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The Impact of Using Collaborative Learning Platforms on Increasing Student Creativity

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ABSTRACT

One of the student-centred learning (SCL) methods is collaborative learning. In collaborative learning, students are required to actively participate in learning together or in groups. And collaborative learning is also based on the needs of students to improve the quality of learning. This research is conducted to find out how the use of collaborative learning platforms can help students become more creative in collaborative activities. By understanding the different types of collaborative learning platforms, teachers and parents are able to incorporate the role of technology in students' learning process. In conducting this research, researchers used quantitative methods in the implementation of the research. The data obtained by researchers was obtained through distributing questionnaires presented by researchers through a goggle from application. The distribution of this questionnaire was carried out by researchers online, which then the results of the acquisition of the distribution of this questionnaire will be processed using an SPSS application. From this research, the researcher can conclude that the impact of using a collaborative learning platform on increasing student creativity shows positive results. With the use of collaborative learning platform, it can visualise abstract and complex concepts, opening opportunities for students to develop their imagination and creativity through rich visual exposure. Based on the results of this study, it shows that collaborative learning platform can enhance students' creativity as it allows students to interact more actively and interactively during the learning process. In addition, rich visual exposure enables better understanding and enhances students' creativity and imagination.

Keywords: *Collaboration, Creativity, Platform*

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INTRODUCTION

All aspects of life, especially education, have been affected by the rapid development of information and communication technology. With the influence of technological developments in the field of education, many have provided various platforms or learning media used for learning (Daya & Laher, 2020). One of the things that must be considered is improving the quality of education, namely that good education will create quality and outstanding human resources (Liying & Ismail, 2023). This quality improvement can only be achieved through an effective and useful learning process that achieves the desired competencies. The words learning and teaching are closely related as they occur simultaneously (Anderson & Rivera-Vargas, 2020). Learning is an effort to incorporate and use teachers' knowledge professionally to achieve programme goals.

Human life is greatly influenced by education. Indonesia has three types of education namely formal, non-formal, and non-formal (Collias et al., 2019). Each type prepares students for further education with knowledge, attitudes and skills relevant to social life. In addition, the system of organising the educational process is always changing and developing along with social development and the progress of the times (Huang, 2021). In order for the classroom learning process to be more enjoyable and students to achieve good academic results, the learning process should be fun, astonishing, and comfortable for both teachers and students (Chen et al., 2020). When students learn successfully, achieve learning objectives, can answer teacher questions, and are able to absorb knowledge, the learning system is said to be good.

The teaching and learning process is no longer considered as a process of teachers delivering knowledge to students. Instead, teaching means organising complex activities and environments for students to achieve learning goals (Ginsberg et al., 2021). Teachers are not the only source of learning. With a teacher-centred learning approach, students are less active in gaining knowledge from various sources because they are used to getting knowledge instantly (Brandt et al., 2019). To overcome this problem, an appropriate learning strategy should be created by considering the learning material and students' basic abilities. This strategy will help students become more creative and adaptable to various situations (Jederlund & Von Rosen, 2022). Teachers today must also be good at integrating their understanding of using various technologies to support the learning process.

Education should be focussed on subject matter that not only prevents students from being afraid, but also instils a desire to learn various sciences. This is necessary for education to truly benefit society (Nachlieli & Tabach, 2022). Therefore, collaborative learning comes to be one of the learning media that can increase students' creativity in learning. Collaborative learning is a learning method or approach that involves students

working with each other during the learning process (Hong & Han, 2023). This method allows students to work in groups or teams to solve problems, complete tasks, or expand their understanding of concepts. To achieve the desired results, they support each other, share information, and learn from each other (Idris et al., 2020). Students actively participate and hold each other accountable in the learning process, while the teacher acts as a facilitator or guide.

Collaborative learning is not just a method of education in the classroom, but this collaborative learning can improve and instil the nature of collaboration between students while learning (Hernández-Sellés et al., 2022). Collaboration is a philosophy of interaction and lifestyle that sees co-operation as a structure of interaction that enables collective efforts to achieve common goals (Alsamhi et al., 2019). Collaboration, in any circumstance where a number of people are in a group, is a way of relating with mutual respect and appreciation of what each group member can do. In this case, group members accept and share responsibility for carrying out group actions (Vlastra et al., 2019). Consensus built through cooperation among group members is the opposite of competition that prioritises personal advantage.

Educational strategies known as collaborative learning platforms can also allow students to co-operate and interact online during the learning process (Melander, 2018). These platforms enable interaction and content delivery over the internet, creating virtual spaces where teachers and students can engage in different types of online education. There are three main theories in support of collaborative learning namely, cognitive theory, social constructivism theory, and motivation theory (Wang et al., 2018). Cognitive theory relates collaborative learning to the exchange of ideas between group members, so that each group member experiences knowledge transformation.

