The Impact of Technology Integration in Learning on Increasing Student Engagement

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ABSTRACT

Background. The Impact of Technology Integration in Learning on Increasing Student Engagement refers to how this technology integration can be used well in learning. With the integration of technology in learning, it will have a direct impact on students, both student involvement in using technology, as well as the impact on student activities and creativity.

Purpose. This research was conducted with the aim of finding out how much impact technology integration has on increasing student engagement. Apart from that, it also aims as an explanation of how important technology is today in the learning process.

Method. The method used in this research is a quantitative method.This method is a way of collecting numerical data that can be tested. Data was collected through distributing questionnaires addressed to students. Furthermore, the data that has been collected from the results of distributing the questionnaire will be accessible in Excel format which can then be processed using SPSS.

Results. From the research results, it can be stated that the impact of technology integration in learning can indeed have an influence on increasing student engagement. Because basically, today's students are more interested in using technology. However, as a teacher you also need to supervise your students in learning when using this technology. This aims to ensure that students actually use technology to learn.

Conclusion. From this research, it can be concluded that the impact of technology integration in learning has a very big influence on student engagement. With technology, students can be creative in how they learn, increase students' knowledge in using technology, make students more enthusiastic about learning, and make students less likely to get bored while studying.

KEYWORDS

Integration, Student, Technology

INTRODUCTION

In education, the learning process is a process in which a person deliberately manages his environment to enable him to participate in certain behavior(Yang et al., 2019). So with this activity, it can cause a good response to this behavior. Here it can be understood that the person who has the role of controlling this behavior is a teacher(Kraft et al., 2018). Where a teacher has the task and role of delivering and introducing in providing an

understanding of learning to students at school(Gao et al., 2019). Because in the world of education, students and teachers are very closely related in the communication process at school in learning, teachers as teachers andstudents as students who are ready to be taught according to the applicable curriculum.(Toropova et al., 2021).As time goes by, today's life is greatly influenced by technological sophistication which continues to change and develop. Therefore, many new theories are used in the learning process which are useful for providing convenience in learning(Yun et al., 2018). As an example of the convenience of the impact of technology integration in learning, learning is not only done in the classroom, but with technology, the learning process can be done anywhere and at any time if you want to learn.(Hair & Alamer, 2022). As long as the use of technology in learning is used well, students will gain broader knowledge about what they don't know about something(Ray et al., 2021).

The integration of technology in learning also has a goalimprove the quality, accessibility and effectiveness of learning provided to students(Garcia-Alonso et al., 2019). In this case, teachers have an important role in integrating technology in the classroom. Because to integrate technology in learning, a teacher's skills in applying learning technology are very important, and they must be trained to improve their skills(Succi & Canovi, 2020). If a teacher does not understand the use of technology in learning, of course integrating technology into learning will also experience obstacles, so that student involvement in the learning process is reduced.(Chan, 2020). Learning technology can aid the learning process, but it also requires careful implementation and support.

The impact of integrating this technology in learning provides many benefits for students(Allam & Jones, 2020). Students can use the internet as a broad and reliable reference source to get the latest and in-depth information about the subjects they study(H. Li et al., 2018). Apart from that, technology also offers a variety of learning resources. Apart from that, if teachers have problems entering class, teachers can also provide lessons and assignments to students. Teachers can use e-books, learning applications, or online learning platforms to help students choose and access learning resources that suit their needs and needs. their learning style(Demery et al., 2021).

Technology integration in learning can be interpreted as internet-based learning. Apart from face-to-face learning, distance learning can also be carried out (Duval et al., 2022). The use of virtual platforms, video conferencing, and other online communication tools makes distance learning easier and more effective, so students can stay engaged in the learning process and stay connected with their teachers and classmates.(Richardson et al., 2020). Additionally, the integration of learning technology has the potential to increase students' desire to learn. By using interesting media and technology, such as videos, animations, or interactive games, technology can make learning more interesting and fun for students(Han et al., 2019).

