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Technology Enable Language Learning: Mediating Role of Collaborative Learning

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Article Information: Received January 10, 2024 Revised January 11, 2024 Accepted January 15, 2024	ABSTRACT In the current technological era, language learning has experienced significant changes. The implementation of technology in language learning has enabled the development of innovative learning methods, especially in the context of collaborative learning. Optimizing language and technology skills can be a provision to face the demands of life which are always changing according to the times. Therefore, students need to explore technology in the learning process. This research aims to investigate the role of technology in mediating collaborative learning with technology is a relevant solution to mediate collaborative learning. An approach that involves a reciprocal relationship between educators and students to achieve maximum learning goals. The method used in this research is quantitative. The steps are to create a statement related to technologically enabled language learning that can mediate the role of collaborative learning. Then it is formulated into a Google form and filled in by students. Then the data is collected input and processed using the SPSS application. The correctness of the data can be proven by statements made on the Google form which are adjusted to the facts that occur in the world of education. The results of this research state that in language learning, technology plays a very important role in becoming an intermediary for optimizing collaborative learning. Creating a new innovative educational perspective that is increasingly sophisticated, helping students develop more complex and in-depth thinking abilities so that they can provide effective solutions related to all forms of challenges that occur in the world of education the world of education. This research concludes that teachers are advised to better understand language learning through technology plays a tery important role in becoming an intermediary for optimizing collaborative learning.	

Keywords: Collaborative Learning, Language, Technology

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INTRODUCTION

Nowadays technology-enabled language learning is becoming increasingly relevant in this digital age. One problem that often occurs and is a consideration is how to balance the need for technological capabilities with effective language learning (Li, 2020). Most students are only used to using technology in the world of lectures but have very minimal skills in using technology to deepen their understanding of the language they have (C. Wang dkk., 2020). Apart from that, not all language educators have sufficient technological skills to integrate technology into language learning (Chung dkk., 2021). This can result in a decrease in the potential of each student to create innovations that can be useful in achieving learning goals. If you calculate the percentage of students who understand technology, only a few people and very many students do not understand at all about existing technological developments.

Lack of understanding of technology can be an obstacle in the world of lectures. For example, many students complain that they cannot use even a little technology, this will be a barrier for students to produce work that can be useful in everyday life (Lauriola dkk., 2022). This can lead to an inability to use the facilities provided by technology to search for information and also seek social networks with people on campus and outside campus (Rosa, 2019). For example, you can carry out the learning process without having to meet, namely by using Google Meet, via VC groups, and many other supporting applications (Koller dkk., 2020). Therefore, it is important to continue learning about technology so that you can adapt to existing technological developments and then use them effectively in everyday life.

Language learning by utilizing technology can mediate the role of collaborative learning more effectively (Teimouri dkk., 2022). Technological capabilities can enable students to collaborate with fellow students or even with people around the world in language learning (Zhang dkk., 2020). For example, students use online platforms to communicate with people abroad in discussions about relevant topics (Lei dkk., 2021). This kind of collaboration can help students practice the language they learn in a real context and improve their understanding of culture and language habits (Zhou dkk., 2022). Apart from that, technology can also make it easier for teachers to facilitate collaborative learning by utilizing various media, namely holding discussions through online forums, webinars, or documentation collaboration platforms. Making good use of technology can make educators and students more open, thereby increasing the experience they have.

Mastering technology thoroughly is one step to optimizing language learning. Information can be accessed easily using social media and others (Elnaggar dkk., 2022). When students already know technology, it will make it easier for students to interact with their friends. This means that communication does not have to be met (W. Wang dkk., 2019), but can be done using a telephone which can speed up and shorten the time spent (Wu dkk., 2020). Therefore, it is important to master every technology in the current era of globalization, so that there is no gap between one party and another, due to carelessness on the part of media users which can have fatal consequences because of problems that are considered trivial (Hiver dkk., 2024). So the role of collaborative learning is also very necessary to produce critical thinkers who will become the nation's next generation who will create change in the future.

Misuse of social media often occurs among students today. For example, some students do good deeds just to look good and want to be praised by others. Students should be able to use technology wisely, without committing fraud on social media (Van Den Berghe dkk., 2019). The position of language learning is also very much needed in responding to this problem, some people do something without ever thinking about the consequences that will occur next (J. Hao & Ho, 2019). So a teaching staff must be able to provide a teaching contribution that is beneficial to each student. Helps create learning to be more effective and efficient in everyday life (Lou & Noels, 2019). So a teacher must try harder to make it happen in the learning delivered in the lecture world.

The research carried out by the researcher takes references from previous relevant research, which becomes a consideration for the researcher in formulating any conclusions that can be obtained through this research. There is a study that uses a topic of discussion that is almost similar to the research being conducted by researchers (Gao & Zhang, 2020). The first is research entitled Collaborative Classes: A Review of Class Characteristics, the Role of Learning and Teachers, and the Achievement of Learning Outcomes (Loewen dkk., 2019). Researched by Amat Nyoto in 2009 in Banten who explained that the main benefit of using collaborative learning strategies to obtain learning outcomes is the development of students' higher-level thinking skills. This is a consideration for researchers to maximize technology in collaborative learning using language learning.

