
An Analysis of the Development of EFL Students' Communicative Competence Based on Technological Knowledge in Higher Education

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Abstract: Pedagogical competency is essential in influencing the growth of EFL students within the educational context. This research aims to analyze the development of EFL students' communicative competence based on technological knowledge in higher education. This research used a descriptive qualitative research method. The numbers of respondents of this study were twenty EFL students by using stratified sample technique from ninety EFL students. The results of the study show what contexts students use to voice their opinions, ranging from talks about general topics (education policy, movies, everyday events) to talks about organizations, lecturing, in-class presentations, public presentations, and the final category, using media technologies (chats, recordings, and video recordings). The students reported feeling comfortable and motivated to engage with media technology. Pedagogical technologies might support EFL students in enhancing their communicative competence. Pedagogical technologies have the potential to motivate students to adopt a self-directed learning style and collaborate to enhance their communicative competence by providing them with access to a learning environment outside of the traditional classroom.

Keywords: Development; communicative competence; EFL students; pedagogical technologies.

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INTRODUCTION

In the 21st century, students have fundamentally distinct learning problems compared to earlier generations, mostly due to the rapid integration of science and technology (Saleh, 2019). The swift integration has converted higher education into a digitally mediated landscape where technical proficiency is essential for academic participation and knowledge creation (Nurhikmah H et al., 2024; Sasabone et al., 2022). Students are progressively required to proficiently utilize diverse digital tools, platforms, and technologies for information access, collaboration, and effective communication. Nonetheless, although technological proficiency has emerged as a fundamental skill, its pedagogical integration with language acquisition—especially in enhancing EFL students' communicative competence—continues to be a significant issue. This scenario underscores the necessity to investigate how technical information might be strategically utilized to enhance effective communication abilities in English within modern higher education settings.

In mastering life competencies, students need to use skills and utilize information and communication technology (ICT) (Busri et al., 2022; Muhammad Chairil Imran, Khaliq

Bashar, Budiarti Putri Ulang, Nina Ariani, Sukmawati, Suharti Siradjuddin, Sujarwo, 2022; Amaliah et al., 2022; Sasabone, Limbong, Pongpalilu, & ..., 2022). This places a premium on the problem of improving students' communicative competency development in English as a foreign language (EFL). Integrating academic curriculum, instructional practice, and research activity benefits from addressing the concept of university students' professionally oriented EFL communicative competence development as part of their personal and professional one in higher educational settings (Atamanova et al., 2015).

Digital content is coming in almost everywhere in our lives today, including in the field of education. Starting from the news articles we read in the morning to children's fairy tales before bed, we get them from devices/gadgets, the essence of which is that we access any information digitally (Sukmawati et al., 2022). This has implications for the world of education, which is, of course, affected by changes in human behavior in using information technology (Supyani & F, 2021).

Furthermore, there are many advantages to the students who use information technology compared to those who do not. The use of information technology is deep (Upadhyay & Lipkovich, 2020; Nurhikmah H et al., 2021). Academic life on campus can have implications for improving the quality of education in general. Among the evidence that supports this are the ease of the communication process between lecturers and students, the ease of accessing information and literature, and increasing variations in the use of learning materials (Goodfellow, R., & Lea, 2013).

Encouraging students to become digital natives through EFL instruction involves exposing them to the world wide web and allowing them to develop their e-skills. Students utilize a variety of programs, social media, and online networking sites when interacting with information and communication technologies (Sujarwo, S., Sukmawati, S., Asdar, A., Siradjuddin, S., & Ariani, 2020; Ibrahim, M., Soepriadi, D. N., Limbong, S., Sujarwo, S., & Sasabone, 2023; Indah et al., 2022). By considering the personal and professional development of non-language majors in higher education settings alongside professionally oriented EFL communicative ability, educators can adopt a more student-centered approach to teaching. This establishes, in our opinion, a strategy for the development and application of suitable educational technology (Atamanova et al., 2015)

Suppose Indonesia intends to be a highly competitive participant. In that case, it cannot disregard the importance of global information technology, the function of English as the language of international trade, and the impending globalization trend. Consequently, the competency-based approach, a socio-constructivist and cognitive design, has been set with the objective of installing competencies in the learner because it is evident that future generations must master the language. This new perspective, which was influenced by socio-constructivism and the demands of modern living, applies to education in general as well as English (Saliha Chelli, 2014). To enhance and promote the use of engaging, creative, inventive, successful, and enjoyable learning in classrooms while also promoting the mastery of skills as specified by the education national standard (SNP) (Suhirman & Rinantanti, 2019).