Although the integration of learning technology provides easy access for both students and teachers, pIt is also important for educators and educational institutions to understand the negative effects that may arise from the use of technology(Chinazzi et al., 2020). To be able to overcome these problems, teaching staff can provide students with a deeper understanding and awareness of how to use technology wisely and responsibly(S. Li et al., 2020). Teachers must teach students how to use technology healthily and effectively. Teachers should also inform students about the importance of aligning technology use with other physical, social, and mental activities(Yao et al., 2020).

The goal of educators or teachers to overcome negative things in the integration of learning technology is to help improve the quality of learning well(Breijyeh et al., 2020). Basically, the integration of learning technology can be an effective tool for preparing students to face challenges

if used wisely(Wessel et al., 2019). However, if the use of technology in learning leads students to negative things, students will also easily tend to become lazy in learning, because they only use technology to play so that is the main focus.(Galperin et al., 2021). In this way, the objectives of the learning process are not achieved.

Based on the explanation of the research above, researchers think that the impact of technology integration in learning is very effective in increasing student involvement in learning. This could be due to the influence of the increasing development of globalization in technological integration. This research also aims to look at the advantages and disadvantages of the impact of integrating learning technology on increasing student engagement in learning. And researchers also haveAIt is hoped that future researchers will research the impact of the integration of learning technology on increasing student engagement in learning in more depth and develop research to obtain maximum results.

RESEARCH METHOD
Research design

This research uses a quantitative research design, which uses statistical processes to present data in the form of numbers. Researchers created twenty questions to collect information about the research to find out the results. Researchers will ask respondents to answer the questions asked, which will be presented in the form of tables and percentages. The purpose of processing this data with the SPSS application is to compare the results of respondents' answers. After this comparison, researchers can provide solutions to any information they obtain about the impact of learning technology integration on increasing student engagement.

Research procedure

In this study, researchers investigated the impact of integrating learning technology on increasing student engagement. The aim of the researcher is to investigate this so that the researcher can collect, analyze and provide understanding of the data that has been collected. In creating questions, researchers use good language that is easy for teachers and students to understand. This aims to ensure that teachers and students who respond to questions asked by researchers can be answered quickly. That way, it will be easier for researchers to test the data being investigated regarding the impact of integrating learning technology on increasing student engagement.

Research subject

The subjects in this research were students and teachers from various educational institutions. Researchers are tasked with collecting data from the respondents' answers, then the data will later be processed and converted into percentages. Before the researcher distributed the questionnaire, the researcher asked respondents to take the time to fill out the questionnaire. The questionnaire consists of ten questions about the impact of learning technology integration, as well as ten more questions related to increasing student engagement from the impact of learning integration.

Research Ethics

In conducting research, researchers pay great attention to manners, ethics, behavior and manners. Because of ethicsResearch is the norms, manners and attitudes that researchers have to use as a basis for action. By upholding ethics in research, it will make it easier and faster for researchers to collect data. By using friendly and polite language, other people will easily understand and it will be possible not to put other people's feelings into a corner. Therefore, conducting research in accordance with ethics will have a positive impact on researchers. Apart from that, there is a feeling of security and comfort in conducting research, so that communication and receiving data is easy.

Data Collection and Analysis

This time, researchers used quantitative methods to collect research data. The researcher also used a T-test as previously mentioned by the researcher. The purpose of collecting this data is to find relationships and become a benchmark between the research object materials regardingthe impact of learning technology integration on increasing student engagement.By collecting the answers of 15 respondents. Researchers also carried out further testing using SPSS software to ensure that respondents' responses were very accurate and reliable. Thus, researchers must be very careful when collecting processed data.