The innovation that emerged in this research is how language teachers carry out their role in learning that incorporates technology into learning. One way is by creating a technology-based platform that combines language learning elements within it (W. Hao dkk., 2020). This will enable students to participate more in the world of lectures, for example in paper discussion activities which will train them to practice listening (Gosal dkk., 2019), speaking, reading, and writing language (Kohnke & Moorhouse, 2022), while utilizing existing technology. provided (Shadiev & Yang, 2020). Collaborative language learning between teachers and students is needed so that students can collaborate and share any ideas they have (Legault dkk., 2019). Good technology integration will make it easier for students to carry out every assignment given by the lecturers. Thus creating an immersive learning environment and being able to master various languages well.

The aim of the research carried out is how students can use technology carefully, without relying on social media which will hurt their mindset. Nowadays, the ability to understand technology is very necessary because every activity carried out is very dependent on digital (Bai & Wang, 2023). In the future, students will not be able to stay away from a product called a cellphone, so with this reality, researchers will create a learning model design that uses applications to make it easier for students to understand things. By developing language skills that integrate technology (Bice & Kroll, 2019), these students can think formally about all the events that occur and then can provide a solution when facing various challenges that exist in the face-to-face and offline learning process.

Researchers hope that there will be a change in students' language and technology skills through language-based learning, making students wise in using social media in every situation. The researcher's biggest hope is that this article can be useful for the general public, and can also be material for future consideration for future researchers related to the title created by the researcher, namely Technology-enabled Language Learning: mediating the role of collaborative learning. The relationship between lecturers and the students they teach is increasing so that there is no longer such a thing as social inequality in the world of lectures. In this way, every problem faced by students will be resolved carefully and can achieve the desired learning goals.

RESEARCH METHODOLOGY

Research design

This research uses a quantitative research design, which is entered into a Google form with 20 questions. This includes what influences will arise when students use technology-enabled language learning (Parmaxi & Demetriou, 2020). This method is used to formulate new thoughts that are useful for every level of student. Then it was developed into a Research that could be held accountable for its accuracy, which was adapted to each event experienced by students. This collection method is useful for testing the feasibility of language-based learning itself to improve student learning achievement. The quantitative method can also be interpreted as a research stage that begins with creating a questionnaire containing 20 questions, then each answer given by the student is processed using the SPSS application. The accuracy of the data obtained can be proven through a Google form created by researchers. The researcher also input the highest and lowest results from the questionnaire distributed to each student. Then conclude these statements.

Research procedure

The steps taken in this research were initially to ask permission from the campus and collaborate with language teachers and IT teachers. Then, every time the student fills in, from the beginning the questionnaire is made by the researcher until the results are achieved which the researcher considers have met the results expected by the researcher. Then researchers also pay close attention to ethics in making questionnaires that use good and polite language (Luketina dkk., 2019). So that students can fill out this questionnaire in a short period, which makes it easier for researchers to study various problems that will be faced by students in the process of developing technology-enabled language skills which are very useful for students' future lives in organizing a structured and planned life according to the design. has been prepared by the student. Students can think with the cognitive abilities possessed by every student at a university in Batusangkar.

Research subject

The subject of this research is UIN student Mahmud Yunus Batusangkar, the role of the researcher is as a collector of every answer given by the student. The researcher was also assisted by language lecturers who also taught IT at UIN Mahmud Yunus Batusangkar, especially educators who taught in the field of technology. This research aims to measure students' abilities using questions in the form of tests which are then calculated from the highest series of scores to the lowest series of numbers (Hayes dkk., 2020). The researcher then inputs the scores obtained through the research subjects which become a reference for determining the category of language use skills possessed by students. The type of research carried out is a researcher

Research Ethics

Of the approximately 1000 students registered at Mahmud Yunus Batusangkar State Islamic University, only 50 students contributed to this research. Of this amount. 50 students participated in this research, of which 25 were men and 25 women with a maximum age of 19 years and 18 years. The participant data was collected from various villages or jorongs close to UIN Mahmud Yunus Batusangkar (Maican & Cocoradă, 2021). This research has received permission from the lecturer who teaches language students. This research uses several research ethical principles. Firstly, there is no compulsion to fill out the questionnaire. This research only hopes for the volunteerism of students and female students who study here. Then each question must be answered completely without leaving anything out of the questionnaire. This formula supports and upholds rights and there is no coercion whatsoever. This was done to ensure that the participants understood the essence of this research. Of the 50 participants, 80% expressed their willingness to fill out this questionnaire.

Data collection technique

The technique used by researchers in collecting data is to obtain various information that can be measured, compared, and calculated carefully. Through a Google form format created by researchers, which was filled in by 50 UIN Mahmud Yunus Batusangkar students. Data collection was carried out on students in the first semester of the 2023/2024 academic year. After obtaining permission to conduct research from language and IT lecturers, the online questionnaire link was distributed to students in various departments. This questionnaire will be distributed from 1 December 2023 to 30 December 2023. The process of processing data that has been collected from research field respondents. The questionnaire data was then downloaded into an Excel file and then transferred to SPSS. 20 questions to study, and final score data recorded in

the SPSS application which can be verified. Then summarize it as interestingly as possible so that readers are interested in reading the article written by the researcher.

