



INDONESIAN ICT-BASED TEACHING OF ENGLISH-SPEAKING SKILL: A QUALITATIVE SYSTEMATIC REVIEW

by

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Abstract:

The fact that technology is inevitable nowadays in education has shifted the traditional teaching method to modern. It offers teachers various accessible facilities to support English learning based on context and needs. This paper is objected to eliciting how the teaching of English-speaking skills is integrated with Information and Communication Technology in the Indonesian context. It employs a qualitative systematic review method that synthesizes the existing studies related to the topic involving its' procedures and how those procedures bring success to learners. It has six main steps; (1) topic formulation, (2) overall study design, (3) sampling, (4) data collection, (5) data analysis, and (6) data presentation. The findings provide some insights for education developers to design methods and activities for speaking. Moreover, future researchers are suggested to explore rarely discussed areas, including young learners and unpopular technologies related to English teaching. It is also found that Information and Communication Technology based teaching speaking in Indonesia has significantly developed through the years, especially as a learning material using video, movies, and podcasts.

Keywords: English speaking skills, ICT-based teaching, Indonesian EFL

Abstrak:

Fakta bahwa teknologi tidak dapat dihindari saat ini dalam pendidikan telah mengubah cara pengajaran tradisional menjadi modern. Hal ini menawarkan guru berbagai fasilitas yang dapat diakses untuk mendukung pembelajaran bahasa Inggris berdasarkan konteks dan kebutuhan. Tulisan ini bertujuan untuk menggali bagaimana pengajaran keterampilan berbahasa Inggris diintegrasikan dengan Teknologi Informasi dan Komunikasi dalam konteks Indonesia. Penelitian ini menggunakan metode tinjauan sistematis kualitatif yang mensintesis studi yang ada terkait dengan topik yang melibatkan 'prosedurnya, dan bagaimana prosedur tersebut membawa keberhasilan bagi peserta didik. Ada enam langkah utama yang dilakukan; (1) perumusan topik, (2) rancangan penelitian secara keseluruhan, (3) pengambilan sampel, (4) pengumpulan data, (5) analisis data, dan (6) penyajian data. Temuan ini memberikan beberapa wawasan bagi pengembang pendidikan untuk merancang metode dan kegiatan speaking. Selain itu, peneliti selanjutnya disarankan untuk mengeksplorasi bidang yang jarang dibahas termasuk pelajar muda dan teknologi tidak populer yang terkait dengan pengajaran bahasa Inggris. Ditemukan juga bahwa pengajaran speaking berbasis Teknologi Informasi dan Komunikasi di Indonesia

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telah berkembang secara signifikan selama bertahun-tahun terutama sebagai bahan pembelajaran menggunakan video, film, dan podcast.

Kata kunci: EFL Indonesia Kemampuan berbicara bahasa Inggris; pengajaran berbasis ICT;

INTRODUCTION

Teaching English as a foreign language requires practitioners to be creative and resourceful. They need to facilitate English as Foreign Language (EFL) learners with a learning atmosphere that contributes to their language skills and learning motivation. When considering the best practice, English practitioners must recognize that learners nowadays are surrounded by the vast development of technology. Indeed, the majority of learners are allowed to have and operate cell phones in their daily life without vivid supervision from their parents. This has led to learners enjoying surfing on cell phones and finding what interests them most. In addition, a study conducted by Lekawael (2017) revealed that most Indonesian learners spent most of their time with their cell phone surfing on the internet (not for educational purposes), social media, and games, indicated as the highest percentage, respectively.

On the contrary, students who spend their time employing cell phones for educational purposes covered 14%, and accessing a dictionary covered 20%. Despite the minor percentage, the study found that English learners admitted to viewing cell phones as a helpful tool to develop their English competence. In line with the statement, Seraj et al. (2021) also revealed that cell phones provided feasible, ubiquitous, and effective learning environments.

