Students need analysis in developing mobile English application for English as a foreign language young learner

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Article Info

ABSTRACT

Technology in the learning process can assist in providing teaching materials to students, making it easier for students, teachers, and parents to react whenever and wherever they are; facilitate and assist in the preparation of materials sourced from the internet; as well as assist in simulating, visualizing the learning process in a structured, processed, and scientific manner. This research analyzed the student's need to develop the mobile application. This research used the steps in the combined research and development (R&D) and analysis, design, develop, implement, and evaluate (ADDIE) models. The study was conducted in Makassar, and the research subject was the students at Junior High School, with 100 randomly selected participants. The data were analyzed descriptively using interviews, observations, and participant questionnaires. The result showed that students need applications containing material that is easier to understand, using audio or video using Indonesian speakers, and interactive exercises so the students can improve their speaking skills. Based on the results of the questionnaire, the researcher synergized the school's existing curriculum with the needs analysis (N.A.) carried out by the researcher so that the results of this study would benefit the English as a foreign language (EFL) young learners, teachers, and stakeholders.

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1. INTRODUCTION

In the industrial revolution 4.0 era, technology is developing rapidly in various aspects of life. The need for information is straightforward, thanks to technology, especially the internet. Now, people can quickly get information through the internet. This also affects the development of learning English. Technological developments change how people learn, interact, and spend their free time. The current use of technology improves teaching and learning in schools. Schools have implemented the use of technology as a learning medium. Technology, especially in the curriculum, is expected to support the teaching and learning process and make it more attractive to students because, so far, students have only received learning material using conventional methods. Using technology allows the learning process to be carried out both inside and outside the school because it can be accessed anywhere and anytime. Technology is an essential part of the process of teaching and learning. Research by Bajcsy and Reynolds [1] argues that the application of technology in the learning process can assist in providing teaching materials to students, making it easier for

students, teachers, and parents to react whenever and wherever they are; facilitate and assist in the preparation of materials sourced from the internet; as well as assist in simulating, visualizing the learning process in a structured, processed, and scientific manner. Using the internet in the learning process makes it easy for students to obtain subject matter. Research by Dudeney *et al.* [2] said that the availability of an internet network made it easier for students to access information, students became more accessible to grow in the technology era, and learning English as an international language was easier to understand because of the support of internet access. Seeing this, it is essential to take advantage of technology as a medium of supporting learning, especially during the COVID-19 pandemic.

In foreign language learning, especially English learning, the use of mobile assisted language learning (MALL) is a necessity that aims to overcome problems that often occur during the teaching and learning process, such as a lack of class hours to increase students' time for studying, practicing language skills, limited authentic learning materials, and too many students studying. For this reason, the e-learning model is an innovation that can help students improve their abilities. E-learning is a learning process that involves digital devices in student learning activities, which will provide a new learning space and culture so that learning activities can occur anytime and anywhere. Technology has become one of the most powerful drivers of English language acceptance. Digital tools and platforms expose authentic English language resources to individual learners and free them from top-down teaching approaches. Technology offers higher quality English language training than is available locally. In theory, the increasing availability of fast mobile connections and the diversification of public and private English training should make it easier for adults to customize their learning experiences and improve their English skills outside of formal schooling. Advances in artificial intelligence, virtual reality and other emerging technologies could create a new era of digital training that is more interactive and relevant. However, in practice, many online courses need to be improved by low enrollment and high attrition rates. For technology-enabled English language training to reach its maximum potential, providers need to engage students with engaging design strategies and live online instruction. According to Kukulska-Hulme [3], using technology or smartphones today aligns with educational goals, namely expanding learning opportunities, improving student achievement, supporting learning needs, and providing authentic material to students. The development of mobile-assisted language learning MALL started in the 80s with Twarog and Pereszlenyi-Pinter, who researched language study with the help of the telephone. They use the phone to provide assistance and feedback to distant language learners [4]. MALL has been overgrown, and many articles have examined the use of mobile applications in language learning. Research by Kukulska-Hulme [3] define mobile-assisted language learning MALL as a form of learning that uses mobile devices, both formally and informally, and can be used anytime and anywhere. Mobile devices are smartphones and tablet computers with an Internet network and other devices without Internet access, such as electronic dictionaries, MP3 players, and game players. Research by Valarmathi [5] states that MALL is an approach to language learning that uses mobile devices. MALL is part of cellular learning (m-learning) and computer-assisted language learning (CALL).