Table 1

Categories of the Impact of Learning Technology Integration on Increasing Student Engagement

no	Earning category	Value interval
1	Agree	55-65%
2	Strongly agree	>90%
3	Don't agree	25%-50%
4	Don't agree	0-25%%
Total		100%

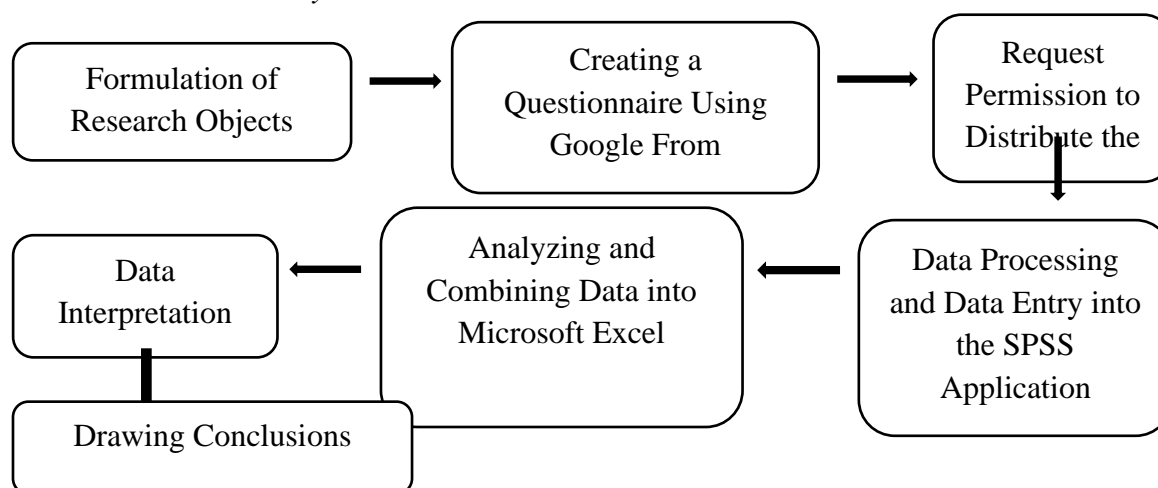**Figure 1**

Data Collection and Analysis Flow

Figure 1 above shows how researchers collect and analyze research data. The results of data acquisition came from respondents' answers to the researcher's questions. Furthermore, in the quantitative research method, the researcher will also test again using the T-test which will be used to enter research data into the SPPS application. The number of questions asked by the researcher was 20 questions, where each question was divided into ten questions with different questions. Only after the questionnaire is distributed can researchers formulate and draw conclusions from the research object.

RESULTS

The Impact of Technology Integration in Learning on Increasing Student Engagement

The terms "integration" and "technology" represent the concept of technology integration. The word "integration" comes from English, meaning "merging" or "integrating." According to the Indonesian dictionary, "integration" means unification (until it becomes whole), and "technology"

comes from the Greek words "techne", which means "way" and "logos", which means "knowledge", which means "knowledge about" . Thus, technology integration can be interpreted as the conscious and planned use of technology in the learning process, which includes the use of hardware, software and various other digital tools for use in the learning process.

Table 2

Summary of Percentage Results from Respondents' Answers to Teachers

No	Question	Agree	Strongly agree	Disagree	Don't agree
1.	Teachers play an active role in integrating learning technology with students	50%	50%	0%	0%
2.	Teachers can also use learning technology outside of learning hours	30%	70%	0%	0%
3.	Before using technology in learning, teachers need to give good and correct directions to their students	45%	55%	0%	0%
4.	In using learning technology, teachers need to supervise students so that students can truly understand the lesson	28%	66%	4%	0%
5.	By using technology in learning, teachers need to present more interesting learning material	50%	50%	0%	0%
6.	The integration of technology in learning will also make it easier for teachers to assess students	15%	70%	15%	4%
7.	Teachers need to pay attention to learning materials in using technology that suits students' needs	25%	75%	0%	0%
8.	With the integration of learning technology, collaboration between teachers will increase in designing learning materials	20%	48%	29%	3%
9.	A teacher needs to appreciate every effort in the learning process using technology for students	44%	56%	0%	0%
10.	Teachers always provide support to their students in using learning technology	29%	33%	30%	8%