The origin of communication competence as a subject of interest can be traced back to Aristotle's rhetoric (Zarrinabadi, 2012). Competence is the combination of future-ready knowledge, abilities, and experience that shows itself in actions. This is the set of information, abilities, motivations, attitudes, values, and self-assurance needed to succeed in a given work.

What a speaker must understand in order to be communicatively competent in a speech community is defined by Hymes' notion of communicative competence. Hymes (1972: 281) contends that proficiency in a language, as measured by formality, viability, appropriateness, context, and language act performance, constitutes communicative competence (Farooq, 2015). According to Chomsky, 'competence' consists of the mental representation of the linguistic rules that underlie the speaker-hearer's internal grammar. This grammar is more implicit than explicit and is proven to exist in the intuitions that speakers-hearers have about the grammaticality of sentences.

These definitions show that there are three categories of general abilities that teachers need to possess: field, pedagogical, and cultural competency (Saidna Zulfiqar Bin Tahir, 2016). In practice, the importance of communicative competence emerged from the time when human beings recognized the need to encounter the other with a different cultures and to experience what it means to relate to otherness (Mirzaei & Forouzandeh, 2013). Despite the widespread adoption of the communicative approach to enhance students' communicative competence, there is an unexpected dearth of research investigating the self-perceived efficacy of a self-designed model that integrates classroom and extracurricular learning activities to advance students' communicative competence (Yuan, 2022).

Communicative competence includes the knowledge that speakers-hearers have about what underlies language behavior or speech behavior that is appropriate and correct and about what constitutes effective language behavior in relation to the goals or communicative purposes (Light & McNaughton, 2014). Therefore, it includes both linguistic knowledge and pragmatic knowledge. More specifically, communicative competence involves knowing not only language codes but also what to say to whom and how to say it correctly in certain situations (Klimova et al., 2019). Communicative competence concerns the social and cultural knowledge that speakers have to help them use and interpret linguistic forms (Vurdien, 2019).

The ability to employ all forms of linguistic activity—reading, speaking, listening, and writing—is implied by communicative competence. In addition to linguistic proficiency, communicative competence encompasses social knowledge and abilities. Language competence refers to the aptitude and habits of employing vocabulary, grammar, and pronunciation for speech activities in order to communicate one's ideas or comprehend those of others. Comprehension of the sociocultural context and possessing the speech and nonverbal behavior abilities typical of native speakers are also essential for achieving mutual comprehension (Shakhnoza Halimovna et al., 2019).

Some previous studies of Atamanova et al., (2015). stated that professional-oriented EFL communicative competence is a degree of the target-language cultural transition into one's environment about professional aspects, according to the sound psychological foundation of the technology generated. Conversely, the foundation of university students' professionally oriented EFL instruction is provided by the trinity of language, communication, and context. In order to meet the needs of EFL learners who are interested in using digital devices, technology-based training is becoming increasingly necessary. Developing students' higher-order thinking abilities—which are made feasible by technology, such as interpretation, analysis, information synthesis, and argumentation—is one of the main and best results of instruction (Betka, 2017). The strategy had a positive impact on young children's language development in terms of speaking, listening, and vocabulary acquisition (Yuan, 2022).

Based on some results of studies mentioned above focused on developing students' higher order thinking abilities—which are made feasible by technology, the strategy of young children's language development, higher-order thinking abilities, and impact on young children's language development in terms of speaking, listening, and vocabulary acquisition without exploring more in an in-depth study of investigates the use of pedagogical technologies in higher education to develop the communicative competence of EFL students as a gap of this study that will contribute to the development of the student's competence and to be more qualified in mastering English as a second language.

