed a video on cultural aspects and picked samples of expressions and explained how to use them correctly and appropriately (An example of her lesson can be seen in <https://www.youtube.com/watch?v=E1Lbuh4k-3s>).

In short, the technological tools used in the EFL teaching in the pre-millennial era were commonly based on the equipment which was not connected to resources of data that can be visited and retrieved by the users through the Internet.

3. TECHNOLOGICAL TOOLS USED IN THE MILLENNIUM

In the first decade of the new millennium, a lot of technological tools were introduced as a means to teach EFL in Indonesia. In this decade, while the old technological tools were still used as instructional media, some of the technological tools have used the Internet in combination with the resources within the Web 1.0 and Web 2.0 functions.

Some technological tools were introduced to teach EFL, for instance, *Wiki* and Discussion Forum (Priyanto, 2009). Priyanto (2009) asked his students in the English department of a university in Central Java, to contribute their ideas or explanation regarding branches of linguistics to a created Wiki platform for Linguistic course. Then, he asked the students to share their experience in learning from *Wiki* and from the Discussion Board. The results showed that *Wiki* and Discussion Board "facilitate peer learning through collaborative work" and the two platforms "can be the source of knowledge for their peers." (p. 4). In the end of the decade, I assigned my

students in the ELT postgraduate program to work on a project to explore Internet-based resources or applications for the teaching of EFL. The results of the assignment were compiled and published in the form of an edited book entitled “Teaching English by Using Internet Resources” (Cahyono, 2010). The students’ works which were published as book chapters included various topics. Some of the topics indicated the characteristics of the Web 1.0 because they deal with online documents for “reading only” such as the use of online dictionary, online *Encarta*, online magazine and *Wikipedia*. Some other topics reflected the characteristics of the Web 2.0 as it involves an element of writing activities such as *Moodle*, *Virtual Classroom*, *Weblogs*, and *YouTube*.

In the next decade, many more technological tools used in the EFL teaching were based on the perspective of Web 2.0. Some of the technological tools used in EFL teaching included *Blogs* (Chaerunnisa et al., 2018; Sa’diyah & Cahyono, 2018; Sulistyoto et al., 2019), *Edmodo* (Purnawarman et al., 2016), *Google Docs* (Sudrajat & Purnawarman, 2019), and *Sway* (Fakhmawati, 2018). Sulistyoto et al. (2019), for example, revealed that students’ writing performance can be increased by using Blog-assisted language learning in combination with process writing in terms of accuracy, complexity, and fluency. In the same decade, a number of new technological tools containing the Web 3.0 function were also introduced. Among the technological tools in this line which have been effectively applied and welcomed pretty much by the students includes *Quipper School* (Agustina & Cahyono, 2017), *Tumblr* (Rahmanita & Cahyono), and *Instagram* (Handayani et al., 2018). For instance, Handayani et al.’s (2018) study reported that the use of *Instagram* improved the EFL students’ ability in writing opinion essays indicated by the significant increase of the students’ score in opinion essay writing. In addition, the results of the questionnaire data analysis showed that the students gave positive responses towards the application of *Instagram* to help them write opinions essays in terms of perceived competence, interest, and the learning process.

It should be noted that, during the first and second decades of the second millenium, the EFL teaching has been enhanced by the use of the Internet which goes with the face-to-face EFL teaching. Therefore, the EFL teaching was conducted in the form of blended learning. Thus, blended learning has two components, the face-to-face component and the online component. Besides in blended learning, technological tools for EFL teaching were also used in flipped learning. In the flipped classroom, the students performed individual activities before participating in the classroom by viewing video lessons related to the materials and they also work on some exercises at home. In the classroom, they apply the knowledge they have learned individually by discussing the materials and/or solving problems with their classmates under the guidance of the teacher. Flipped classroom was found to be effective in improving EFL learning achievement (Afrilyasanti et al., 2016; Ghufuron & Nurdianingsih, 2019; Mubarak et al., 2019; Santosa, 2017) and students have positive responses toward the application of flipped classroom (Afrilyasanti et al., 2017). Some institutions also tried to apply hybrid learning, yet it was far from being successful due to technical problems. Hybrid learning was applied more successfully in a big forum like conferences the implementation of which was supported by good technical supports and human resources.

In general, the technological tools used in the first two decades of the milleneum could be advantageous or effective to help students improve their EFL learning. The technological tools were presented in the form of blended learning and flipped learning to enrich the face-to-face mode of EFL teaching and learning.