Table 2 above is a distribution of questionnaires that have been carried out by researchers. The questionnaire contains 10 related questionsThe Impact of Technology Integration in Learning on Increasing Student Engagement.In distributing the questionnaire, the researcher also gave a percentage of each answer that was answered by the respondents. So, from the questions that have been asked by the researcher, the respondents can answer them according to the options that the researcher has provided, namely, strongly agree, agree, disagree and disagree. It can be seen from the first question discussingTeachers play an active role in integrating learning technology with students, getting the highest choice of options, namely the same for the agree and strongly agree options at 50%.

The second question regarding teachers can also use learning technology outside of learning hours, got a percentage result of 70% for the strongly agree option. In the third question, Before using technology in governmentlearning, teachers need to give good and correct direction to their students, getting a percentage result of 55% strongly agree. Next, the fourth question is that when using learning technology, teachers need to supervise students so that students can really understand

the learning, getting a percentage result of 66% in the strongly agree category. Next, the fifth question is that by using technology in learning, teachers need to present learning material. What's more interesting, you also get the same percentage results of 50% for the agree and strongly agree options.

The sixth question regarding the integration of technology in learning will also make it easier for teachers to assess students, getting 70% of the percentage results strongly agree. The seventh question regarding teachers needing to pay attention to learning materials in using technology that suits students' needs, was also found in the most strongly agreed option with 75%. Furthermore, the eighth question regarding the integration of learning technology will increase collaboration between teachers in designing learning materials, managed to get 48% of the strongly agree option. The ninth question was about a teacher needing to appreciate every effort in the learning process using technology for students. There was also the largest number of strongly agree options at 56%. And the last question discusses teachers always providing support to their students in using learning technology, also found in the strongly agree option with 33%.

Table 3

Summary of Percentage Results from Respondents' Answers to Students

No	Question	Agree	Strongly agree	Disagree	Don't agree
1.	The integration of technology in learning can increase student participation in learning	36%	64%	0%	0%
2.	Students are very enthusiastic about learning by using technology in learning	70%	30%	0%	0%
3.	Learning technology also provides many interactive learning that students like	60%	40%	13%	10%
4.	Students can learn actively in using technology in learning	25%	45%	15%	15%
5.	With the existence of learning technology, students can become independent in seeking learning	40%	42%	16%	2%
6.	With technology, students can also learn wherever and whenever they are	50%	50%	0%	0%
7.	The use of learning technology by students also requires supervision from parents	45%	55%	0%	0%
8.	Students can freely appreciate learning styles using technology	33%	67%	0%	0%
9.	The use of learning technology is very easy for today's students	20%	75%	3%	2%
10.	The use of technology in learning is also not free from obstacles and challenges	15%	85%	5%	0%

From the statement in the table above, it can be seen that question number one was asked by the researcher regardingThe integration of technology in learning can increase student participation in learning, obtaining a percentage result of 64% strongly agree. The second question was that students were very enthusiastic about learning by using technology in learning, getting a percentage result of 70% who agreed. In the third question regarding learning technology, it also provides a lot

of interactive learning which is liked by students, there are also 60% agree options. The fourth question was about students being able to learn actively by using technology in learning, as many as 45% strongly agreed. The fifth question, that with learning technology, can make students independent in seeking learning, obtained a result of 42% of the options strongly agree.