This study aims to investigate the use of technological knowledge in higher education to develop the communicative competence of EFL students. It starts with the presumption that students' use of technology and their ability to think critically serve as a foundation for the development of their communicative competence. Put another way, increased use of gadgets and other IT tools will immediately improve EFL students' ability to maximize online resources and develop their critical thinking abilities (Septiadevana & Abdullah, 2024). Determining how critical thinking abilities and technology engagement are related is a crucial first step in creating EFL lesson plans and resources that promote students' academic achievement.

How does the integration of pedagogical technologies in higher education facilitate the development of EFL students' communicative competence by enhancing their technological use, critical thinking, motivation, and active participation in meaningful communicative activities?.

METHOD

Qualitative data analysis was carried out in this research. The data that has been obtained is grouped, presented in easy-to-read data form, and then analyzed and concluded (Gay, 2021). This study gathered the EFL students' competencies in using information technology during their activities, from planning to evaluation. The participants are twenty EFL students who were taken from the English education study program at Universitas Cenderawasih.

Qualitative research focuses on research questions related to who, what, where, and how an event occurred (Mills, Geoffrey E.; Gay, 2019). In this research, data was taken from learning after the COVID-19 pandemic. The stages of data collection and analysis are carried out in 3 stages, namely: 1) Planning In this stage, the content and dimensions of a phenomenon are identified; 2) Categorization: This stage filters and places descriptive data from findings in the field; 3) Classification: This stage groups the data findings into group classes (theories) that have been provided previously.

The research was conducted using respondents who are EFL students from the English education study program of Universitas Cenderawasih, Jayapura, from three classes (Offering A class, Offering B class and Offering C class), with a total of ninety respondents. The technique for collecting respondents used the stratified random sampling method. In stratified random sampling, structured random sampling is carried out by dividing members of the students into several subgroups called strata, and then a sample is selected from each stratum (Leavy, 2017). The elements are divided into several levels (stratification) based on their inherent characteristics.

In stratified random sampling was grouped at certain levels with the aim of sampling evenly at all levels, and the sample represents the heterogeneous character. Stratified random sampling was utilized to guarantee proportional representation of

students across various academic strata, including study programs and academic levels. This technique was chosen due of the population's varied characteristics regarding technological exposure and language learning experiences, which are essential variables in the current study (Creswell, J. W., & Creswell, 2017). From the ninety EFL students, 20% were taken 20% (Sugiyono, 2014). The total number of respondents was twenty EFL students in EFL students from the English education study program of Universitas Cenderawasih, Jayapura Papua.

Data were acquired from several sources (Cohen, L., Manion, L., & Morrison, 2017), including observations made in class, questionnaires that were given out at the start and end of the research, and one-on-one interviews that were done after the study was finished. Data on students' individual experiences communicating through media technology and their expectations of the learning benefits were gathered through the initial questionnaire. The ultimate interview aimed to gather further data regarding their opinions of the undertaking and the most important takeaways from their education.

Furthermore, speech assessments were designed to track the participants' advancement in their ability to communicate effectively. The teacher-researcher graded these tests. Lexical resource, discourse management, and interactive communication were the three criteria that were evaluated. Based on the Cambridge English Language Assessment, the marking scale (1–5) looked at three things: (1) the vocabulary the students used to discuss both familiar and unfamiliar topics; (2) the amount of language they produced and whether or not it was varied, relevant, and coherent; and (3) how they started, continued, developed, and maintained the interaction while negotiating a solution. Repeatedly watching the exchanges and making notes on the noteworthy elements, like paralinguistic cues and the idea of taking turns to express meaning, allow for the study of the video recordings (Tannen, 2012).

RESULT AND DISCUSSION

Investigating the application of pedagogical technologies in higher education to enhance EFL students' communicative competence is the goal of this study. The underlying premise is that students' use of technology and critical thinking skills forms the basis for the growth of their communication competence.