4. TECHNOLOGICAL TOOLS USED IN THE COVID-19 PANDEMIC SITUATION

The outbreak of the Covid-19 transformed the way education had to be managed. The face-to-face mode of teaching had to be replaced by the online teaching or the emergency remote teaching (ERT). Research studies which reported the use of technological tools in the Coved-19 pandemic situation consisted of two types: surveys involving a large number of EFL teachers and results of classroom-based research on the use of certain technological tools in EFL teaching reported by a teacher or a group of teachers.

Surveys on the use of technological tools in the ERT showed that there were a lot of online platforms that were used to replace the face-to-face teaching. Syafryadin et al. (2021) surveyed the digital platforms used by 30 pre-service teachers in Bengkulu Province during the pandemic. The pre-service teachers joined the Micro-Teaching course which involved 750 senior high school students. They were asked to inform about the digital platforms that they used in the EFL teaching. The results showed that the pre-service teachers used various platforms to teach English skills and English elements. The platforms included *Discord* (Listening) *Hello English* (Speaking), *Google Classroom*, *Edmodo* (Reading), *Edlink* (Writing), *TFlat English Pronunciation* (Pronunciation), *Kahoot!*, *Simpler Apps* (Grammar), *Memrise*, *Busuu Apps*, and *Vocabulary.com* website (Vocabulary). Apriani et al. (2022) identified various digital platforms used by 210 female and 210 male students in learning the four English language skills and compared the platforms across gender. They found that *Google Classroom*, *Google Meet*, *WhatsApp*, and *Zoom* were used by the majority of both female and male students for learning listening, speaking, reading and writing. They also found that Email, *Facebook*, *Instagram*, *Kahoot!* and *YouTube* were more likely to be used by students of a particular gender depending on the type of language skills.

Two other surveys involved EFL students and teachers. Amin and Sundari’s (2020) study which involved 140 EFL students of universities and institutes in Jakarta and Aceh showed that, based on some evaluation criteria, the students agreed that *Cisco WebEx*, *Google Classroom*, and *WhatsApp* were used as the online platforms in the ERT. With regard to authenticity and meaning focus criteria, *Cisco WebEx* meeting achieved the highest score.

While *Google Classroom* got a high score in language learning potential, meaning focus and authenticity criteria, *WhatsApp* is the most preferred platform based on learner fit, positive impact, and practicality criteria. Muhaji et al. (2023) conducted a study exploring the online platforms used by 16 university EFL teachers from 7 universities in east Java and West Java during the Covid-19 pandemic. The university EFL teachers were asked to tell their experience through narrative frames. The results of the study showed that the EFL teachers used 23 kinds of online platforms in their EFL teaching. Out of the total number of the platforms used, six of the online platforms were the most-frequently used, namely *Zoom* (13 teachers), *Google Classroom* (11), “*SPADA*” *Online Learning Management System* (10), *WhatsApp* (10), *Google Meet* (7) and *Edmodo* (6). Other platforms used by the EFL teachers were *YouTube* (4) various kinds of *Google Apps* (3), *Moodle*, *Jitsi*, *Cisco WebEx* (each 2 respondents), *Blogs*, *Canvas*, *Email*, *Facebook*, *Quizizz*, *Schoology*, *Socrative*, and *TedEd* (1 teacher each).

The results of the survey on the use of technological tools during the Covid-19 pandemic to some extent have been supported by an individual teacher or a group of teachers who reported the results of their practices in online teaching. One of the most frequently-used online platforms in the Covid-19 pandemic situation was *Google Classroom*. For example, Rosyada and Sundari (2021) used *Google Classroom* to teach academic writing course for EFL undergraduate students in the home learning environment. They found that there was a significant correlation between the use of *Google Classroom* and the students’ writing achievement. Santoso (2021) used *Facebook* closed group to teach Critical Reading course in the ERT. She tried to find out whether the platform can be used to help students learn the course. She found that the *Facebook* closed group could be used to help students, as members of the group, learn critical reading well. Nafik (2022) used *Padlet* in teaching basic writing for communication to her first-year university students in hybrid learning mode during the Covid-19 pandemic and delivered a survey questionnaire to the students. She found that *Padlet* could be used well in the hybrid mode teaching and it could facilitate the students in collaborative work and boost students’ engagement in writing activities.

In a later development, a number of research studies showed that online resources which are presented through various Web types and applications, not only improved the students’ EFL learning, but also their self-regulated learning. For example, Arigusman et al. (2018) found that students were familiar with some technological tools to support their independent learning activities namely Internet browser, MP3 player and some social networking sites which they operated by using smartphone, tablet, iPad, or computer/laptop. Umamah and Cahyono (2022) found that various online resources such as *Blogs*, *Ebook*, *Email*, *Facebook*, *Instagram*, online dictionaries, *Telegram*, *Tik Tok*, *WhatsApp*, and *YouTube*, can be used to facilitate the students’ self-regulated writing. However, the results of the study on the relation between ERT and autonomy were still in conclusive because, as Defianty and Wilson (2023) found, the online teaching during the pandemic did not foster a shift towards greater learner autonomy due to the high control of the teachers.