Some studies have been conducted in the field of mobile applications. Dwiaji [6], in his research entitled "Easy English learning android application (EEL): M-learning model for learning speaking skills in class XI students. Yogyakarta: Postgraduate program in English studies, Sanata Dharma University". He said that technological developments, especially smartphones, could create new opportunities for students to improve their English, especially speaking skills. Wang [7], in his research "designing mobile applications for learning English vocabulary. "In his research, hopes that the application of English vocabulary is developed independently for use by students in private universities. Tyas and Ulinnu [8], in research "utilising smartphone as a fun media to enhance the students' English capability." She concluded that the use of smartphone applications as a fun learning medium to create a sense of love and improve students' English language skills in the English learning process is a method that must be applied by lecturers, teachers, college/school management and students. This is important because many students only use smartphones for personal interests and fun, and many of them even abuse them. In addition, by using smartphones, it is hoped that students will become smarter and appreciate technological advances. Suryani [9], In the research "learning English from Mpama using android based mobile application." concluded that Most students are more enthusiastic, active, and entirely understand the material in learning the English process, especially in narrative from Mpama, than material which is taken from the other place or overseas. Students feel comfortable and happy when they learn using the device as a media and learning resource so that they can do lifelong and self-learning.

This study was very different from the research previously mentioned. Most of the research above deals with developing English applications for high school or university students, teaching English in general, applying technology in English language teaching, and mobile English applications in general. One more thing that makes the difference in this study is that researchers remember to synergize the existing curriculum in schools with the results of the needs analysis (N.A.) conducted so that this study benefits young English as a foreign language (EFL) learners, teachers, and stakeholders. In this study, the researchers

focused on the need analysis of developing Mobile applications for young EFL learners. Needs analysis is essential in developing English language learning [10]. This also aligns with Macalister [11] opinion that needs analysis is the first step in curriculum development. In addition, he also said that needs analysis is a collection of evaluation results carried out objectively to obtain curricular objectives that match the needs of students in the learning process. According to Songhori [12], needs analysis is the first step in curriculum design. Meanwhile, Nunan [13] argues that "needs analysis is a procedure in assessing a subject which contains criteria and reasons for students in choosing subjects. Diana and Mansur [14] argued that needs analysis is a process of compiling a curriculum designed based on student needs to achieve curriculum goals. Needs analysis is the foundation for developing curriculum content, teaching materials, and teaching methods to increase student motivation and success [15]. In another study, Ramani and Pushpanathan [16] found that it is essential to understand how students perceive their English needs by identifying students' backgrounds and the factors that cause changes in their language needs. It is essential to use this constructive information to prepare a learning curriculum. Other research conducted by Boroujeni *et al.* [17] concluded that conducting a needs analysis can help find out whether the program fits the goals and objectives of learners to learn a language and, at the same time, is used to help improve various components of a more oriented to the needs of the learners. Furthermore, Boroujeni and Fard argue that needs analysis can help evaluate existing programs. If deficiencies are found, it can help determine the need to introduce changes that may suit the needs of students.

2.   METHOD

This research used the steps in the combined research and development (R&D) and analysis, design, develop, implement, and evaluate (ADDIE) models. The first step is information information collecting (analyzing). In this stage, the researcher conducted a literature study and needs analysis to gather information about the student's needs. The objective is to specify the product and collect the information necessary to develop the product. The researcher studied some literature related to the research field and some documents related to the research target, including the curriculum and syllabus, to gain knowledge for product development. The need analysis is conducted by observing the teaching and learning process in the classroom, interviewing English teachers and the students, and distributing questionnaires to the students. The observation aims to analyze the problems and needs of learning. At the same time, interviews and distributing questionnaires are conducted to gather helpful information about their opinions and expectations toward the mobile English application.

The participants are the target learners and the experts. The target learners are students at Junior High School. They give feedback, opinions, comments, and suggestions related to the material and media aspects of the application when it is implemented in preliminary and main field testing through questionnaires and interviews. The total number of participants was 100 students.