The integration of Information Technology and Communication (ICT) into English language teaching to encourage Indonesian EFL learners to use cell phones as a medium to enhance their language competence has faced significant development recently. Researchers on English language teaching have attempted to provide English as Foreign Language (EFL) learners with English teaching and learning activities, which are expected to develop the learners' language competence and learning motivation, into which ICT is integrated. The integration of ICT into language teaching varies in terms of implementation. Some studies, particularly on speaking skill development, have investigated ICT as media to present learning materials interactively (Asnawi, 2015; Elmiana, 2019; Fauzi, 2016; Ismail, 2017; Kusuma,

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2017; Parmawati & Inayah, 2019; Rustan & Asik, 2016; Soerjowardhana & Nugroho, 2017; Syafii et al., 2019), to facilitate communicative activities (Fatimah et al., 2019; Lestari & Nirmala, 2020; Pangestika & Nariah, 2018; Zuana, 2018), and to develop a specific micro skill of speaking (Angraeni, Chuzaimah, et al., 2019; Evenddy & Hamer, 2016; Mulyani & Sartika, 2019). In this section, provide an adequate background of the study and add the current research to show the gap in the research.

The need to integrate ICT into language teaching and learning comes with the consequence of a practitioner possessing additional competencies. It was viewed that technical expertise in the use of technology is the primary concern when shifting traditional learning to ICT-based learning. However, it is argued by Lamy & Hampel (2007) that more than technical and software-specific skills is required. It is further elaborated that the concerns on ICT-based language teaching and learning should rely mainly on the ability of practitioners to identify significant differences and similarities between traditional and ICT-based learning and teaching context and to identify teaching strategies and techniques. Consequently, it opens up possibilities to facilitate and exploit both learners' independent and collaborative learning. Practitioners need to go through a gradual build-up of competencies as online learning progress (Lamy & Hampel, 2007).

The need to understand the relationship between ICT-based language teaching and language competence development, which in this case is speaking, plays a significant role in fulfilling teachers' competencies. This study attempts to discover the issues across the existing studies that focus on the ICT-based teaching of speaking skills. Learners' characteristics, specific learning methods, and the use of learning media which significantly relates to the use of ICT are the main concerns of this study. Therefore, regarding those facts, the research questions solely focus on ICT-based teaching of speaking in Indonesia and are formulated as follows:

1. What is the trend of ICT-based teaching of speaking each year in Indonesia?
2. What are the purposes of integrating ICT to teach speaking?
3. What are technologies used in teaching speaking?
4. What is the characteristic of samples in the articles?

METHOD

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Design

This research carried out six main stages to achieve the objective. According to Littell et al. (2008), the steps of conducting a Qualitative Systematic Review (QSR) include; (1) topic formulation, (2) overall study design, (3) sampling, (4) data collection, (5) data analysis, and (6) data presentation. In addition, Grant & Booth (2009) stated that QSR is appropriate to find a theme or construct of the subject matter. In the stage of topic formulation, the central questions and objectives of the study were formulated. It was determined that the focus of the study was to elicit the relationship between ICT-based teaching and English-speaking skill development. Then, in the overall study design stage, development protocols, settings, and population were defined. It was determined that the study was limited to the teaching of English speaking into which ICT is integrated and that it was in the Indonesian context.

Subject

In the sampling stage, the plan to collect samples was developed. The researchers themselves work as the instrument of the study to gather and select the required data through procedures. Furthermore, as this study objected to eliciting the phenomenon of ICT-based teaching of English-speaking skills in the Indonesian context, the samples were collected from Indonesian Science and Technology Index (SINTA) ranging from level 1 to 6 years 2012-2022. Taking articles from journals indexed in SINTA 1-6 as samples for research is a suitable approach. Journals indexed in SINTA (Science and Technology Index) are renowned for their rigorous peer-review processes, ensuring the quality and reliability of published articles. SINTA 1-6 represents different levels of indexing, with SINTA 1 being the highest. By covering all the levels, the data gathered becomes more comprehensive and could become a solid foundation for the research. Furthermore, by integrating the findings from the existing studies, they were then analyzed qualitatively to provide an in-depth understanding of the implementation of English ICT-based teaching of speaking in Indonesia.

Data collecting technique

The data was gathered following these search procedures:

1. Accessing the SINTA Journal website
2. Inputting the English keyword to find journals focusing on teaching and learning English.

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3. Access the journal links provided in the list of journal searches.
4. Inputting the speaking keyword to find relevant articles in the journal publisher accessed.
5. Download all speaking-development-related articles.