Next, the sixth question concerns the existence of technology, students can also learn wherever and whenever they are, getting the same results of 50% for the agree and strongly agree options. In the seventh question regarding the use of learning technology by students, as well as the need for supervision from parents, the results obtained were 55% of the strongly agree option. Next, the eighth question about students being able to freely appreciate learning styles using technology, got a result of 67% strongly agreeing. The ninth question regarding the use of learning technology is very easy for today's students to do, getting the highest result in the strongly agree option of 75%. The last question regarding the use of technology in learning was also not free from obstacles and challenges, getting the highest result of 85% for the strongly agree option.
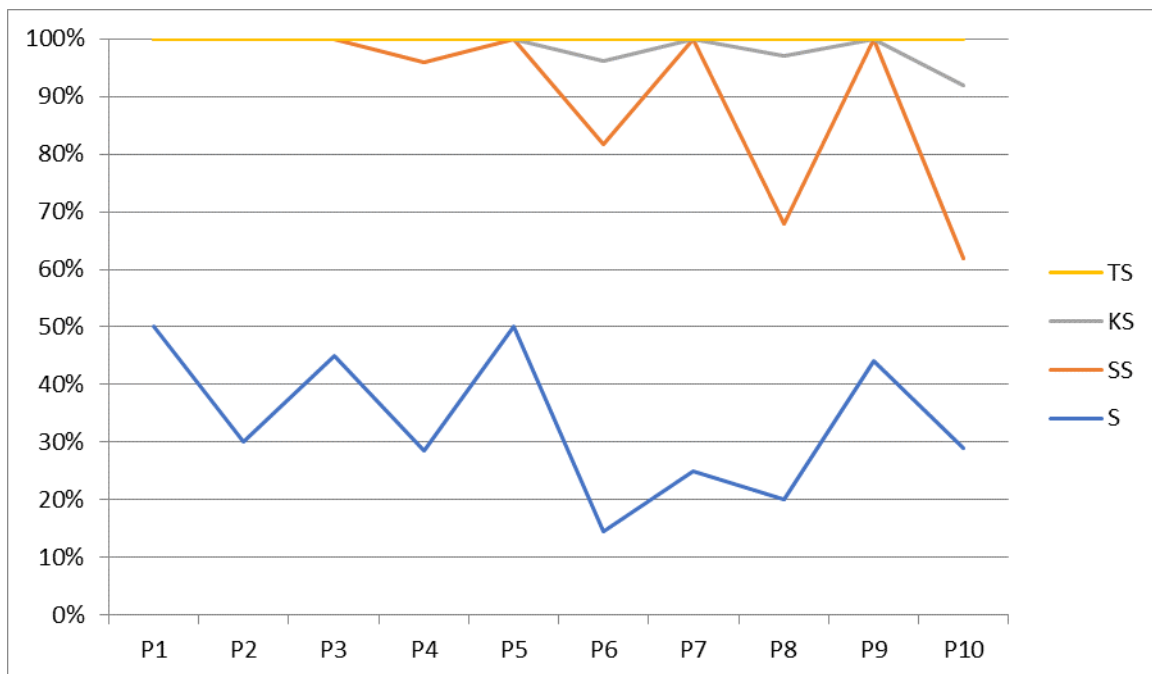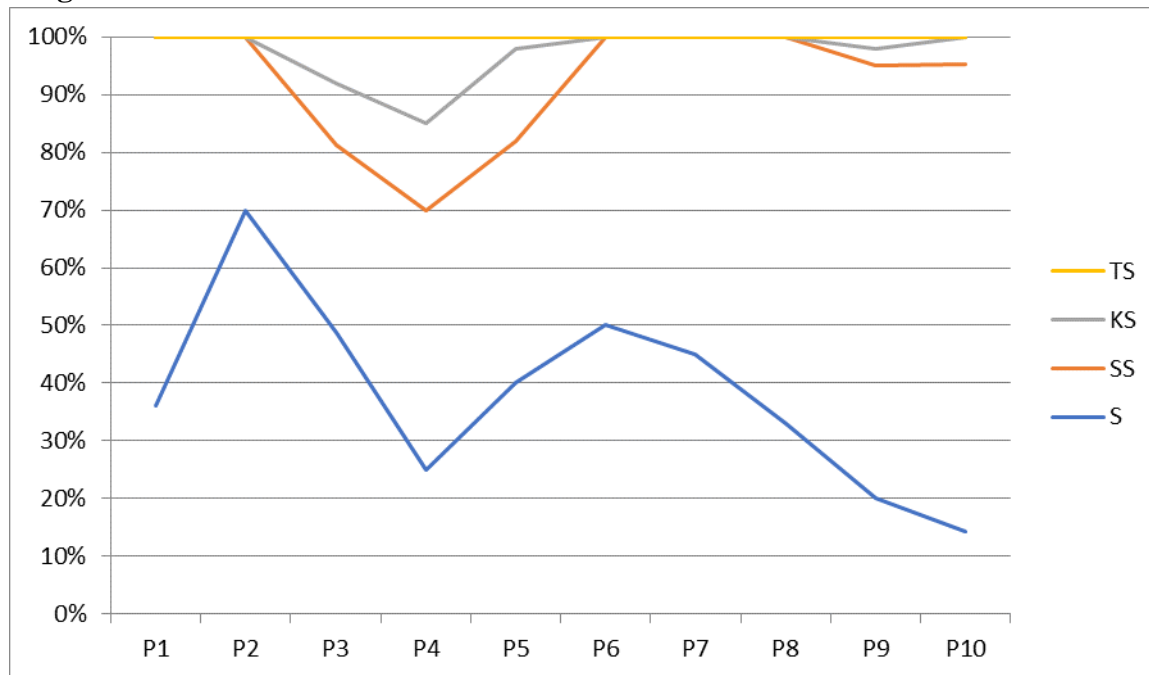
Diagram 1