Data Collection and Analysis

Then the data that has been collected is input and processed using the SPSS application. Distributed in the form of tables and also diagrams that can calculate the scores obtained from students. The way to analyze the data is by comparing each answer given by each student with research conducted previously (Papi dkk., 2019). Data is presented in the form of average scores and percentages (Abbasnejad dkk., 2020). Then the data was tested using the one-way ANOVA test. Which compares the scores obtained from each group who filled out each statement related to the questionnaire created by the researcher. Researchers also really take into account the scores obtained by each student who fills out the questionnaire previously made by the researcher (Getie, 2020). And will never leave out any answers given by students from the beginning of filling out the questionnaire until the last student fills out this questionnaire. Furthermore, the researcher will also summarize it in an accurate conclusion.

No.	Earning category	Interval value	
1	Strongly agree	>90%	
2	Agree	70-80%	
3	Don't agree	50-60%	
4	Don't agree at all	0-40%	
Total		100%	

Table 1. 1 Gain Categories of Technology-Enabled Language Learning: Mediating

 Role of Learning Kolaboratif

Table 1. 2 Details of the Research Sample

No	Force Students	Ger	Scor	
		Man	Girl	
1	T.A 2022	10	10	20
2	T.A 2023	15	15	20
	Total	25	25	50

Quantitative research flow diagram



RESULT AND DISCUSSION

Results

Table 1.3

Technology-Enabled Language Learning Acquisition: Mediating the Role of Collaborative Learning obtained from students in the 2022 academic year

Language learning is very dependent on technology, student understanding is also very dependent on technology. Technology plays a major role in learning, every activity carried out by students is closely related to the digital environment (Ji dkk., 2019). Without technology, students will find it difficult to follow the face-to-face learning process during lectures. Helps in facilitating feedback between a lecturer and students, through good communication a good relationship will be established between a lecturer and students. In the world of lectures, educators can maximize language learning with the help of technology, teachers can also provide all the resources that students need in the world of lectures.

The table below shows the results of students at the 2022 academic year level. They come from various departments in the tarbiyah faculty and also teach science at the Mahmud Yunus Batusangkar State Islamic University (- Lie dkk., 2020). A total of 25 people contributed to this research, and most of the students answered with a score of strongly agree compared to a series of scores for disagreeing or strongly disagreeing. Thus, technology plays a very important role in supporting student progress and mediating collaborative learning between a lecturer and students. Therefore, having adequate technology in the world of lectures can also minimize the various challenges and obstacles experienced by students in the world of lectures.

On	Question	SS (%)	S (%)	TS (%)	STS (%)
1	Technology greatly influences language learning	65%	35%	0%	0%
2	Technology plays a very important role in collaborative learning carried out by lecturers and students	50%	40%	5%	5%
3	There are many advantages to using technology in language learning	70%	30%	0%	0%
4	Technology can help students to learn languages in a more effective way	60%	40%	0%	0%
5	Lecturers in the field of languages are strongly encouraged to understand technology	45%	40%	5%	0%
6	Many challenges and obstacles arise as a result of using technology for language learning	30%	20%	50%	0%
7	Technology can improve vocabulary mastery in language learning	70%	30%	0%	0%
8	Social media plays a very important role in language learning	72%	30%	8%	0%
9	Technology can help students improve their listening and speaking skills in the language they are studying	47%	40%	3%	0%
10	Technology plays an important role in providing useful feedback for students in language learning	68%	20%	12%	0%

The most dominant score gain is that two question items get the same gain, which is as much as 70% in the strongly agree category. First, question item 3, states that there are many advantages of using technology in language learning. The advantage is that technology allows students to access various language learning resources, including learning materials that will greatly help students learn most dominantly according to their respective learning styles. Instructors can also provide feedback so quickly and efficiently that helps students correct every mistake made and also explore every potential that every student has.

In the same acquisition, there is also question item number 7 which explains that technology can improve vocabulary mastery in language learning. Students can access everything they want to find out through various available media. For example, by using the Google Translate feature you can easily translate anything that is not understood. So the existence of Google Translate will encourage students to deepen their understanding of the material presented by the lecturer during the learning process. Therefore, the more in-depth technology that students learn, the more they will increase their understanding of language vocabulary for a student. Applications in social media can also support exercises that can be adapted to the student's level of vocabulary mastery. **Table 1.4**

Technology-Enabled Language Learning Acquisition: Mediating the Role of Collaborative Learning obtained from students in the 2023 academic year

Language learning plays a very important role in life, every interaction involves other people in it. When the interaction occurs, there will be a lot of language and speech that will come out. Language learning is not only about mastering the vocabulary but also understanding the cultural context in which the language is used and used. There are various ways to learn the language among them, namely by using the available technology to make the best use of it. The availability of adequate technology will take the role of collaborative learning that exists in the world of lectures. Distance learning process by using the application facilities that have been provided by the technologist. So that it is easier to learn and also deepen the language used in establishing relationships with others.