Considering the success of previous research in selecting procedures, PRISMA (The principles of Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was employed to report on a wide range of systematic reviews and meta-analyses (Seraj et al., 2021; Shadiev & Yang, 2020). It had four main steps, as explained in Figure 1; identification, screening, eligibility, and inclusion. In SINTA, there were 92 journals found related to English Language Teaching. By using the keyword "speaking" in each journal, researchers identified 256 related articles. Furthermore, because it only relied on SINTA, there are no possible duplicates of the articles. The abstract of each article was then evaluated concerning its relevancies and eligibility with ICT-based teaching speaking. In the end, there were about 86 articles that matched the requirements.

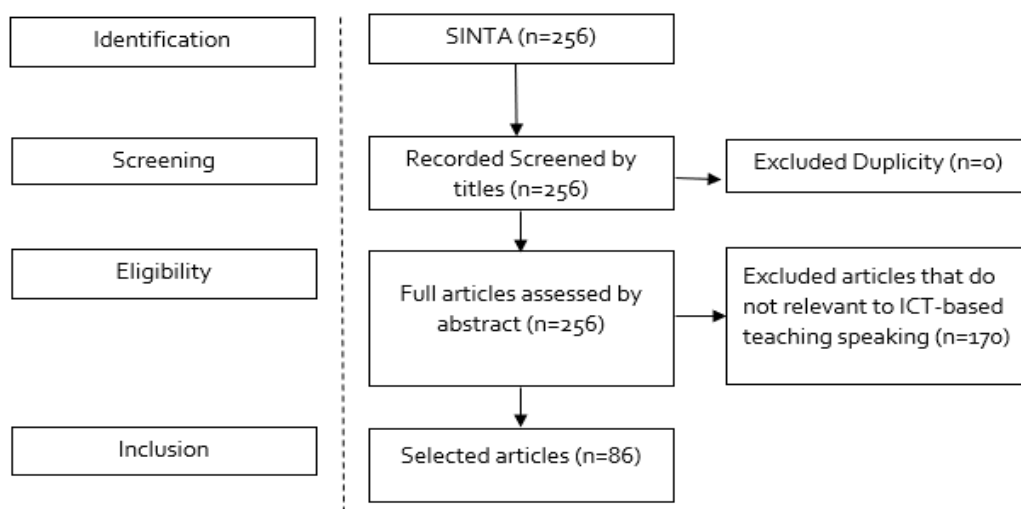


Figure 1. PRISMA Flow Chart

Data analysis technique

The data were analyzed qualitatively using an interactive analysis model developed by (Miles & Huberman, 1994). In this model, there are three stages of analyzing data. The first stage is data reduction, through which the researcher selects, simplifies, or categorizes the collected data based on the standardized form in Table 1. Coming to the next stage, data

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display, the obtained data from the data reduction stage was presented. The presentation of the data was based on specific criteria in the form of narration and tabulation. The last stage, data presentation, was used to explain the displayed data further.

Table 1. Standardized form of data collection

| No | Authors (years) | The Integration of ICT in Teaching Speaking | Technologies | Samples |
|----|--|--|---|--|
| - | Elaborating the author(s) of the articles and years of publication | Elaborating how technology was integrated into the teaching of English-speaking skills relying on nine categories by Rank (2009) | Elaborating possible equipment or tools found in the implementation of ICT-based teaching | Elaborating the sample being studied in the observed articles. |