5. TECHNOLOGICAL TOOLS USED IN THE POST-PANDEMIC ERA

In the post-pandemic era, online EFL teaching gradually retransforms into the face-to-face mode of teaching. As a result, the platforms which were usually used as medium of interaction in online EFL teaching were less-frequently used than they used to be. These platforms includes *Cisco WebEx*, *Google Meet*, and *Zoom*. However, these platforms are occasionally used for non-teaching purposes such as for coordination meeting, program planning, or final tasks examination. They are also used as the online component of hybrid mode of academic forums such as conferences, semonars or workshops. Unlike the platforms which were used as medium of interaction during the Covid-19 pandemic, online platforms which were initially used in blended learning and flipped learning before the Covid-19 pandemic situation gain its second momentum to play their roles in the EFL teaching. There have been at least two research studies that focus on how technological tools are used in the post-pandemic era.

The first research study examined the EFL teachers’ experiences and expectations in the use of workable approaches in EFL teaching mediated by technological tools during the Covid-19 pandemic and in the post-pandemic (Cahyono et al., 2023). Data were collected by interviewing six university EFL teachers from five universities in Java and Bali. One of the questions that the teachers needed to answer was “How did your previous experiences inform or affect your future online teaching mediated by mobile devices?” The results of interview data analysis showed that the six teachers used various approaches in EFL teaching which were enhanced by the use of technological tools. More particularly, while they use the LMS managed by their universities, *Google Meet*, *WhatsApp* and *Zoom* as the main platforms for teaching and learning interaction during the Covid-19 pandemic, they would like to maintain the use of a wide range of any other platforms and applications that they have used before, more particularly *Canva*, *Google Classroom*, *Padlet*, *Quizlet*, *Socrative*, *Telegram*, *WhatsApp* and *YouTube* in the post-pandemic. From the analysis of the results of the study, Cahyono et al. (2023) concluded that the considerations and expectations to use workable approaches and technological tools are influenced by the teachers’ continuous reflection of their practices in teaching to create learning enjoyment, manageable instruction, and independence on the part of the students. As they stated,

In the enactment of mobile technology, the central impetus is devoted to performing a socio-emotionally friendly learning environment, situating manageable instruction, and scaffolding students to exercise their learning ownership and autonomy. (p. 155)

The second research investigated the EFL writing teachers' expectation in using technology following the end of the Covid-19 pandemic situation (Cahyono et al., 2023). The research involved six EFL writing teachers who gave research data by answering questions through the interviews held in the research. Two of the EFL writing teachers were from urban areas while the others were from rural areas. In this case, Cahyono et al. (2023) did not identify the types of technological tools that the EFL writing teachers specifically expected to use when they go back to the face-to-face teaching, but they explored what the teachers want the students to do and what they want themselves to do in the future. With regard to the EFL writing teachers' expectation to the students, Cahyono et al. (2023) wrote,

The students were expected to actively explore the technology by themselves outside the class and able to publish their writing later. The teachers also wanted the students to have high motivation in participating during the writing lesson. (p. 341)

Thus, the EFL writing teachers expected their students to be more active, independent, and highly-motivated to use technological tools in the writing lesson. Meanwhile, the EFL writing teachers expected themselves to be able to find new writing applications that can be used easily and effectively and some of them would like to keep using the same technological tools as they have used.

6. THE USE OF AI-DRIVEN TECHNOLOGICAL TOOLS

Along with the massive use of Web 3.0 technological tools, more advanced products of technology offer a system that resembles the function of human brain. This kind of system is generally discussed under the theme "Artificial Intelligence" or "AI" and it is categorized in the characteristics of Web 4.0 technology. Depending on the purposes of their creation, AI-driven technological tools normally have specific capabilities. In her library research, Fitria (2021, pp. 218-220) reviewed eight AI-driven technological tools and I summarize their capabilities briefly, namely:

1. *Google Translate* (translating texts in user's intended language to the target language)
2. *Text to Speech* (pronouncing or uttering an intended text into its spoken form)
3. *English ABLÉ* (helping learners to learn about English grammar)
4. *Orai* (helping learners to improve their skill in speaking in English)
5. *ELSA* (English Learning Speech Assistant, helping learners to pronounce English words correctly)
6. *Chatbot* (serving as a partner in a chat to help learners practice in English)
7. *Duolingo* (helping learners learn various aspects of English in a fun way through game-like tasks)
8. *Neo* (Nexgen English Online, helping learners learn to pronounce and speak in English better)

More recently, Fitria (2023) reported her review on the functions of *ChatGPT* and how this AI-driven machine can be used to teach English. She found that *ChatGPT* is beneficial to help students learn about some information and solve their problems.