The instruments will be used to attain valid and reliable data from the research participants. The following is an explanation of the instruments used in the research questionnaire. A questionnaire was used as one of the instruments to gather the participants' opinions toward the product. Research by Gui-xia [18] state that a questionnaire is a printed list for data collection containing questions or statements for the subject to respond to. Questionnaires can be used to attain quantitative, qualitative, and mixed data. It depends on the objective of the research. According to Ary *et al.* [19], there are two types of questionnaires: structured or closed and constructed or open. In structured or close questionnaires, both questions and answers are provided. The respondents choose the response that best represents their opinions. In the unstructured or open questionnaire, the respondents elaborate their opinions using their own words. This research used structured and unstructured form questionnaires since they are more effective in gathering data using those two methods. The first method is used by providing some statements, and the respondents are asked to select their answers from 1 to 5 points of agreement using the Likert scale. The need analysis questionnaire is aimed at gathering Information related to the student's interests in learning English, especially speaking, the student's oral proficiency, communicative competence, speaking problems, and the use of technology in teaching and learning activities.

The data are gathered in the form of scores when analyzing the questionnaires. The questionnaire is designed using the Likert scale. Bell [20] states that the Likert scale asks the respondents to indicate the strength of their agreement and disagreement with a given statement on a point range of five. The responses for every statement are measured with a scope of 1 up to 5. The statement of strongly agree (SA) has five points, the statement of agree (A) has four points, the statement of undecided (u) has three points, the statement of disagree (D) has two points, and the statement of strongly disagree (SD) has one point. The data analysis process is calculated using descriptive statistics. It is a set of procedures conducted to describe

different aspects of data. The results will be classified into some categories based on converted scores. The corrected scores will tell the result in order to show more precise data.

3.   RESULTS AND DISCUSSION

The research results are explained in this section, and a comprehensive discussion is given. Results can be presented in figures, graphs, tables, and other things that make the reader understand easily [21], [22]. The discussion can be made in several sub-sections.

3.1. Results

The needs analysis in this study is not only necessary to find out what students need but also to find out what kind of content will be created by the researcher in the application. In analyzing students' needs for the development of this mobile English application, the researcher divided the findings into three main parts: Language skills in mobile English application, the content of the mobile English application, and speaking material in the mobile English application.

3.1.1. Language skills in mobile English application

Technology is an effective tool for learners. Learners must use technology as a significant part of their learning process. Teachers should model the use of technology to support the curriculum so that learners can increase the true use of technology in learning their language skills [23]. The use of technologies plays a key role in language learning based on their own pace, helps in self-understanding, does not stop interaction with the teacher, and creates high motivation in learners for the effective learning of language skills. The learners should use technology to enhance their language skills because it has as a crucial role in developing learners' creativity and provides them with interesting, enjoyable, and exciting alternatives to study the language.

In developing a mobile English application, the first thing that must be known is the language skills the students want to learn in the application. By determining language skills, the researcher can decide which material is included in the application. Based on the results of a questionnaire given to participants, the following results were obtained in Figure 1.
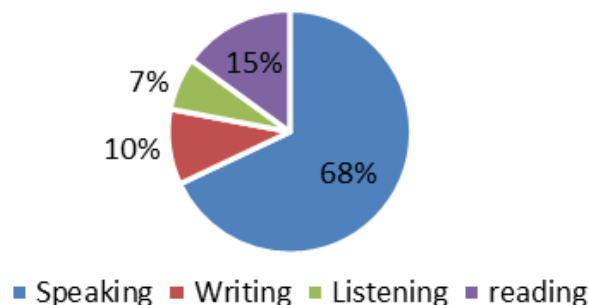

Figure 1. Language skills in mobile English application

Based on Figure 1, from 100 students there were 68 students (68%) chose speaking skills and presented in the form of an Android app, ten students (10%) selected writing skills and raised in the form of an Android app, seven students (7%) choose listening skills and presented in the form of an android app, and 15 students (15%) choose listening skills and raised in the form of android app. The development of the applications is expected to improve speaking skills. By utilizing the application, students will use it wherever and whenever so that their interests and efforts can improve their speaking skills, which is most important in this modernized IT world. The use of technology has changed the methods from teacher-centered to learner-centered ones. Teachers should be facilitators and guide their learners' learning and this change is very useful for learners to increase their learning [24]. Gillespie [25] said that the use of technology increases learners' cooperation in learning tasks. It assists them in gathering information and interacting with resources such as videos. According to Rodinadze and Zarbazoia [26], technology helps learners and teachers in studying the course materials owing to its fast access. Advancements in technology have a key role in preparing learners to use what they learn in any subject matter to finding their place in the world labor-force. Technology facilitates learners' learning and serves as a real educational tool that allows learning to occur.