RESULT AND DISCUSSION

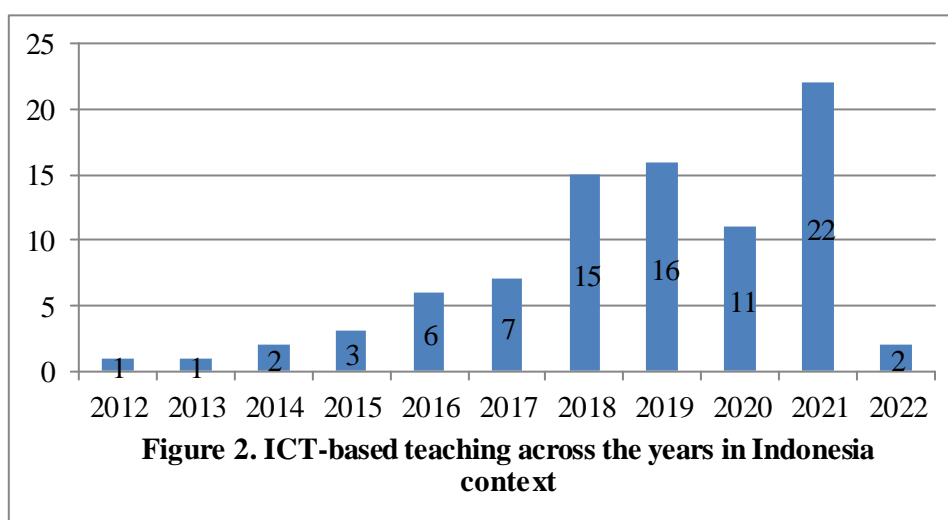
Result

Several research questions were inspected in this study. The first research question explores how this trend has evolved over the years. Results indicate a gradual increase in the utilization of ICT for teaching speaking, showcasing a positive trajectory. The second question delves into the purposes behind integrating ICT in speaking instruction. Researchers have identified several objectives, including enhancing student engagement, promoting authentic communication, and providing opportunities for independent practice. Moving on to the third question, researchers have discussed various technologies in this domain. These include videoconferencing, voice recording tools, speech recognition software, and online collaboration platforms.

Lastly, the characteristics of the samples mentioned in the articles vary. Some studies focus on specific grade levels or language proficiency levels, while others have a broader scope encompassing learners from diverse backgrounds. Overall, these research questions have provided valuable insights into the trends, purposes, technologies, and sample characteristics related to ICT-based teaching of speaking skills in Indonesia.

The trend of ICT-based teaching of speaking in Indonesia

Concerning the first component, which was the year of the study conducted, it can be seen in Figure 2 that the implementation of ICT in the teaching of speaking experienced significant year-to-year development. It first started in 2012 when an experimental study tried to use a Voice blog as a source of materials to develop students' speaking skills. In the following year, another experimental study was conducted. In this case, project-based learning focused on developing students' speaking skills. The product of the student's project was a video containing students' self-introduction, which was then assigned to be posted to Facebook.



ICT implementation to teach speaking kept developing until it reached significantly higher numbers of studies from 2018 to 2019. During these two years, 15 and 16 ICT-related studies were conducted to develop students' speaking skills. They employed different study designs, such as Classroom Action Research (CAR), experimental design, and qualitative design. During these two years, the implementation of ICT in developing students' speaking skills in the Indonesian context was also varied in terms of the approach used. Most of them employed ICT as media for project-based learning. For example, students are assigned to create a video explaining a lesson or make a video vlogging for further sharing on specific social networking sites. Some studies also explored ICT as media to present interactive materials, such as English movies, TED Talks videos, and YouTube videos.

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Moreover, the trends of integrating ICT into the teaching of speaking experienced a slight decrease, from 16 studies in 2019 to 11 studies in 2020. Despite the slight decrease, the main interest was project-based learning, where videos were the product. Furthermore, the following year, the number of research reached its peak at 22 articles in total. Unlike previous years' trends, utilizing ICT to help teachers develop material to teach speaking was dominant. Currently, there were two articles found in February discussing the topic. This fact showed that teachers were more aware of technology existence each year, which might change future English education.

Purposes of integrating ICT to teach speaking

Integrating ICT into the teaching of speaking, according to the analyzed studies, covered varied objectives. These objectives were found to be in six categories, including ICT as; (1) learning materials, (2) medium for sharing, (3) project/task-based learning, (4) vocabulary acquisition, (5) speaking test, and (6) assessment for learning. As presented in Figure 3, the implementation of ICT as learning materials occupied the highest proportion. Of the 86 studies, 49 studies employed ICT as materials for learning. The idea was that teachers of researchers would use some short videos, movies, podcasts, e-books, digital pictures, or audio recordings for students to observe, listen to, or read. Then, they were assigned to respond to the digitalized materials, which could be complementing, criticizing, or questioning. In this category, ICT played a role in triggering the use of English as a means of interaction.