It is undeniable that contemporary pedagogical tools have a significant influence on the development of linguistic competence in foreign language instruction. Present-day technology, such as blended learning, master classes, webinars, and distance education, is extensively employed in the field of foreign experience.

The goal of communicative language instruction is to help EFL students become proficient in the language through meaningful interactions in context. Beyond rote learning and memorizing isolated grammatical patterns, this method of instruction offers genuine learning chances. Communicative competence, or the learner's capacity to comprehend and use language effectively to communicate in real-world (as opposed to simulated) social and academic contexts, is a key component of the communicative method of language training.

Based on the answers given by respondents, more than half of the respondents (N = 20) included discussion options regarding general matters as part of their answers. The next most frequent choices were discussion options through media intermediaries, expressing opinions during presentations in class, expressing opinions during discussions

in lecturing, expressing opinions during organizational discussions, and expressing opinions during public presentations.

The data regarding EFL students' interview results were mentioned as follows: *"I spoke with my classmate on WhatsApp. Emm...we have a WA group for every course... we speak about topics that the lecturer suggests (MI, September 6, 2023)."* This statement shows that WhatsApp plays a role as an academic discussion medium that facilitates directed and ongoing interactions, thus supporting the development of students' communicative competence outside the formal classroom.

"For me..., I felt comfortable aa...aa...using a new er..er the newly acquired vocabulary ..er..er.. from media technologies in my speaking tasks (DU, September 13, 2023)." This statement shows that the use of media technology helps students feel more comfortable in applying new vocabulary to speaking tasks, thus supporting increased self-confidence and communication fluency.

"Ehm... true... I prepared the questions very carefully before I... emm... I participated in the debates on Zoom. (GK, September 13, 2023)." This statement shows that the use of Zoom encourages students to undertake thorough cognitive preparation before the debate, thereby stimulating critical thinking and more effective communicative participation.

"Often... I improved my speaking skills by... aa... aa... what aa... incorporate new... vocabularies those gotten vocabulary into my discourse. (TJ, September 9, 2023)." This statement shows that students consciously integrate new vocabulary into oral discourse, which contributes to improving speaking skills and communicative competence.

"I personally... em ... felt more ... em... confident when ..in..a.. speaking with ..aa media technologies ..a..aa.. than in the classroom. (FM, Sempember 13, 2023)." Zoom ...zoom ...yes... I improved my speaking skills by... discuss... ehh... yes.. interacting in small groups ... em ... via Zoom meetings.(DK, September 6, 2023). This statement shows that small group interactions via Zoom provide intensive communication practice space, making it effective in improving students' speaking skills.

"I found the subjects of... aa.. the online discussions ..aa... a..em..motivating us to ..a... an... explore about... a... an... ability in ..in..practice our way communicative knowledge. (YS, September 6, 2023)." I...feel... eh... felt more independent in... aa..a... planning my online activities debates with no... aa... aa... the lecturer's help yes. (EK, September 13, 2023). This statement shows that technology-based learning encourages students' independence in planning online debate activities without direct dependence on lecturers, thereby strengthening self-regulation and communicative competence.

"Oh... em... I enjoy and happy also ..em..em..using my HP to work and ... em...do my reading task and vocabulary exercises. (NA, September 6, 2023)." Mam... I always use what is ..aa... I can call... ICT ..am I correct?? tool to improve my speaking; not only to improve my speaking, I guess listening and reading skills too, and ..and.. also taking notes to improve my writing skills. (SY, September 9, 2023).

The overall impression of the student's educational experience was favorable. Because the assignments were engaging, the students reported feeling at ease and motivated to communicate via media technologies to explore about our ability in practicing the students' communicative competence.

All of the students said that they develop their reading by downloading and sharing eBooks on their mobiles:

“Emm... I use Google to help... em... read a lot about ..a..aa... many topics and PDFs. I usually use WhatsApp applications, it is handy... right? (NA, September 6, 2023).” This statement shows that the use of Google and WhatsApp makes it easier for students to access digital reading materials, thus supporting the development of reading skills and independent language learning.