Research studies on the application of AI-driven technology in EFL teaching in Indonesia tend to show the effectiveness of AI-driven technological tools and the positive responses on the part of the students. For example, Sumakul et al. (2022a) found that *Plot Generator* helped EFL learners understand theoretical concepts, grammar, and vocabulary in the writing process. In another study, Sumakul et al. (2022b) applied *Plot Generator*, and *ELSA* in the EFL classrooms and asked the teachers to give opinions on the application of the two tools. The results showed that the teachers "viewed AI positively regarding its impacts on the roles of language teachers. All (of the respondents) agreed that AI could help teachers with their teaching." (p. 242). Other research studies applying AI-driven technological tools affected EFL students learning effectively such as on the use of *Novolearning* (Arini et al., 2022) and on the integration of *Cake*, *Duolingo*, and *ELSA Speak* (Mujahidah et al., 2023). Similar to the positive responses of the teachers on the application AI-driven technological tools, the students had positive responses toward the application AI-driven technological tools in EFL teaching such as in the application of *Plot Generator* (Sumakul et al., 2022) and *Novolearning* (Arini et al., 2022). Thus, in general, EFL teachers and students tend to see no harm in the application of AI-driven technological tools in the Indonesian context.

As far as I am concerned, I am in line with the teachers' belief in AI-driven technological tools and the application of the AI-driven technological tools in the EFL classroom. Teachers need to have thorough understanding on the AI-driven technological tools applied in their classroom (Jati, 2021, p. 29). I am also optimistic in looking at the responses of the students in the application of AI-driven technological tools. However, it is important to redefine the role of the teachers in the application of AI-driven technological tools and how we should deal with the ethical issues. For example, how can we evaluate a student who simply uses AI-driven technological tools to solve learning problems and another student who uses their creativity with cues given by the

AI-driven technological tools? For this, I am in agreement with the answers provided by Mushthoza et al. (2023) in their systematic literature review when they say,

Teachers need to adapt their roles to become facilitators, guiding learners in utilizing AI tools effectively and providing meaningful interaction and support Responsible implementation, ongoing monitoring, and adherence to ethical guidelines are vital in ensuring the ethical and equitable use of AI technologies. (p. 1556)

There are still a lot more to get things done dealing with AI-driven technological tools and how they can give benefits to EFL teaching in Indonesia. In this case, I agree with Jati (2020), who stated, “Further research of AI integration in English language teaching activities should be conducted.” (p. 3)

7. CONCLUSION

This literature review, which has been combined with my personal story, has discussed the use of technological tools in the pre-millennial, millennial, Covid-19 pandemic, post-pandemic, and AI-fashioned era in the EFL teaching in Indonesia. In the pre-millennial era, the technological tools used still reflected the glory of electronic machines. This indicated the slow process of educational transformation to the use of technological tools enhanced by the Web 1.0 and the Internet. In the millennium, especially in the first decade, the educational transformation in the technological tools was apparent as the Web 1.0 has been included in the educational system along with the use of the Internet, especially at the tertiary level. However, while the Indonesian educational system started to use the Web 1.0 technological tools, in general during that period, Web 2.0-oriented technological tools have been used globally, leaving us 5 to 10 years behind. In the second decade of the millennium, there was a big increase in the use of Web 2.0-oriented technological tools combined with the Internet. In the last five years of the second decade of the millennium, a lot of Web 3.0-oriented technological tools were used at various education levels. Meanwhile, the Internet was used in various modes, namely blended learning, flipped learning, and online learning, either asynchronously or synchronously, and occasionally hybrid learning. Online learning either asynchronously or synchronously, met its big momentum during the Covid-19 outbreak, which started at the beginning of 2020 and continued to the mid or end of 2022. During remote teaching and learning, AI, colored by the Web 4.0 smart system, was introduced more widely to help teachers and students do their tasks in the pandemic situation. Following the diminishing effect of the Covid-19 pandemic, the post-pandemic era began by continuing the practice of using technological tools that combined Web 4.0 and the Internet. However, during the post-pandemic era, the purely online system was no longer used massively. Alternately, technological tools which are compatible with blended learning and flipped learning are still used in addition to the face-to-face mode of teaching and learning.