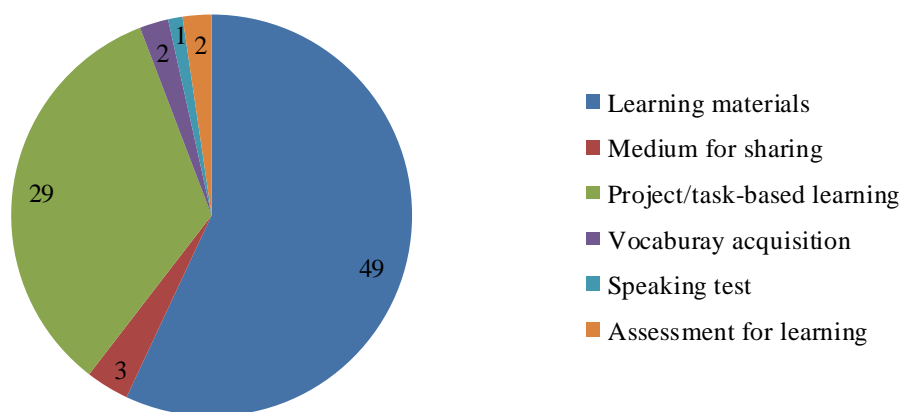


Figure 3. The obiective of ICT inteграtion in teaching

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The next objective was project/task-based learning. Unlike ICT as learning materials, students actively participated in operating technology in ICT-integrated project-based learning. For example, some studies assigned students to create a short movie. This way, students needed to understand how to record their performance, create story plots collaboratively, and edit the video for the final production. In other studies, students were assigned to create Vlogging videos. Students had to record their activity, starting by introducing themselves and continuing by explaining what they were doing or the objects they were interacting with. Making tutorial videos was also assigned to develop students' ability to tell others how to do something. The following objective was a medium for sharing. In this case, the technology was used as a facility for students to share spoken ideas. The students had the chance to operate the technology but were not assigned to produce a specific product at the end of the learning sessions. The focus of this objective was to trigger students to have frequent practice using the target language. This objective was employed by 3 out of 86 studies, implying less popularity compared to the first two objectives.

The following two objectives were as mediums for vocabulary acquisition and assessment for learning. There were, respectively, two studies proposing these objectives. The two studies employed different media, radio talk shows, and online gaming for vocabulary acquisition. Then, as an assessment for learning, students actively participated in producing a particular product, recording their speaking in the form of audio and videos. Then, with the teacher's guidance, the students were told to observe and evaluate their performance. Finally, using ICT in teaching speaking was also objected to testing the students' speaking performance. From 86 studies, only 1 study employed this objective. The teacher used the WhatsApp voice note feature to facilitate the testing process. Students were told to present a topic in a fixed time and send it to the teacher's number for scoring. Unlike assessment for learning, this way, students were not assigned to evaluate their speaking performance.

Technologies used in teaching speaking

The implementation of ICT in teaching speaking required the presence of certain types of technological-based media. Despite the difference in the usage purpose, the 86 experimental studies exploited up to 20 categories of technological-based media. As presented