Diagram 2

Table 3

T-test ConcerningPercentage Results of Respondents' Answers to Teachers

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	36,5000	20	15.13275	3.38378
	POST TEST	56,3000	20	14.85048	3.32067

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	-.656	,002

Paired Samples Test

		Paired Differences			95% Confidence Interval of t Difference	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper
Pair 1	PRE TEST - POST TEST	-19.80000	27.28138	6.10030	-32.56808	-7.03192

Based on the results of table 3 above, it is a T-test using the SPSS application. From the research results, the researcher can conclude that the T-test in the first output section explains the mean as the average. In the Pre Test the average number produced was 36,5000,while in the Post Test section the result was 56,3000. Based on these results, it can be formulated that there are differences in the results of the respondents' answers. Next, in the Paired Samples Correlations section, you get a correlation of -656, and the sign size is 002. Next, in the Paired Samples Test section, you get a result of 27.28138 in the Std section. Deviation, while in the Std. Mean Error obtained a result of 6.10030. Based on these RESULTS, it can be seen that the impact of technology integration for a teacher also has its own impact.

Table 4

T-test Concerning ConcerningPercentage Results of Respondents' Answers to Studen

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	6,5000	20	9.78990	2.18909
	POST TEST	2,2000	20	4.13712	.92509

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	,642	,002

Paired Samples Test

		Paired Differences				
					95% Confidence Interval of the Difference	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper
Pair 1	PRE TEST - POST TEST	4.30000	7.80755	1.74582	.64595	7.95405

Furthermore, in table 4, there are also the results of research using the T-test. It can be seen in the first output section that the Pre Test results were 6.5000, and the Post Test results were 2.2000. . In the Paired Samples Correlations section, we obtained a Correlation of 642, with a Sign result of 002. Meanwhile, in the Paired Samples Test section, we obtained a result of 7.80755, in the Std section. Diviation, and Std. The mean error is 1.74582. Based on the results of this research, it can be seen between each question asked by the researcher regarding the Impact of Learning Technology Integration on Increasing Student Engagement.