The table below shows the earnings of students who are in the 2023 academic year level. Those who are new students are found at Mahmud Yunus Batusangkar State Islamic University. Of a total of 25 people who contributed to this research, most of the students answered with a very agree score compared to a series of disagree or strongly disagree scores, but some students strongly disagreed. Thus, technology plays an important role in supporting student progress as well as mediating collaborative learning between a lecturer and a student. Thus, technology plays a very important role in increasing the success rate of language learning in face-to-face and online lectures.

On		Question		SS (%)	S (%)	TS (%)	STS (%)
1	Technology engage in practice	can help authentic	students language	55%	33%	20%	0%

2	There are risks when integrating technology into language learning	50%	40%	10%	0%
3	Language teachers are required to continue to develop skills in using technology for collaborative learning	80%	20%	0%	0%
4	Technology has a very long-term effect on language learning	70%	30%	0%	0%
5	Technology can facilitate collaboration between students from different parts of the world in language learning	60%	30%	10%	0%
6	Technology can help students understand the language and culture of various regions	55%	40%	5%	0%
7	Technology can equip students for life in the future	40%	60%	0%	0%
8	Collaborative learning can change the mindset that students have	75%	30%	5%	0%
9	Good mastery of technology will produce students who think critically	60%	35%	5%	0%
10	Conducive collaborative learning can establish good relationships between teachers and students	45%	40%	10%	5%

The highest score obtained from the questionnaire made by the researcher is found in question item number 3 which says that language lecturers are required to continue developing their skills in using technology for collaborative learning. His achievement was 80%, this proves that an educator greatly determines the level of student understanding of the language. When the lecturer has the maximum ability, students will be able to easily apply technology and understand the language in the learning process. On the other hand, if an educator does not understand even the ins and outs of technology, then students will find it difficult to express everything they want to do, making it easier for students to create an innovation that is beneficial for the next life. The second highest gain is still in the string of strongly agreed numbers, which is found in item number 8 as much as 75%. Stating that collaborative learning can change the mindset of students. There is a lot of interaction between lecturers and students, so they will be able to easily create every talent and interest of every student. So there will be quality students who are proficient in understanding the language that will help expand their understanding of the vast outside world and appreciate the cultural diversity that exists in their respective regions. Thus proving that qualifications from technology are very much needed in the learning process in the world of lectures. The presentation produced from the role of technology is as much as 80%.

Table 1.5

Technology-Enabled Language Learning: Mediating the Role of Collaborative Learning obtained from students of the 2022 academic year whose eligibility was tested with a one-way ANOVA test

		Sum of Squares	df	Mean Square	F	Sig.
X.01	T. A 2022	,900	5	,180		
	T. A 2022	,000	4	,000		
	Total	,900	9			
X.02	T. A 2022	,933	5	,187	1,120	,469
	T. A 2022	,667	4	,167		
	Total	1,600	9			
X.03	T. A 2022	3,733	5	,747	4,480	,086,
	T. A 2022	,667	4	,167		
	Total	4,400	9			
X.04	T. A 2022	,933	5	,187	1,120	,469
	T. A 2022	,667	4	,167		
	Total	1,600	9			
X.05	T. A 2022	1,600	5	,320	-	
	T. A 2022	,000	4	,000		
	Total	1,600	9			
X.06	T. A 2022	1,433	5	,287	1,720	,310
	T. A 2022	,667	4	,167		
	Total	2,100	9			
X.07	T. A 2022	1,600	5	,320		
	T. A 2022	,000	4	,000		
	Total	1,600	9			
X.08	T. A 2022	3,733	5	,747	4,480	,086
	T. A 2022	,667	4	,167		
	Total	4,400	9			
X.09	Between Groups	,933	5	,187	1,120	,469

ANOVA

	Within Groups	,667	4	,167		
	Total	1,600	9			
X.10	Between Groups	,900	5	,180	-	-
	Within Groups	,000	4	,000		
	Total	,900	9			

The table above is a sample of answers from students at the 2022 level who obtained a total sum of squares of 900, then with a pdf of 5, then a Mean square of 180. There is no F or Sig. The high sum of squares results indicate that language learning using technological facilities can be included in students' online learning. Supports the increase in the learning progress of students. The main goal of using technology is to increase the validity of assessments and provide deeper insight into academic performance. Technology allows educational institutions to use data and analytics to accurately measure individual student progress in various aspects of learning. This allows lecturers to more accurately identify each student's strengths and weaknesses and develop more tailored and individualized learning strategies.