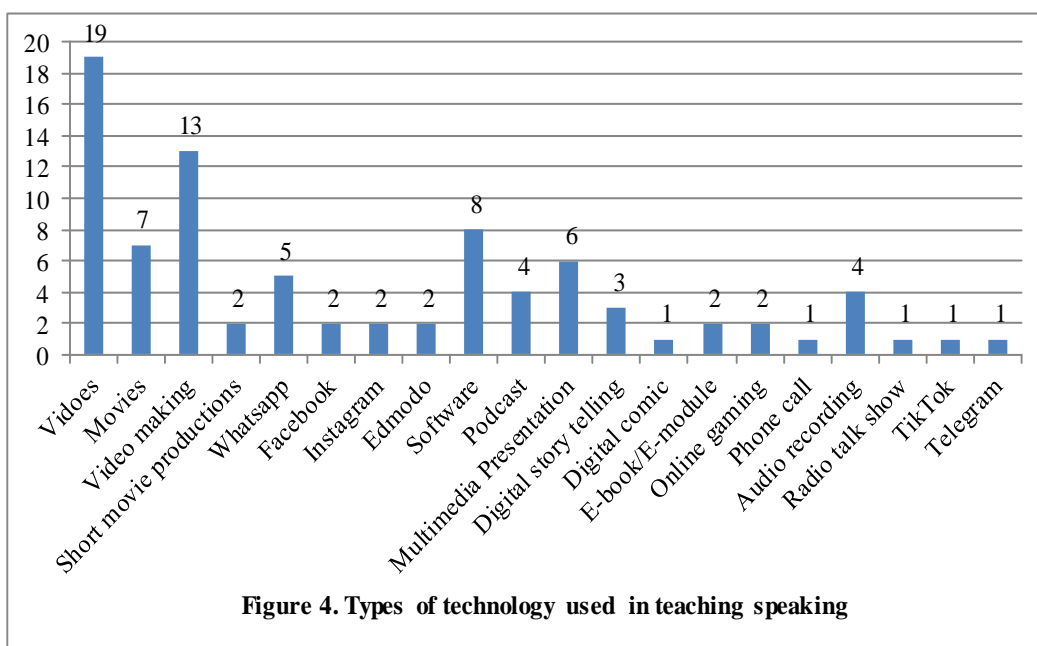
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in Figure 4, videos were the most favorable technological media, covering up to 19 studies. All of them used videos as sources of learning materials. The next was video making. It served 13 studies and was mainly related to project-based learning. In the third place, eight studies tried implementing specific software to facilitate students' speaking skill development. The four studies used six kinds of software: Faceapp, ORAI, VLE, 9GAG, Learn Social Online and Let's Learn English.

Furthermore, English movies were also chosen as materials for teaching speaking, occupying 7 out of 86 studies. In this case, students were assigned to observe and give comments about the movies. Next, multimedia presentations with a total of 6 studies also became quite exciting technology teachers use to teach speaking. Aside from being used as learning materials, it also related to task-based learning in which students were assigned to observe a particular topic, prepare a PowerPoint Presentation (PPT), and present it in front of the class.



Furthermore, five studies discussed WhatsApp, a popular messenger in Indonesia. By utilizing its features, such as sending text, pictures, and voice notes, as a means of communication and learning, teachers could help students to develop their speaking skills. Moreover, audio recordings and podcasts served as many as four studies each. The audio recording and podcasts were the same, a final product of project-based learning in a particular context. However, the podcast was also used to teach speaking. Of the four studies, three of

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them employed podcasts as learning materials. Finally, the least used technological-based media with a range of 1 to 3 studies were digital storytelling, short movie production, TikTok, Facebook, Instagram, Edmodo, digital comic, e-book/e-module, online gaming, phone call, and radio talk show. The number of studies was low because the technology was unpopular in Indonesia and had yet to be explored often.

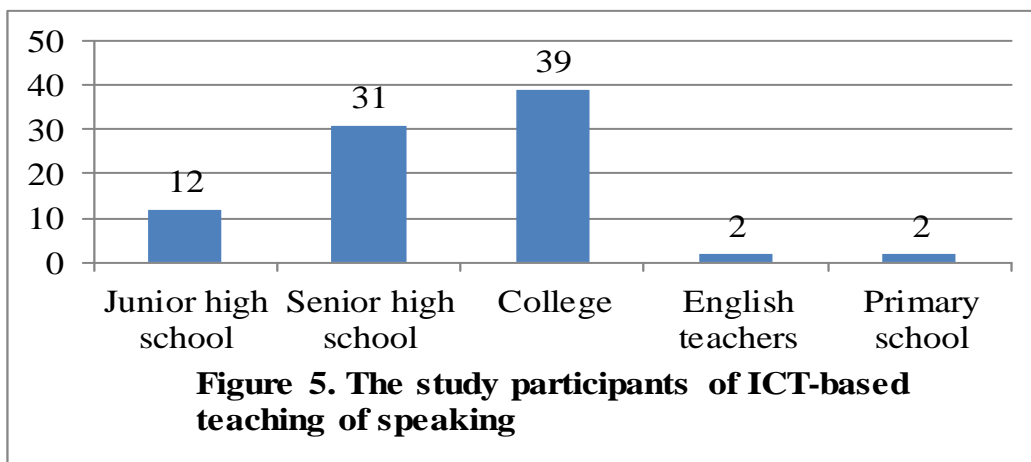
Characteristics of samples in research articles