During the post pandemic era nowadays, the interplay of the various technological tools, the types of the Web resources, and the modes of the Internet has been maintained toward the brighter future of EFL teaching. This even more appealing as AI also takes its great role in contributing to the interest of the technological tool users, including teachers and students. However, the AI should be applied with care due to its double functions, either as “friends or foes,” that can affect the way the teachers teach and the students learn. One of the serious concerns is that creative application of AI-based resources should not be considered as a proper way of learning by the students. In the case of the AI-driven *Toolsaday* website that I mentioned earlier in this article, the story plots resulted from the use of the AI-driven system was not my ideas as I just filled in the space with random ideas required by the AI system to produce a story plot. More efforts can be done by the students, for example by treating the generated story plots as models of story, thus not claiming them as their own. The students might also change the story plots into a cohesive and coherent story. They can also paraphrase or edit the story plot, changing the parts that are culturally strange. With the thoughtful application of AI-driven resources, it is expected that the students could be really creative in using AI technological tools and EFL teachers would not feel that AI-driven technological tools are their foes.

8. REFERENCES

- Afrilyasanti, R., Cahyono, B. Y., & Astuti, U. P. (2016). Effect of flipped classroom model on Indonesian EFL students' writing ability across individual differences in learning. *International Journal of English Language and Linguistics Research*, 4(5), 65-81. <https://doi.org/10.37745/ijellr.13>
- Afrilyasanti, R., Cahyono, B. Y., & Astuti, U. P. (2017). Indonesian EFL students' perceptions on the implementation of flipped classroom model. *Journal of Language Teaching and Research*, 8(3), 476-484. <http://dx.doi.org/10.17507/jltr.0803.05>
- Agustina, E., & Cahyono, B. Y. (2017). Perceptions of Indonesian teachers and students on the use of Quipper School as an online platform for extended EFL learning. *Journal of Language Teaching and Research*, 8(4), 794-800. <http://dx.doi.org/10.17507/jltr.0804.20>