3.1.2. Content of mobile English application

Digital content is content in a variety of formats whether text or writing, images, videos, audio, or a combination that is converted by the reader into code so that it can be read, displayed, or played by a digital machine or computer and easily sent or shared via digital media. Digital media also varies, ranging from e-mail, blogs, websites, podcasts to social media such as YouTube, Facebook, and digital contents. which have now become a part of everyday modern human life. Indonesia occupies as one of the largest countries that uses one of the world's most popular social media, digital contents. In the rankings of digital contents users, Indonesia reached 53 million, which means that almost all smartphone users in Indonesia are digital contents users.

In developing an application that is a digital content product, content is the most important thing and determines how much the application benefits to users. The content created must be exactly in accordance with what is needed by the user and easy to understand in terms of use. In a need's analysis, the researcher identifies the form or content the user wants. Based on the results of the questionnaire, the following results were obtained in Table 1.

Table 1. Content of mobile application

No	Information	Answer	Frequency	Percentage
1	The content of mobile English application only learning materials	Strongly agree	20	20
		Agree	15	15
		Neutral	10	10
		Disagree	25	25
		Strongly disagree	30	30
	Total		100	100
2	The content of mobile English application learning materials and video tutorials	Strongly agree	60	60
		Agree	21	21
		Neutral	7	7
		Disagree	2	2
		Strongly disagree	10	10
	Total		100	100
3	The content of mobile English application learning materials and exercises	Strongly agree	15	15
		Agree	15	15
		Neutral	20	20
		Disagree	28	28
		Strongly disagree	22	22
	Total		100	100
4	The content of mobile English application learning materials, video tutorials, and exercises	Strongly agree	35	35
		Agree	15	15
		Neutral	13	13
		Disagree	13	13
		Strongly disagree	24	24
	Total		100	100

Table 1 shows that students prefer the mobile English learning application made by researchers containing learning material and video tutorials, with 100 respondents divided into 60 (60%) who strongly agree and 21 (21%) who choose agree, 7 (7%) choose neutral, 2 (2%) disagree and 10 (10%) choose strongly disagree. Based on these results, the English learning application made by researchers contains learning material and video tutorials. The use of videos in teaching speaking in EFL classes has many advantages. This can help teachers in the learning process in class. By utilizing video in teaching speaking, the teacher has alternative learning media so that students do not feel bored in receiving teaching materials. For the curriculum 2013, the use of video speaking materials helps the teachers in transferring the material to the students. According to Canning-Wilson [27] video is at best defined as the selection and sequence of messages in an audio-visual context. Video contains the visual or moving object while also producing the sounds or voice. Video delivers material in context, particularly in speaking, the language is delivered livelier since students can hear the language and watch the situation of the language use at the same time. So, it helps the students can master English speaking way better.

The research about the use of video in teaching speaking was ever conducted by Mustikawati [28] entitled the effectiveness of using video in teaching speaking for the eighth-grade students of State Junior High School 1 Manisrenggo. She stated that a significant effect happened when she used video in teaching the students. The video can stimulate students' interest and motivation in learning the materials especially in

speaking. The next study comes from Muna [29]. His study entitled Utilizing YouTube Videos to Enhance Students' speaking skill. By using the video taken from YouTube the students' speaking skill is increased in the five aspects of speaking skill. He also found that the learning process was more fun and enjoyable

3.1.3. Speaking material in mobile English application

The key factor in the English learning development is the opportunity given to students to speak in the target language. Teachers must improve the students' willingness and reason to speak. A possible way of stimulating the students to talk might be to provide them with the extensive exposure to authentic language through audio-visual stimuli and with opportunities to use the language [30]. In determining the speaking material included in the mobile English application, the researcher provides several criteria that students can select so that later, it is easier for them to use this application and understand the content of the material. Based on this Table 2, the results are:

Table 2. Speaking material in mobile English application

No	Information	Answer	Frequency	Percentage
1	The speaking materials of mobile English application easy to understand	Strongly agree	23	23
		Agree	10	10
		Neutral	15	15
		Disagree	22	22
		Strongly disagree	30	30
	Total		100	100
2	The speaking materials of mobile English application based on the curriculum	Strongly agree	10	10
		Agree	21	21
		Neutral	11	11
		Disagree	42	42
		Strongly disagree	16	16
	Total		100	100
3	The speaking materials of mobile English application easy to understand using and using video in learning material	Strongly agree	30	30
		Agree	10	10
		Neutral	20	20
		Disagree	10	10
		Strongly disagree	30	30
	Total		100	100
4	The speaking materials of the mobile English application are easy to understand, and video is used in the learning material and based on the curriculum	Strongly agree	82	82
		Agree	15	15
		Neutral	0	0
		Disagree	0	0
		Strongly disagree	3	3
	Total		100	100

Table 2 shows that students prefer the mobile English learning application made by researchers. The content of speaking materials is easy to understand, using video in learning materials and based on curriculum with 100 respondents divided into 82 students (82%) who strongly agree and 15 students (15%) choose to agree and 3 students (3%) choose strongly disagree. Based on these results, the speaking materials for the mobile English application made by researchers should be easy to understand, using video as learning materials.

Using video will help the students to understand the people's ways of communication, to express their language acquisitions formally and informally, and to set their communication on the screen, so they can develop their understanding and comprehending of the language context. Audio-visual stimuli provide learners with opportunities to learn from auditory and visual experiences, which enable them to develop their speaking ability. It is believed that a video project will lead the students to have a connection as the bridge of relationship to make a real-world communication role. Research by Harmer [31] says that learner motivation increases when learners learn language using video. The students tend to have more interests in learning and have doubled their motivation in seeing the use of the real language in real situation. Research by Busà [32] enhances that listening to real people speaking about real-life experiences and interacting with other speakers in a natural way may be considered more stimulating.

3.2. Discussion

3.2.1. Language skills in mobile English application

Technology nowadays is expected to help and facilitate students in language learning, especially speaking. Utilizing existing technology makes learning easy for students because they can access their learning materials anywhere and anytime. Speaking is the most essential thing in the era of globalization. By mastering speaking skills, we can quickly expand our networks and add to our relationships from anywhere. Diana and Mansur [14] stated that speaking language skills are the most needed and urgent for students in their present situation or future careers.

MALL comes in a variety of formats: text or writing, images, videos, audio, or a combination that is converted by the reader into code so that it can be read, displayed, or played by a digital machine or smartphone and quickly sent or shared via digital media. Maulina *et al.* [33] stated that students felt very confident and were encouraged to speak through WhatsApp groups by audio and video recording chat-based from day to day speaking habits. WhatsApp, a social media platform, has much potential for students to improve their speaking skills through audio and video recording. Therefore, the passive students were also engaged actively when the lecturer and the rest of the WhatsApp group members set a stimulus. MALL varies, ranging from email, blogs, websites, and podcasts to social media such as YouTube, Facebook, WhatsApp; these have all become a part of everyday modern human life.

In 2017, Indonesia experienced increased digital content consumption caused by the increasing use of social networks. Increasing cellular networks will continue to stimulate the consumption of digital content. The growing number of cellular and multimedia telecommunications device users is expected to be an opportunity for developing the content industry in Indonesia. This is supported by the character of the content industry, which is open to giving developers opportunities, especially the millennial generation, to be more active. Digital content development in Indonesia today is dominated by entertainment content. The development of MALL still needs to be improved. Too many content creators or programmers still want to focus on educational things. Education has also experienced rapid development, including the presence of MALL. By utilizing the development of information and communication technology, education can reach all levels of society. The development of a digital-based education platform began to flourish in Indonesia. Learning systems in the modern era are more effective in providing learning to students.

3.2.2. Content of mobile English application

The application of technology, especially during the COVID-19 pandemic, became very important in teaching English. Teachers and students can use many tools/platforms and even digital content as learning resources. The use of technology in the learning process has freed them from the top-down teaching approach. In many cases, technology, especially digital content, can provide high-quality English language training to students because the content can contain videos from native speakers. Super-fast internet connection improvement and synergy between the private sector and the government in creating platforms or digital content for language training can facilitate students' and teachers' learning processes. Current technological advances also encourage individuals to develop new digital-based things that are more interactive and relevant. During the COVID-19 pandemic, the government, together with all stakeholders, played a role in creating digital content containing learning materials needed by students and teachers to support the current learning process of e-learning.