Table 1.6

Technology-Enabled Language Learning: Mediating the Role of Collaborative Learning obtained from students in the 2023 academic year whose feasibility was tested using a one-way ANOVA test

	ANOVA								
		Sum of Squares	df	Mean Square	F	Sig.			
X.01	T. A 2023	1,100	5	,220	1,760	,302			
	T. A 2023	,500	4	,125					
	Total	1,600	9						
X.02	T. A 2023	,850	5	,170	,907	,553			
	T. A 2023	,750	4	,187					
	Total	1,600	9						
X.03	T. A 2023	3,350	5	,670	3,573	,121			
	T. A 2023	,750	4	,187					
	Total	4,100	9						
X.04	T. A 2023	,850	5	,170	,907	,553			
	T. A 2023	,750	4	,187					
	Total	1,600	9						
X.05	T. A 2023	,850	5	,170	,907	,553			
	T. A 2023	,750	4	,187					
	Total	1,600	9						
X.06	T. A 2023	1,350	5	,270	1,440	,373			
	T. A 2023	,750	4	,188					
	Total	2,100	9						

ANOVA

Technology Enable Language Learning: Mediating Role of Collaborative Learning

X.07	T. A 2023	2,400	5	,480		
	T. A 2023	,000	4	,000		
	Total	2,400	9			
X.08	T. A 2023	1,150	5	,230	,283	,901
	T. A 2023	3,250	4	,813		
	Total	4,400	9			
X.09	T. A 2023	,900	5	,180	,480	,779
	T. A 2023	1,500	4	,375		
	Total	2,400	9			
X.10	T. A 2023	1,000	5	,200	,533	,747
	T. A 2023	1,500	4	,375		
	Total	2,500	9			

The table above is a sample of answers from students from the class of 2023 who obtained a total sum of squares of 1, 100, then with a pdf of 5, then a Mean square of 220. F of 1,760 and also Sig of 302. There are significant differences between the two tables of results obtained through the answers given by each student. This proves that each student has different abilities in learning. In obtaining X.02 there are differences in obtaining the sum of squares, df, mean square, F, and also Sig. The sum of squares obtained was 850, then the df obtained was 5, and the mean square obtained was 170. And there was an F of 907 and also a sign of 553. This difference does not only lie in the results of the X.01 and X.02 one-way ANOVA tests. However, it is found in the overall results of each answer given by each student.

Discussion

Technology-Enabled Language Learning: Mediating the Role of Collaborative Learning obtained from students for the 2022 academic year

Technology greatly influences language learning, and the presence of technology can have a significant impact on language learning. Students can access everything they want using technology very quickly. One of the main benefits of technology in language learning that students will feel is that its access capacity is wider compared to collaborative learning. For example, students can use language learning resources such as offline dictionaries which can help students understand the material more optimally. Apart from that, technology also makes distance learning more effective. With the existence of a digital-based learning platform, students can access learning wherever they are as long as they are connected to an adequate internet network, and can provide great benefits for students.

Collaborative learning can be replaced with maximum language learning that maximizes technology. There is no longer a need for direct meetings between an educator and students, with the sophistication of existing technology it will solve every problem faced by students. The advantage of learning using technology is that it can produce more interesting learning and less easily get bored in learning. With language learning that involves technology, for example, students work together with other colleagues to make videos or write blocks in the language they are learning. This can not only improve students' understanding of language but can also develop collaborative skills and technology in the future which will be increasingly sophisticated and will not be far from what is called gadget.

There are many advantages to using technology in language learning, one of which is that it makes it more accessible to various people from abroad. With this, language learning can be done directly with people who are classified as linguists. This intermediary emerged because of technology designed to contact people who are far away without having to meet. So a teacher needs to understand technology so that he can teach his students about ways to create language-based learning media. For example, creating media using the articulate application in which language-related material can be included will make it easier to understand the lesson. This media can also be useful in the future for students' lives in the future

This research found that technology-based learning levels can help students develop language skills. In technology-based learning, students are exposed to technologies that are very connected to the millennial era. Through this method, students will not only gain knowledge related to technology but will be able to change the mindset of each student. With innovative ideas, you will be able to create updates that are very useful in today's digital era. Nowadays, technological capabilities must be studied and understood more so that they can contribute to a world that is increasingly connected to the educational perspective of the future. So that the presence of technology-enabled language skills can be contributed to every discussion carried out by students in the learning process, be it lecturer discussions with students, or student discussions with other students in a lecture environment who can socialize well.

Technology can help students to learn languages more effectively. The first step is to create a language learning application, namely by using the Duolingo, Babbel, Rosetta, stone, or Memrise applications. These applications use various interactive and interesting learning methods. In it, some games will sharpen the brain and will increase vocabulary to test language skills. Another example is using YouTube, this can be done by listening to every video on it. In this way, it can help improve the ability to understand language context which will be very useful in everyday life. Tandem language is also a language application where students can interact with native language speakers who want to learn the language. So you can practice speaking and writing in the language you are learning.

It is highly recommended that teaching staff in the language field understand technology because language educators must be able to make learning media as interesting as possible to train and teach language optimally. Educators are required not to teach monotonously it will make it difficult to understand language learning. The steps that can be used are to use a variety of different learning styles at each meeting. This will be a driving force for the creation of an advanced millennial generation who will understand every ins and outs of technology. Apart from the advantages of using technology, the challenges and obstacles that arise as a result of using technology for language learning are increasingly rare communication between teaching staff and students, this is because students carry out the learning process face-to-face in cyberspace without having to meet directly with the teacher.