Viewed as an attribution to answer the research question, it is significant to know the characteristics of participants studied to develop their speaking skills through ICT implementation. As presented in Figure 5, the participants of the studies were found in 5 categories; primary school students, junior high school students, senior high school students, college students, and English teachers. From the 86 observed articles, 12 studies employed junior high school students as participants. These samples mainly were brought to use technology as materials for developing their linguistic competence, which served up to 8 out of 12 studies. In addition, three studies used this sample category for project-based learning; video making, multimedia presentation, and short movie production. Finally, one study employed this sample category to have an assessment for learning in which students were assigned to record their speaking and evaluate their performance by listening to their recording.

The following sample category, senior high school students, were employed over as many as 31 studies. This group of samples experienced more varied usage of ICT, including materials for learning, project- and task-based learning, and medium for sharing. The highest category of the sample was college students, serving 39 out of 86 studies. They served almost all objectives of integrating ICT in speaking skill development, including learning materials, project-based learning, medium for sharing, assessment for learning, and speaking tests. Finally, the last sample category was the English teachers and primary school students, with only two each out of 86 studies. At the English teacher level, researchers tried to investigate teachers' ability to integrate ICT into the teaching of speaking. While one investigated the teacher's ability to select digital-based materials, another tried implementing technology as project-based learning. The teacher's ability and attitudes toward producing students' digital storytelling were investigated and observed. Furthermore, the first study in primary school

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used videos for project-based learning, and the second used WhatsApp and voice note features as material to develop students' speaking skills.



Discussion

The trend of ICT-based teaching of speaking skills in Indonesia has shown a positive trajectory over the years. As technology becomes more accessible and integrated into educational settings, language instructors increasingly recognize the potential benefits of incorporating ICT in speaking instruction. The availability of online platforms, videoconferencing tools, and multimedia resources has facilitated the implementation of interactive speaking activities. Based on the data collected, in 2012, the integration of ICT in teaching was identified for the first time, focusing on utilizing Voice Blog to improve students' speaking skills (Laily Nurjanah, 2012). Furthermore, in the following year, 2013-2019 (Aeni & Arini, 2015; Ganda et al., 2019; Pradana et al., 2016; Rahayu, 2021; Untung, 2013; Wijanarko et al., 2021), there have been many researches discussing the topic. The number keeps increasing until it reaches 2020. Then, the total increases again and is expected to grow over the year. Published in February 2022, the most recent studies are about delivering learning materials through animation video, WhatsApp, and Zoom (Naksabandi & Haryudin, 2022; Qalyubi & Nirwanto, 2022). The results show positive contributions toward students' language skills development. Therefore, that might be the reason for a steady rise in the utilization of ICT for teaching speaking, suggesting that educators in Indonesia are embracing technology as a valuable tool to enhance language learning outcomes.

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Integrating ICT in teaching speaking serves various purposes that contribute to the overall language learning experience. Additionally, various technologies can be used to improve students' speaking skills; for instance, ICT as learning material. According to the results, videos as a learning material are most popular among researchers. Instructional videos, which provide detailed information on the topics discussed, contribute robust materials to enhance the learning experience quality, particularly in spoken English comprehension (Zaitun et al., 2021). Furthermore, Movies are the second highest learning materials discussed in the articles. According to Aeni & Arini (2015), students enjoy speaking and get more excited while learning English through movies. This action research also indicated significant students' speaking skills improvement. Another learning material is podcasts that can help students promote their speaking skills since they are adequate for their vocabulary, pronunciation, and self-confidence (Perdana Prasetya & Nuraeni, 2021).

The second objective of ICT is to use it as a medium for sharing. It emphasizes the frequency of students' speaking practice using the target language by using applications with sharing features; for instance, 9GAG. It can be accessed by students through their devices directly. A lot of humor and funny content make this application favorable and could encourage students to communicate and practice speaking by reading and presenting content from the application (Sofian Hadi et al., 2021). Moreover, students can also use WhatsApp as a medium to communicate and speak during the pandemic era. They can practice speaking by retelling the narrative stories and presenting pictures sent by teachers using WhatsApp voice notes (Nurazizah et al., 2019). The following purpose of ICT is to use project/task-based learning. Students are engaged in using technology to improve their speaking skills. For instance, by creating English vlog projects, students can choose their topics and target audiences. They can learn how to present ideas, explain something, and work with technology using their styles (Fitria, 2022) and make a tutorial video as project-based-learning can give students more experience and improve their English-speaking skills, creativity, and self-confidence (Tyas & Fitriani, 2021).