“Ohh... of course... I use my phone to read PDF books ... a... like..aa..by sharing them with friends. If I have internet ... internet.... data??... er... access... yes, I read online books. There are many books....good e-books. (DL, September 13, 2023).” I download some PDF books and for pleasure I like short stories and read them using my HP. Actually, I like more using library. Here the library is good, free internet access, but it is far, I use the library much time to develop my reading skills (MB. September 6, 2023).

EFL students computed the average frequency of technology use as well. The most often used media instrument was discovered to be media access, which comprised TV, films, and news channels. The social networking techniques were likewise used at a medium degree, according to the results. A part of social networking was using apps like Facebook, Instagram, WhatsApp, and so forth. These devices were employed to establish social ties. Students also mentioned being motivated by others, citing instances such as receiving assistance from a Facebook group moderator or obtaining PDFs, eBooks, movies, or audio from pals through the use of sharing apps like Bluetooth, SHAREit, etc. These resources were sporadically utilized to help students become more fluent in English, and their usage level was medium. The least used of the four tactics was visiting websites, which involved using applications and browsers to look up content for English language acquisition.

It takes more than just adding communicative tasks to a session to develop communicative competence. In order for students focus on the content of their statement, it is important to give them the freedom to think freely, solve any problems that prompt thought, and reason through the various solutions. Language should be used in the direct service of helping students form and formulate their thoughts.

It is important to look for ways to include students in an active discussion across cultures when they view language as a tool for intercultural contact. This will allow them to practice understanding the characteristics of how language functions in a new culture. In order to be considered communicative, a learner must be able to use language in a practical setting. An objective and a method to reach this objective are both provided by practical speech orientation. Teaching English requires students to develop a communicative competence, according to the communicative method.

Students as prospective teachers who have pedagogical competence within themselves definitely can manage learning programs, which include the ability to elaborate on students' abilities, plan teaching and learning programs, implement teaching and learning programs, and evaluate teaching and learning programs.

The competencies of prospective teacher, students were comprehensive and form a single unit that is interconnected and mutually supportive. The teaching and learning process will run effectively and efficiently if it was supported by the availability of supporting media. Providing dynamic, conducive, and dialogical media and educational methodology necessary for the optimal development of students' potential. This is because the potential of students will be more stimulated if they were assisted by a number of media or facilities and infrastructure that support the interaction process that was being carried out.

In the era of globalization, world developments are increasingly moving dynamically. Starting from free trade to the rise of foreign companies established in Indonesia. This is what makes the use of international languages such as English even more important to master, including among students. Students were required to be able to do so to master English to be able to compete with other nations. This will not work well if their English language skills are very minimal. Mastery of English is very important for students. However, there are still many who do not realize the importance of a good command of English for students.

In contrast to the typical uncommunicative role from the old method, students today play a more interactive role. In learner-centered activities like "problem-solving, discussion, role-plays and debates," etc., teachers facilitate the participation of all students by giving them the opportunity to participate fully. Then, we should employ assignments that are centered on pursuits that promote self-improvement. The following form the foundation of student-centered learning:

Task-based learning entails assisting the students in selecting a task they wish to complete and then letting them complete it in a group setting, individually, or independently. Student-centered learning refers to giving students the flexibility to work on subjects that interest them as long as they stay within acceptable bounds and adhere to the body of knowledge.

Self-access learning entails giving students the freedom to explore the Internet, books, journals, periodicals, newspapers, interviews, and other sources to get information on their subjects on their own. Group activities involve assigning tasks to groups of four or five students so they can work together to complete tasks and plan, prepare, and present the information they have gathered as a team. This way, each student has a specific task to complete and can learn from the teacher's helpful feedback as they go through the process steps (Shakhnoza Halimovna et al., 2019). There has been a significant surge in the use of mobile devices and the Internet to improve and ease treatment access due to the recent developments in information technology and telecommunications, as well as the widespread adoption of these devices (Kobak et al., 2015).