Technology plays an important role in providing useful feedback for students in language learning. Mediating the role of collaborative learning which involves a lot of interaction between lecturers and students is the role of technology. The digital environment contains many things related to daily life, starting from all the activities that will be carried out, it will be very easy to be recorded by technology. Technology can also help students improve their listening and speaking skills in the language they are studying, this can be done by listening to audio and videos from various sources related to language learning that utilizes technology.

Technology-Enabled Language Learning: Mediating the Role of Collaborative Learning obtained from students in the 2023 academic year

Technology can help students to engage in authentic language practice, this is because students today have much greater access to resources and tools to improve language skills. For example, students who take virtual classes receive guidance from online tutors via platforms such as Zoom, Skype, or Google Meet. This allows students to engage in targeted language practice and receive direct feedback from people who are experts in the language field. Online forums can also direct students into authentic language practice, through this students can join language communities which can make it easier for students to interact with fellow learners. Share each learning experience, then engage in conversations that broaden your understanding of the language.

Despite all the benefits of technology, there are some risks when integrating technology into language learning. If you don't use technology properly, it can have fatal consequences because you use technology incorrectly. Sometimes some students do things without thinking about the consequences of their actions, so that it can have a bad impact on their daily lives. So the role of educators is needed who must guide and control every activity carried out so that a higher quality generation can be created, with integrated quality education. So there will be many benefits that students will feel when they can use technology as well as possible, especially when in the language learning process. This process does not have to be carried out at a particular institution but can be carried out remotely through online discussions.

Language teachers are required to continue to develop skills in using technology for collaborative learning. Because life is becoming more sophisticated, it will have a long-term effect on language learning. Educators or teaching staff must be required to be more creative in delivering learning material. When explaining learning, an educator does not only focus on textbooks or notebooks. Lecturers can use projector media to deliver learning material. To balance the focus seen by students in class. Most students think about what is not in class, so when the lecturer asks something related to learning, the students will have difficulty answering, because the students do not listen to what the teacher says during the lecture. Creative learning can increase students' interest scores in something. So it is important to learn language skills so that students always feel happy when learning languages using technology.

Technology can facilitate collaboration between students from various parts of the world in language learning, not only in the area where students can learn languages but also from various parts of the world. Namely by using Zoom, which can invite people from various parts of the world, for example, America, Australia, Africa, and many others. Students can study directly with the teaching staff and then ask questions about everything related to language. So you can easily understand various languages from various regions around the world and this will increase the educational intelligence figures in Indonesia. Then being able to compete with the outside world will result in the value of education and the quality of education in the country increasing. Has very wide accessibility and can contribute to the outside world.

Technology can equip students for life in the future, language learning has an important role in preparing and equipping students to face various problems and challenges that exist in the digital era. In technology-based learning, many benefits can make it easier for students to explore innovations in solving a problem. This research also shows that optimizing language learning involves many factors to make future education relevant. Creating professional educators who understand every ins and outs of the digital environment. As well as to teach students how to use technology intelligently. Without falling into mistakes that are considered to affect students' learning styles. When teaching staff and students combine language and technology skills, an educator can make a comprehensive assessment.

Consider the many positive impacts of developing language learning. Among them is being able to change the mindset that students have. Mindset determines how a student's life will be in the future. If brilliant thinking can provide a discovery that can make it easier to carry out activities that are considered very complicated with technology, it will make it easier to do it because it is equipped with sophisticated tools that can realize the goal. quality and moral education in the future. Future researchers may be interested in conducting surveys involving larger samples and research subjects and using more supportive methods to investigate how technology-enabled language learning can mediate the role of collaborative learning.

CONCLUSION

Language learning that uses technology provides valuable benefits for students in terms of collaboration. With the availability of technology, language learning does not have to go through collaborative learning, which involves the meeting of teaching staff. So the learning process can be done anytime and anywhere without being in a formal institution. Utilizing available technology is one way to maximize language learning. Students can use social media to increase their knowledge of the language, for example using Google Translate to translate every word they don't understand, then using online discussion forums to increase knowledge and share experiences with people from different parts of the world. This will also increase the relationship of the students and increase social networking in various regions.

Educators should strive to develop language learning with technology so that students are not easily contaminated with new things that are considered to damage student morale. Most misuse social media, students access more things that are not useful compared to learning everything related to learning. So this research is used to change the learning model, into innovative learning that uses technology well. Language learning includes everything related to technology-based learning. Equipping students to be more prepared to face the increasingly sophisticated life ahead. So the creation of quality students who have many skills in the field of technology as well as in the field of language itself.

This approach integrates technology in language learning to facilitate collaboration between teachers and students which increases interaction and good relationships in the language learning process. By taking advantage of language learning, there will be a sense of interest and challenge for students in various interesting learning platforms that can be used. For example, students can discuss, and then work together with the things they want to achieve. Through the integration of this technology, language learning can become more interesting, and relevant, and can unite various learning styles in the world of lectures. This research also aims to prepare students to face the demands and challenges in the digital era, where the ability to communicate and collaborate effectively is very important.