- Amin, F. M., & Sundari. H. (2020). EFL Students' preferences on digital platforms during emergency remotet teaching: Video conference, LMS, or Messenger application? *Studies in English Language and Education*, 7(2), 362-378. <https://doi.org/10.24815/siele.v7i2.16929>
- Apriani, E., Arsyad, S., Syafryadin, Supardan, D., Gusmuliana, P., & Santiana. (2022). ICT platforms for Indonesian EFL students viewed from gender during the Covid-19 pandemic. *Studies in English Language and Education*, 9(1), 187-202. <https://doi.org/10.24815/siele.v9i1.21089>
- Arigusman, A., Purnawarman, P., & Suherdi, D. (2018). EFL students' use of technology in English lesson in the digital era. *Indonesian Journal of Curriculum and Educational Technology Studies*, 6(2), 77-86. <https://doi.org/10.15294/ijcets.v6i2.26599>
- Arini, D. N., Hidayat, F., Winarti, A., & Rosalina, E. (2022). Artificial intelligence (AI)-based mobile learning in ELT for EFL learners: The implementation and learners'attitudes. *International Journal of Educational Studies in Social Sciences*, 2(2), 88-95. <https://doi.org/10.53402/ijesss.v2i2.40>
- Boulos, M. N. K., & Wheeler, S. (2007). The emerging Web 2.0 social software: An enabling suite of sociable technologies in health and health care education. *Health Information and Libraries Journal*, 24(1), 2-23. <https://doi.org/10.1111/j.1471-1842.2007.00701.x>
- Cahyono, B. Y. (1994). A case study on the effectiveness of the English intensive course at IKIP Malang. *TEFLIN Journal*, 6(2), 73-81.
- Cahyono, B. Y. (1997). *Pengajaran bahasa Inggris: Teknik, strategi, dan hasil penelitian* [The teaching of English: Techniques, strategies, and research results]. Penerbit IKIP Malang.
- Cahyono, B. Y. (2010). *Teaching English by using internet resources*. State University of Malang Press.
- Cahyono, B. Y. (2019). *Materials for flipped classroom*. https://padlet.com/bambang_yudi_fs/materials-for-flipped-classroom-fymmpjjm2q6a
- Cahyono, B. Y., Istiqomah, F., Fitriyah, I., & Gozali, I. (2023). EFL Teachers voice on their preferred strategies in teaching EFL writing during the pandemic: Investigating the role of technology. *Turkish Online Journal of Distance Education*, 24(3), 330-350. <https://doi.org/10.17718/tojde.1175925>
- Cahyono, B. Y., Khotimah, K., Batunan, D. A., & Imamyartha, D. (2023). Workable approaches in EFL teaching mediated by mobile technology during the pandemic and post-pandemic: Indonesian EFL teachers' experiences and expectations. *Computer Assisted Language Learning Electronic Journal*, 24(1), 137-158. <https://old.callej.org/journal/24-1/Cahyono-Khotimah-Batunan-Imamyartha2023.pdf>
- CALICO. (2017). *About CALICO*. <https://calico.org/home/about-calico/>
- Chaerunnisa, A., Sundayani, A., Dewanto, A. C. T., & Drajadi, N. A. (2018). Tracking students' writing activity through blogging. In D. T. Y. G. Sumakul (Ed.), *CALL & MALL to enhance the thinking process: Innovative, practical solutions, and enhanced sustainability* (Proceedings of the i-TELL Conference) (pp. 15-25). Satya Wacana University Press.
- Choudhury, N. (2014). World wide web and its journey from Web 1.0 to Web 4.0. *International Journal of Computer Science and Information Technology*, 5(6), 8096-8100. <https://ijcsit.com/docs/Volume%205/vol5issue06/ijcsit20140506265.pdf>
- Defianty, M., & Wilson, K. (2023). Emergency remote teaching in Indonesia: A missed opportunity for greater learner autonomy. *TEFLIN Journal*, 24(1), 21-38. <https://doi.org/10.15639/teflinjournal.v34i1/21-38>
- Dudeny, G. & Hockly, N. (2007). *How to teach English with technology*. Pearson Education.
- Fakhmawati, D. (2018). Applying Sway for Webquest in writing classroom. In D. T. Y. G. Sumakul (Ed.), *CALL & MALL to enhance the thinking process: Innovative, practical solutions, and enhanced sustainability* (Proceedings of the i-TELL Conference) (pp. 62-65). Satya Wacana University Press.
- Fitria, T. N. (2021). The use of technology based on artificial intelligence in English teaching and learning. *ELT Echo: The Journal of English Language Teaching in Foreign Language Context*, 6(2), 213-223. <https://www.syekhnurjati.ac.id/jurnal/index.php/eltecho/article/view/9299>
- Fitria, T. N. (2023). Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay. *ELT Forum: Journal of English Language Teaching*, 12(1), 44-58. <https://doi.org/10.15294/elt.v12i1.64069>
- Ghufron, M. A., & Nurdianingsih, F. (2019). Flipped teaching with CALL in EFL writing class: How does it work and affect learner autonomy? *European Journal of Educational Research*, 8(4), 983-997. <http://doi.org/10.12973/eu-jer.8.4.983>
- Hamied, F. A. (2009). Model pembelajaran inovatif di era global: Suatuajian perbandingan di negara maju [Models of innovative learning in the global era: A comparative study in developed countries]. *Khazanah Pendidikan*, 1(2). <https://jurnalnasional.ump.ac.id/index.php/khazanah/article/view/617>
- Handayani, A. D., Cahyono, B. Y., & Widiati, U. (2018). The use of Instagram in the teaching of EFL writing: Effect on writing ability and students' perceptions. *Studies in English Language Teaching*, 6(2), 112-126. <https://doi.org/10.22158/selt.v6n2p112>
- Harmer, J. (2007). *The practice of English language teaching* (4th ed.). Pearson Education.