According to Fansury *et al.* [34], using digital content in teaching English is very helpful for students to understand the material, especially during the COVID-19 pandemic, especially the millennial generation. Using digital content, the learning process becomes more accessible because it can be directly integrated into various applications such as WhatsApp group, zoom, Google Meet, and so on that teachers use in the learning process. Learners could be engaged in more flexible, accessible learning practices without constraints on places. Mobile-assisted language learning can significantly improve learners' sense of individuality and community and their motivation to learn by actively participating in various social, collaborative, and cooperative activities. Learners could enjoy ownership of their learning and have a certain amount of freedom and independence. Digital content also increases student motivation in learning because the material provided has been designed so that students can be interested. Student learning outcomes can increase by making English learning applications with creative and innovative content. This is also in line with Herminingsih and Jazeri [35], who stated that creating a video where they talk about their culture made learning more accessible and more attractive because it is more authentic.

3.2.3. Speaking material in mobile English application

In the era of the industrial revolution 5.0, MALL creation–especially in Indonesia–is highly developed. For many of the millennial generation, technology is part of their lifestyle. Selfies, vlogs, video content, blogs, and other technology are products produced by millennials [36]. Parents and students always hope for innovative and improvised teaching from their class teachers; otherwise, the learning process will be monotonous and boring. With digital content in the learning process, students tend to have higher motivation to learn [36].

Nunan [37] identified that speaking is a productive skill that produces systemic verbal utterances to convey meaning. Speaking is an interactive process of constructing meaning that involves creating, receiving, and processing information. Its form and meaning depend on the context in which it occurs, including the participants themselves, their collective experiences, the physical environment, and the purposes for speaking [38]. Four factors indicate a successful speaking class. First, students can talk a lot in an English-speaking class [39], which is also what they expect from the lesson [40]. They need to talk and give their own opinions in meaningful English to develop their ability to produce language in real life or use it to do other jobs. In the second place, the motivation is high. That is the effort to involve students in the lesson so that they can feel inspired enough to speak. This can be done through many other factors like an acceptable level of difficulty, meaningful activities, the relevant content to students" experience, and a relaxed environment. In third place, as Nunan [40] states, participation is even higher. However, to a certain extent, the numbers are relatively even. In other words, the teacher gives students the opportunity to participate in speaking optimally according to their personality and abilities. However, since everyone has a different personal style, it is not easy to equate their participation. Therefore, teachers should give every student equal opportunity to participate and not choose students who are slow or passive in class. That is one of the reasons for successful learning. Lastly, many students enjoy interactive and active learning [40] because it helps maintain relationships between people, creates a lively environment for them to practice English as a real-life communication exercise outside the classroom, and brings a lively atmosphere to the classroom. Therefore, meeting students' requests is also a way to achieve something in speaking teaching.

4. CONCLUSION

Based on the needs analysis carried out by the author, an application is needed that contains material that is easier to understand, especially if the material is equipped with audio or video using native speakers and is equipped with interactive exercises so that students can improve their speaking skills. In developing this application, the researchers synergized the existing school curriculum with the needs analysis carried out by the researchers so that the results of this research were helpful to young EFL learners, teachers and stakeholders. In Indonesia, English teachers require a lot of effort. This is because students lose interest and show negative attitudes towards learning English, and other subjects such as mathematics, chemistry and physics are also not of interest. During the COVID-19 pandemic, teachers were faced with many problems, both how to increase student learning motivation and improving student learning outcomes. By using conventional methods in the learning process, Students need to be more active about learning words, reciting dialogues, and completing exercises. By implementing digital content-based learning in learning, student motivation can increase because the material or media provided by the teacher is different and made in such a way that it is in line with current developments. The application created by the author uses speaking material that is easy to understand and collaborates with English learning videos in the form of animated videos and English conversation practice videos, so it is hoped that it will make it easier for students to learn the language. In designing this application, the author tried to create an application that was different from existing applications. This application was created based on student needs by combining it with the existing curriculum so that it can synergize in the classroom learning process. Teachers and students can use it in class and outside of class so that the learning process can be carried out anywhere and anytime.

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