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REFERENCES

- Lie, A., Mina Tamah, S., Gozali, I., Retno Triwidayati, K., Sari Diah Utami, T., & -Jemadi, F. (2020). Secondary School Language Teachers' Online Learning Engagement during the Covid-19 Pandemic in Indonesia. *Journal of Information Technology Education: Research*, 19, 803–832. https://doi.org/10.28945/4626
- Abbasnejad, E., Teney, D., Parvaneh, A., Shi, J., & Van Den Hengel, A. (2020). Counterfactual Vision and Language Learning. 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 10041–10051. https://doi.org/10.1109/CVPR42600.2020.01006
- Bai, B., & Wang, J. (2023). The role of growth mindset, self-efficacy and intrinsic value in self-regulated learning and English language learning achievements. *Language Teaching Research*, 27(1), 207–228. <u>https://doi.org/10.1177/1362168820933190</u>
- Bice, K., & Kroll, J. F. (2019). English only? Monolinguals in linguistically diverse contexts have an edge in language learning. *Brain and Language*, 196, 104644. <u>https://doi.org/10.1016/j.bandl.2019.104644</u>

- Chung, Y.-A., Zhang, Y., Han, W., Chiu, C.-C., Qin, J., Pang, R., & Wu, Y. (2021). w2v-BERT: Combining Contrastive Learning and Masked Language Modeling for Self-Supervised Speech Pre-Training. 2021 IEEE Automatic Speech Recognition and Understanding Workshop (ASRU), 244–250. https://doi.org/10.1109/ASRU51503.2021.9688253
- Elnaggar, A., Heinzinger, M., Dallago, C., Rehawi, G., Wang, Y., Jones, L., Gibbs, T., Feher, T., Angerer, C., Steinegger, M., Bhowmik, D., & Rost, B. (2022).
 ProtTrans: Toward Understanding the Language of Life Through Self-Supervised Learning. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 44(10), 7112–7127. <u>https://doi.org/10.1109/TPAMI.2021.3095381</u>
- Gao, L. X., & Zhang, L. J. (2020). Teacher Learning in Difficult Times: Examining Foreign Language Teachers' Cognitions About Online Teaching to Tide Over COVID-19. Frontiers in Psychology, 11, 549653. <u>https://doi.org/10.3389/fpsyg.2020.549653</u>
- Getie, A. S. (2020). Factors affecting the attitudes of students towards learning English as a foreign language. *Cogent Education*, 7(1), 1738184. https://doi.org/10.1080/2331186X.2020.1738184
- Gosal, A. S., Geijzendorffer, I. R., Václavík, T., Poulin, B., & Ziv, G. (2019). Using social media, machine learning and natural language processing to map multiple recreational beneficiaries. *Ecosystem Services*, 38, 100958. https://doi.org/10.1016/j.ecoser.2019.100958
- Hao, J., & Ho, T. K. (2019). Machine Learning Made Easy: A Review of Scikit-learn Package in Python Programming Language. Journal of Educational and Behavioral Statistics, 44(3), 348–361. <u>https://doi.org/10.3102/1076998619832248</u>
- Hao, W., Li, C., Li, X., Carin, L., & Gao, J. (2020). Towards Learning a Generic Agent for Vision-and-Language Navigation via Pre-Training. 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 13134–13143. <u>https://doi.org/10.1109/CVPR42600.2020.01315</u>
- Hayes, J. D., Dinkova-Kostova, A. T., & Tew, K. D. (2020). Oxidative Stress in Cancer. *Cancer Cell*, 38(2), 167–197. <u>https://doi.org/10.1016/j.ccell.2020.06.001</u>
- Hiver, P., Al-Hoorie, A. H., Vitta, J. P., & Wu, J. (2024). Engagement in language learning: A systematic review of 20 years of research methods and definitions. *Language Teaching Research*, 28(1), 201–230. https://doi.org/10.1177/13621688211001289
- Ji, S., Pan, S., Long, G., Li, X., Jiang, J., & Huang, Z. (2019). Learning Private Neural Language Modeling with Attentive Aggregation. 2019 International Joint Conference on Neural Networks (IJCNN), 1–8. https://doi.org/10.1109/IJCNN.2019.8852464
- Kohnke, L., & Moorhouse, B. L. (2022). Facilitating Synchronous Online Language Learning through Zoom. *RELC Journal*, 53(1), 296–301. <u>https://doi.org/10.1177/0033688220937235</u>