- Imelda, Cahyono, B. Y., & Astuti, U. P. (2019). Effect of process writing approach combined with video-based mobile learning on Indonesian EFL learners' writing skill across creativity levels. *International Journal of Instruction*, 12(3), 325-340. <https://doi.org/10.29333/iji.2019.12320a>
- Jati, G. (2020). Envisioning the Partnership of Human and AI in English Language Teaching and Learning. In *I-TELL Conference 2020 Proceedings: Can technology really enhance language learning: Revisiting the real practices* (pp. 1-3). UIKA & i-TELL
- Jati, G. (2021). Kecerdasan buatan (Artificial Intelligence) untuk menulis dalam pembelajaran bahasa Inggris [Artificial intelligence for writing in the teaching of English]. In G. Jati & F. Dewi (Eds.), *Teknologi dan Pembelajaran Bahasa Inggris [Technology and English language teaching]*, (pp. 15-31). Perkumpulan Pengajar Bahasa Berbasis Teknologi (i-TELL).
- Koehler, M. J., & Mishra, P. (2005). What happens when teachers design educational technology? The development of technological pedagogical content knowledge. *Journal of Educational Computing Research*, 32(2), 131-152. <https://doi.org/10.2190/OEW7-01WB-BKHL-QDY>
- Lindell, A. (1991). *Audio-tape program*. The University of Michigan Press.
- Lindell, A. (1992). *Workbook for writing, listening and speaking*. The University of Michigan Press.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Mubarok, A. F., Cahyono, B.Y., & Astuti, U. P. (2019). Effect of flipped classroom model on Indonesian EFL students' writing achievement across cognitive style. *Dinamika Ilmu*, 19(1), 115-131. <https://doi.org/10.21093/di.v19i1.1479>
- Muhaji, U., Suherdi, D., & Purnawarman, P. (2023). Adoption of online technologies for language teaching during the Covid-19 pandemic in narrative frames. *Indonesian Journal of Applied Linguistics*, 12(3), 840-854. <https://doi.org/10.17509/ijal.v12i3.38930>
- Mujahidah., Salija, K., & Rahman, M. A. (2023); Artificial Intelligence-based instruction in ELT at an Indonesian Islamic higher education. *Himalayan Journal of Education and Literature*, 4(2) 17-25. <https://himjournals.com/article/1074>
- Muslem, A., Sahardin, R., Heriansyah, H., Fata, I. A., Djalaluddin, Y., & Hankinson, E. (2022). YouTube teaching materials with peer support to improve students' mastery of subject content learning. *Studies in English Language and Education*, 9(2), 651-666. <https://doi.org/10.24815/siele.v9i2.25236>
- Mushtoha, D. A., Syariatun, N., Tahalele, O., Telussa, S. I., Rasmita, Mokodenseho, S. (2023). Analyzing the impact of artificial intelligence (AI) on the future of English language teaching and learning. *Journal on Education*, 6(1), 1549-1557. <https://doi.org/10.31004/joe.v6i1.3115>
- Nafik, A. A. (2022). The use of Padlet application to teach writing in hybrid learning: A reflection of online teaching in pandemic era. *The Proceedings of the English Language Teaching, Literature, and Translation (ELTTLT)*, 11(1), 20-28. <https://proceeding.unnes.ac.id/elttl/article/view/1669>
- Nofrika, I. (2019). EFL students' voices: The roles of YouTube in developing English competencies. *Journal of Foreign Language Teaching and Learning*, 4(1), 56-73. <https://doi.org/10.18196/ftl.4138>
- Priyanto, A. D. (2009, August). *Facilitating peer-learning through Wiki and online discussion forum*. Presented at the 2nd Conaplin International Conference, Universitas Pendidikan Indonesia, Bandung. <https://agusdepe.staff.uns.ac.id/files/2009/08/fullpaperagusdepe.pdf>
- Purnawarman, P., Susilawati, & Sundayana, W. (2016). The use of Edmodo in teaching writing in a blended learning setting. *Indonesian Journal of Applied Linguistics*, 5(2), 242-252. <https://doi.org/10.17509/ijal.v5i2.1348>
- Rahmanita, M., & Cahyono, B. Y. (2018). The effect of using Tumblr on the EFL students' ability in writing argumentative essays. *Journal of Language Teaching and Research*, 9(5), 979-985. <http://dx.doi.org/10.17507/jltr.0905.11>
- Rosyada, A., & Sundari, H. (2021). Learning from home environment: Academic writing course for EFL undergraduates through Google Classroom application. *Studies in English Language and Education*, 8(2), 710-725. <https://doi.org/10.24815/siele.v8i2.18374>
- Sa'diyah, I. H., & Cahyono, B. Y. (2018). Effect of project-based learning through blogging on EFL students' writing ability. *Journal on English as a Foreign Language*, 9(2), 199-216. <https://doi.org/10.23971/jefl.v9i2.1341>
- Santosa, M. H. (2017). Learning approaches of Indonesian EFL Gen Z students in a Flipped Learning context. *Journal on English as a Foreign Language*, 7(2), 183-208. <https://doi.org/10.23971/jefl.v7i2.689>
- Santoso, M. N. (2021). Utilizing a Facebook closed group for EFL e-learning environment: Students' views. *Studies in English Language and Education*, 8(3), 1026-1044. <https://doi.org/10.24815/siele.v8i3.21233>
- Sudrajat, W. N. A., & Purnawarman, P. (2019). Students' perception on the use of Google Docs as an online collaborative tool in translation class. *Lingua Cultura*, 13(3), 209-216. <https://doi.org/10.21512/lc.v13i3.5969>