Of the four language skills, speaking, listening, and reading were the most frequently reported to have been improved outside of the EFL classroom with technological aids while writing was the least developed. The students can practice listening comprehension at home by downloading audio or watching videos. Similarly, individuals can purchase eBooks and use their phones to read them in their spare time. According to one of the students, students can practice speaking as a communicative competency by using different programs like WhatsApp, Imo, etc., to communicate with their friends or by practicing English with a WhatsApp group. Nevertheless, the study demonstrated that students' writing practice is limited to casual conversation rather than more formal kinds of writing, indicating that writing is challenging to practice consistently (Bin-Hady & Al-Tamimi, 2021).

Some findings supported this study revealed that participants were competent in using digital according to university standards and passed all digital competency criteria (Supyani & F, 2021). The characteristics, applications, and effects of CLT on the communicative abilities of students are known to EFL teachers (Farooq, 2015). In line with the other study, it conveyed that strong collaboration between a teacher and students is necessary to establish and develop students' communicative competence. Higher

education should require modern specialists to offer communicative language instruction (Klimova et al., 2019).

Differences in interpersonal communication skills between students in existing study programs can be reviewed from their organizational experience, frequency of speaking in public, and the context in which communication occurs. The more organizations a person joins, the more often he speaks in public, and the more often a person discusses lectures, it is estimated that his ability to carry out interpersonal communication will be better (Alfikalia & Maharani, 2009). The results showed that students created four technology-based heuristics applied in casual contexts. Some of these tactics were using social media, finding inspiration from others, and visiting websites and social networks. Pupils stated that these techniques improved their vocabulary more than grammar and pronunciation, and they also said that they improved their speaking, listening, and reading abilities (Bin-Hady & Al-Tamimi, 2021). Because intelligent systems facilitate contact between educators, students, and educational institutions, they enable the automation of student-teacher communication. The planned version made use of Facebook's chatbot, wit.ai, which was driven by artificial intelligence. This allows students to integrate their learning into a social network setting that they are accustomed to (Dyachenko et al., 2017).

The theory of communicative competence aims to comprehend a person's capacity to communicate meaning in specific settings. Grammatical competence, discourse competence, sociolinguistic competence, and strategic competence are the most generally acknowledged components of this skill. Although the theory of communication competence has had a significant impact on how classroom education is delivered, there is disagreement over the extent to which students learn from direct and implicit methods of instruction, as well as the most effective way to measure communicative competence. Communicative competence will remain a central theory in language education, even though form instruction will likely be taught directly in the near future (Shakhnoza Halimovna et al., 2019).

Out of the four language abilities, writing was the least developed, while speaking, listening, and reading were most commonly reported to have improved outside of the EFL classroom using technological aids. By downloading audio or watching films, the students can practice listening comprehension at home. Similar to this, people can buy eBooks and read them on their phones when they have free time. Some students stated that they could use several apps such as WhatsApp, Zoom, and others to practice speaking as a communicative competence. They can also practice speaking English by joining a WhatsApp group through recordings, voice notes, and videos as implementation of this study.

This study shows that the most important learning outcomes and how pedagogical technologies might help students build their communicative competence. The novelty of this study is that EFL students who interacted with one another through technological mediation in educational technology outperformed students who received instruction in person. By using pedagogical technologies, students can negotiate meaning and produce knowledge, which enhances their communicative competence. Thus, teachers ought to be encouraged to utilize technology in the classroom for the benefit of their students' educational experiences.

CONCLUSION

The student's educational experience is deemed successful overall. Because of how engaging the exercises are, the students said they felt both driven and at ease using media technology to interact. Ultimately, this research has provided an understanding of how educational technology can be used to help students improve their communicative skills as EFL students. By giving students access to a learning environment outside of the traditional classroom, educational technologies can encourage them to take a self-directed learning approach and work together to improve their communicative competence. The purpose of the current study is to investigate how pedagogical technology can support students' communicative competence development and the most significant learning outcomes. According to the research, EFL students who engaged with one another electronically using educational technology performed better than those who engaged in face-to-face instruction. Students can negotiate meaning and generate knowledge through the use of pedagogical tools, which improves their communicative competence. Thus, for the sake of their students' educational experience, educators should be urged to take advantage of its potential in the classroom.

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