Another objective of ICT integration is used as vocabulary acquisition. Based on the studies discussed, there are only two media to promote vocabulary acquisition through ICT. A radio talk show is an interactive communication in the form of a conversation between an announcer and caller or listener using the phone line. It may influence students speaking

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ability that focus on not only accent, grammar, fluency, and comprehension but also vocabulary (Elmiana, 2019). Furthermore, based on students' perception, online gaming can improve students' new vocabulary acquisition in various ways, such as guessing the meaning, making new vocabulary lists, and finding synonyms and its translation (Angraeni, Nasir, et al., 2019). The last two objectives of ICT are speaking tests and assessment for learning. These days, many teachers benefit from various applications such as learning and teaching assistance such as Edmodo and Schoology. These applications help teachers manage learning materials, maximize teaching speaking, and quickly grade the task or practice (Yuniarti et al., 2019). Voice recording tools also have been highlighted for their usefulness in promoting self-assessment and providing learners with opportunities to review and improve their spoken language (Widyawan & Hartati, 2016).

The characteristics of the samples mentioned in the articles vary, reflecting the diverse range of studies conducted in the ICT-based teaching of speaking. However, according to the observed data, college students are the highest category of sample interacting with ICT. This is due to the fact, as presented in some previous studies that older students have more confidence in using technology in language classes (Yau & Cheng, 2012). It also aligns with Olson et al. (2011), who found that older adult students reported a more varied range of experience in dealing with technology. Despite the absence of ICT-based teaching of speaking in elementary schools in the Indonesian context, it should be noted that there are significant possibilities for language skill development when the teaching of language in elementary schools is integrated with ICT. For example, Godzicki et al. (2013) proven that motivation and engagement are significantly increased when elementary students' learning environment is facilitated with technology. Also, with a well-prepared teacher and careful consideration of application types, Chauhan (2016) argued that ICT-based language teaching in elementary schools could bring several advantages.

CONCLUSION AND IMPLICATION

Conclusion

In conclusion, the research questions explored in this study shed light on the current landscape of ICT-based teaching of speaking skills in Indonesia. The first research question

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revealed a positive trend in adopting ICT for teaching speaking, indicating a gradual yearly increase. This suggests a growing recognition of the potential benefits and effectiveness of integrating technology into language instruction. This study revealed that the significant development of ICT-based teaching of speaking happened in 2018, 2019, and 2020, 2021, which reached the maximum number of studies, 22. In addition, in 2022, only two researchers discussed the issue in February, and the number was expected to overgrow.

The second research question focused on integrating ICT in teaching speaking. The implementation of ICT-based speaking teaching covered various objectives in which learning materials and project-based learning proposed the highest number of studies, which reached 49 and 29, respectively. Turning to the technologies discussed by researchers, a range of tools and platforms were identified, and the study found varied types of media used. Videos as materials and video-making projects had the highest proportion, reaching 19 and 13 studies, respectively. Finally, the characteristics of samples in the articles varied, reflecting the diverse nature of the studies conducted. However, college students were the most favored, followed by senior high school and junior high school students, teachers, and primary school students.

Limitation

This research has limitations in some aspects, one of which is in the article sources. The search is limited to SINTA (Science and Technology Index), which provides research information from Indonesian national journals. Furthermore, the articles gathered only focus on integrating ICT to improve speaking skills. Therefore, future researchers should explore international journals or Scopus Indexed articles. It is also suggested to focus on integrating ICT with language skills other than speaking, such as reading, writing, and listening.

Implication

Overall, the research provided valuable insights regarding trends, purposes, technologies, and sample characteristics related to ICT-based teaching of speaking skills in Indonesia. Future researchers could significantly consider the finding in designing methods and activities in English classes to improve speaking. In addition, it could be used to identify topics or technologies that have yet to be discussed by researchers about ICT, especially for young learners. Therefore, researchers could research it and have significant impacts on English education.

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