- Sulistyo, T., Mukminatien, N., Cahyono, B. Y., & Saukah, A. (2019). Enhancing learners' writing performance through Blog-assisted language learning. *International Journal of Emerging Technologies in Learning*, 14(9), 61-73. <https://doi.org/10.3991/ijet.v14i09.9535>
- Sumakul, D. T. Y. G., Hamied, F. A., & Sukyadi, D. (2022a). Students' perceptions of the use of AI in a writing class. In *Proceedings of the 67th TEFLIN International virtual conference & the 9th ICOELT 2021* (pp. 52-57). Atlantis Press.
- Sumakul, D. T., Hamied, F. A., & Sukyadi, D. (2022b). Artificial intelligence in EFL classrooms: Friend or foe? *LEARN Journal: Language Education and Acquisition Research Network*, 15(1), 232-256. <https://so04.tci-thaijo.org/index.php/LEARN/article/view/256723>
- Suparmi, Cahyono, B. Y., Latief, M. A. (2017). Subtitled videos, un-subtitled videos, and Indonesian EFL students' writing ability. *Studies in English Language Teaching*, 5(3), 466-480. <http://www.scholink.org/ojs/index.php/selt/article/view/983/1223>
- Suparmi. (2022). Writing on the wall: Integrating Padlet in ESP writing classroom. *Journal of English for Academic and Specific Purposes*, 5(2), 361-367. <https://doi.org/10.18860/jeasp.v5i2.18999>
- Syafriyadin, Pratiwi, V. U., & Wardhana, D. E. C. (2021). Pre-service English teachers' experience with various CALL applications: Hindrances and reflection. *Studies in English Language and Education*, 8(1), 99-114. <https://doi.org/10.24815/siele.v8i1.17609>
- Toolsaday. (2023). *AI-based story-plot tool to creat stories*. <https://toolsaday.com/writing/story-plot>
- Umamah, A., & Cahyono, B. Y. (2022). EFL university students' use of online resources to facilitate self-regulated writing. *Computer Assisted Language Learning Electronic Journal (CALL-EJ)*, 23(1), 108-124. <https://old.callej.org/journal/23-1/Umamah-Cahyono2022.pdf>
- Weston, G. (2022). *What is Web 5.0 – Explained*. In 101 Blockchain. <https://101blockchains.com/web-5-0/>

APPENDIX 1

Title: The Hidden Secret

Plot:

Act 1 – The Discovery

1. Introduction of Sarah, a curious and intelligent high school student who loves books and is always exploring new knowledge.
2. Sarah comes across an old dictionary while browsing the bookshelves in the library.
3. Intrigued by its antiquity, Sarah decides to take the dictionary home.
4. While flipping through the dictionary, Sarah accidentally opens the cover and discovers an envelope tucked inside.
5. Curiosity gets the better of her, and she opens the envelope, revealing a meticulously hand-drawn map of her house.
6. Sarah notices an X mark behind the ornament statue in the backyard of her house, leaving her puzzled and intrigued.

Act 2 – The Investigation

1. Sarah examines the map and realizes that it is clearly marked with various symbols and clues.
2. Determined to solve the mystery, Sarah decides to investigate the statue in her backyard.
3. She invites her best friend, Jake, to help her decipher the map and accompany her on this thrilling adventure.
4. Together, Sarah and Jake begin exploring the hidden corners of *their* house, searching for clues.
5. As they follow the map's clues, they encounter riddles, puzzles, and hidden compartments within the house.
6. Along the way, they learn about the history of *their* house and its previous owners, painting a picture of a long-forgotten secret.

Act 3 – The Revelation

1. Sarah and Jake reach the ornament statue in the backyard and discover a hidden compartment.
2. Inside the compartment, they find a long-lost journal belonging to a previous owner of the house.
3. Through the journal, they uncover a tale of a hidden treasure that was left behind by the original builder.
4. The treasure was a collection of valuable artifacts that were meant to educate and inspire future generations.
5. Sarah and Jake realize that *their* house was once an important educational center, providing knowledge and enlightenment to all who entered.
6. They realize that they are now the rightful recipients of this legacy and are tasked with safeguarding and continuing the educational tradition.

Act 4 – The Resolution

1. Sarah and Jake decide to restore *their* house to its former glory, opening it up as an educational center for their community.
2. The local community becomes intrigued by their project and offers support and resources to help them along the way.
3. They organize educational programs, workshops and events to promote learning and intellectual growth.
4. Sarah and Jake become local heroes, inspiring others to value education and the pursuit of knowledge.
5. Sarah learn the importance of curiosity, exploration, and the transformative power of education.
6. The story ends with Sarah and Jake, proud of their accomplishments, looking forward to the new adventures that await them.

Note: This detailed plot can be further expanded upon with additional subplots, character development, and twists to create a fully fleshed-out mystery story.