DISCUSSION

The Impact of Learning Technology Integration on Increasing Student Engagement

The impact of integrating learning technology on increasing student engagement also has several benefits for learning. One of the benefits of the impact of technology integrationLearning can make the learning process more creative and fun(Casaló et al., 2021). To improve students' learning experiences and increase students' understanding of learning materials and concepts, teachers can use various types of media, such as videos, animations, or interactive games(Théry et al., 2018). By using learning technology, students can more easily understand and internalize the information provided by the teacher. The integration of learning technology also makes learning easier without time or space limitations(Tomasello, 2018).

Another benefit of integrating learning technology is that it canfacilitate the entire learning process, from preparation to implementation of learning(Sarwar et al., 2018). Using various learning tools and media supported by technology, as well as carrying out evaluations quickly and accurately, this can enable teachers to be more efficient in compiling lesson material(Shao et al., 2019). Apart from that, it can also help educators optimize time and resources to achieve learning goals(Gunantara, 2018). The impact of integrating learning technology can help online-based learning, by providing various tools and platforms that support interaction between teachers and students virtually.

Even though the benefits of integrating technology have many impacts on the continuity of learning, the negative impacts of this learning technology cannot be avoided. Like the use of technologyToo much can harm students' health, especially the eyes and other body parts such as the back(Pan et al., 2020). Eyestrain, muscle tension, and posture problems caused by prolonged interactions with computer screens or digital devices can have a negative impact on students' long-term health.(Buda et al., 2018). Students also often experience difficulty in distinguishing relevant and accurate information from sources that are unreliable or do not match learning objectives.

Increasing student laziness is also another bad negative effect. Students may not be motivated to do good research or assignments, because technology makes access to information and resources easy(Sakhavi et al., 2018). Students may tend to rely on copies and unoriginal sources of information, without developing critical thinking or existing skills within the students themselves. The impact of integrating learning technology can also make it difficult for teachers to distinguish original student work. Students can easily copy or plagiarize content or work from other sources in an increasingly connected digital world(Kellogg et al., 2020). This can make it difficult for teachers to determine whether a student's work is original or the result of plagiarism.

The role of teachers in the current era of modern technology must be able to master and utilize technology to design innovative and creative learning, because students today are a generation that grew up amidst technological developments and are already familiar with technology.(Vu et al., 2019). This shows that the role of teachers, who are an important component in the world of education, must continue to improve their abilities to be ready to face advances in educational technology. A teacher must be able to guide and direct students in using learning technology, by explaining well and correctly the positive and negative impacts of using learning technology.(Krantz et al., 2019). And can provide an understanding of the consequences that can arise from using technology if it is used in the wrong way.

Therefore, in the current digital era, teachers must have the ability to increase scientific competence in changing conventional learning patterns and improving and maintaining students' attitudes and behavior.(Caena & Redecker, 2019). In addition, teachers must be aware of the increasingly rapid development of technology, which means they must know the benefits and

negative effects of the impact of integrating learning technology(Thangaramya et al., 2019). A teacher must also be able to produce scientific works, books and innovative discoveries based on skills that are able to compete globally in the digital era, have the characteristics of a technology-oriented society, which influences the vision, mission and goals of education, because the impact of technology integration will influence perspectives and people's lifestyles.

CONCLUSION

Education is now a primary need for everyone, so it is very important to increase the potential of quality human resources. Education is also important in building national civilization and is important for preserving the values of community life. The education system is always changing and developing according to educational goals. Especially in today's increasingly advanced technological developments and integration. With this progress, education must also become more advanced so that it is easily accessible to everyone.

The progress and impact of technology integration has an impact on education and directly influences the learning process. In the current era of computers and the internet, teachers must have the ability and skills to create and implement high-quality learning methods that depend on educational technology that can improve the quality of students. A professional teacher must not only provide information; they must also be able to help, encourage, and guide students. So that the motivation within students becomes high and student involvement indirectly continues to increase.

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