- Koller, O., Camgoz, N. C., Ney, H., & Bowden, R. (2020). Weakly Supervised Learning with Multi-Stream CNN-LSTM-HMMs to Discover Sequential Parallelism in Sign Language Videos. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 42(9), 2306–2320. https://doi.org/10.1109/TPAMI.2019.2911077
- Lauriola, I., Lavelli, A., & Aiolli, F. (2022). An introduction to Deep Learning in Natural Language Processing: Models, techniques, and tools. *Neurocomputing*, 470, 443–456. <u>https://doi.org/10.1016/j.neucom.2021.05.103</u>
- Legault, J., Zhao, J., Chi, Y.-A., Chen, W., Klippel, A., & Li, P. (2019). Immersive Virtual Reality as an Effective Tool for Second Language Vocabulary Learning. *Languages*, 4(1), 13. <u>https://doi.org/10.3390/languages4010013</u>
- Lei, J., Li, L., Zhou, L., Gan, Z., Berg, T. L., Bansal, M., & Liu, J. (2021). Less is More: CLIPBERT for Video-and-Language Learning via Sparse Sampling. 2021 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 7327–7337. <u>https://doi.org/10.1109/CVPR46437.2021.00725</u>
- Li, C. (2020). A Positive Psychology perspective on Chinese EFL students' trait emotional intelligence, foreign language enjoyment and EFL learning achievement. *Journal of Multilingual and Multicultural Development*, 41(3), 246– 263. https://doi.org/10.1080/01434632.2019.1614187
- Loewen, S., Crowther, D., Isbell, D. R., Kim, K. M., Maloney, J., Miller, Z. F., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL*, 31(3), 293–311. <u>https://doi.org/10.1017/S0958344019000065</u>
- Lou, N. M., & Noels, K. A. (2019). Promoting growth in foreign and second language education: A research agenda for mindsets in language learning and teaching. *System*, 86, 102126. <u>https://doi.org/10.1016/j.system.2019.102126</u>
- Luketina, J., Nardelli, N., Farquhar, G., Foerster, J., Andreas, J., Grefenstette, E., Whiteson, S., & Rocktäschel, T. (2019). A Survey of Reinforcement Learning Informed by Natural Language. *Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence*, 6309–6317. <u>https://doi.org/10.24963/ijcai.2019/880</u>
- Maican, M.-A., & Cocoradă, E. (2021). Online Foreign Language Learning in Higher Education and Its Correlates during the COVID-19 Pandemic. Sustainability, 13(2), 781. <u>https://doi.org/10.3390/su13020781</u>
- Papi, M., Rios, A., Pelt, H., & Ozdemir, E. (2019). Feedback-Seeking Behavior in Language Learning: Basic Components and Motivational Antecedents. *The Modern Language Journal*, 103(1), 205–226. <u>https://doi.org/10.1111/modl.12538</u>
- Parmaxi, A., & Demetriou, A. A. (2020). Augmented reality in language learning: A state-of-the-art review of 2014–2019. *Journal of Computer Assisted Learning*, 36(6), 861–875. <u>https://doi.org/10.1111/jcal.12486</u>
- Rosa, J. (2019). Looking like a Language, Sounding like a Race: Raciolinguistic Ideologies and the Learning of Latinidad (1 ed.). Oxford University Press. https://doi.org/10.1093/oso/9780190634728.001.0001

- Shadiev, R., & Yang, M. (2020). Review of Studies on Technology-Enhanced Language Learning and Teaching. *Sustainability*, *12*(2), 524. https://doi.org/10.3390/su12020524
- Teimouri, Y., Plonsky, L., & Tabandeh, F. (2022). L2 grit: Passion and perseverance for second-language learning. *Language Teaching Research*, 26(5), 893–918. <u>https://doi.org/10.1177/1362168820921895</u>
- Van Den Berghe, R., Verhagen, J., Oudgenoeg-Paz, O., Van Der Ven, S., & Leseman,
 P. (2019). Social Robots for Language Learning: A Review. *Review of Educational Research*, 89(2), 259–295. https://doi.org/10.3102/0034654318821286
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *International Journal of Environmental Research and Public Health*, 17(5), 1729. <u>https://doi.org/10.3390/ijerph17051729</u>
- Wang, W., Huang, Y., & Wang, L. (2019). Language-Driven Temporal Activity Localization: A Semantic Matching Reinforcement Learning Model. 2019 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 334–343. https://doi.org/10.1109/CVPR.2019.00042
- Wu, S., Roberts, K., Datta, S., Du, J., Ji, Z., Si, Y., Soni, S., Wang, Q., Wei, Q., Xiang, Y., Zhao, B., & Xu, H. (2020). Deep learning in clinical natural language processing: A methodical review. *Journal of the American Medical Informatics Association*, 27(3), 457–470. <u>https://doi.org/10.1093/jamia/ocz200</u>
- Zhang, W. E., Sheng, Q. Z., Alhazmi, A., & Li, C. (2020). Adversarial Attacks on Deep-learning Models in Natural Language Processing: A Survey. ACM Transactions on Intelligent Systems and Technology, 11(3), 1–41. <u>https://doi.org/10.1145/3374217</u>
- Zhou, K., Yang, J., Loy, C. C., & Liu, Z. (2022). Conditional Prompt Learning for Vision-Language Models. 2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 16795–16804. <u>https://doi.org/10.1109/CVPR52688.2022.01631</u>

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