According to social constructivism theory, social interaction between members helps the individual growth of each student and enhances mutual respect. In the structure of collaborative learning, motivation theory is used because it provides a conducive learning environment for one student to learn, increases the courage of each member to voice their opinions, and creates a situation of mutual need. Collaborative learning does not divide tasks for each group member (Annosi et al., 2021). In collaborative learning the task belongs together and is completed together, not divided based on the level of students' learning ability. Therefore, the focus on collaborative learning is how students can perform group learning activities where there is cooperation, interaction, and information exchange (Haus-Reve et al., 2019).

The type of method used in this research is quantitative method. This method is used so that the final results of data processing can be known clearly and precisely. Based on the explanation of the research above, the researcher assumes that the impact of using the Collaborative Learning Platfroam, can have an influence on increasing student creativity in learning, and can provide a more effective learning experience in using collaborative learning platfroams. And the researcher also has a hope, so that future researchers in researching the impact of using collaborative learning plates on

increasing student creativity, to be researched in depth, and develop research to get maximum results.

RESEARCH METHODOLOGY

Research Design

The method that has been used in this study, namely quantitative method, where to obtain research data conducted by researchers, researchers distributed questionnaires online through the Google from application. From the results of obtaining the data, it will be combined and put together. Furthermore, the data will certainly be processed using the SPSS application to compare the results of the respondents' responses. By processing the data results using the SPSS application, researchers can see and compare the data that researchers have submitted regarding the impact of using collaborative learning platforms on increasing student creativity.

Research Procedure

In this study, there are several stages or procedures that have been determined. When researchers want to collect the results of research data, first of all researchers make a questionnaire that is distributed online, so that researchers can choose samples randomly. The questionnaire contains 10 questions each related to the impact of using collaborative learning platfroam on increasing student creativity. The purpose of the researcher to investigate this research is so that the researcher can collect, analyse, and provide an understanding of the data that has been collected. That way, researchers will find it easier to examine the data being researched regarding the Impact of Using the Collaborative Learning Platfroam on Increasing Student Creativity.

Research Subjects

In examining the impact of the use of social media in the learning process on student social interaction, the researcher certainly determines the subject for his research. In this study, the subjects in this study were students from various educational institutions. As for before the distribution of the questionnaire was carried out by the researcher, the researcher asked the respondents in advance to be able to take the time to fill out the questionnaire that the researcher would distribute. In the questionnaire, it contains 10 questions each about the impact of using collaborative learning platforms on increasing student creativity.

Research Ethics

In writing an article entitled The Impact of Using the Collaborative Learning Platfroam on Increasing Student Creativity, it is very important for researchers to consider ethical values or ethics in conducting research. Researchers really maintain a balance in conducting research in order to remain consistent and careful in carrying out the research being researched. In this study, researchers also uphold a commitment they have made, by presenting accurate data related to their research. In addition, researchers also try as much as possible to be able to avoid negative things such as plagiarism in their research.

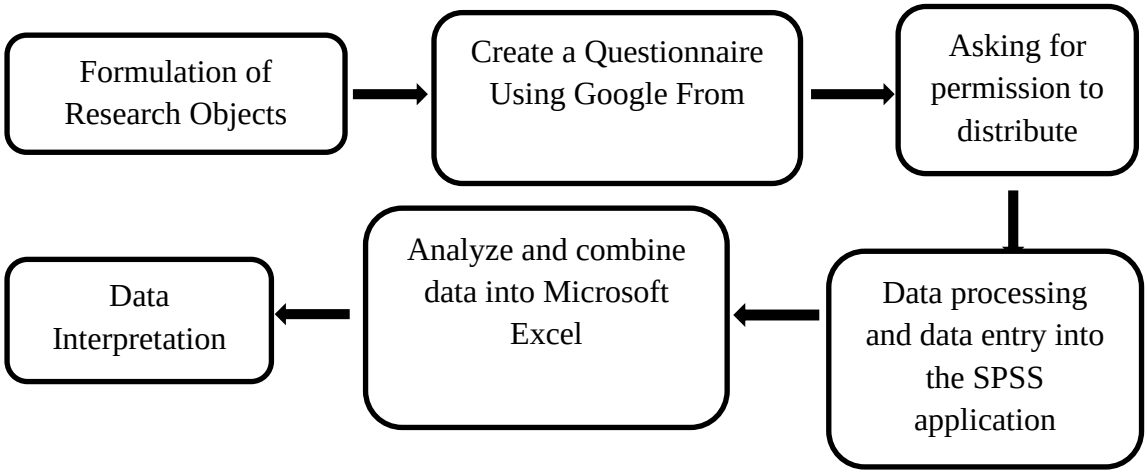
Data Collection and Analysis Techniques

The data collection technique carried out by researchers aims to identify relationships and become a benchmark for the object of research studies. In this study, researchers conducted data collection techniques using quantitative methods and by using software in the form of a T-test. For that, researchers need to present data in the form of tables and diagrams that will be made into averages or percentages. Furthermore, researchers also do not forget to ensure that the results of the answers given by respondents are very accurate and reliable by testing first. Therefore, researchers must be very careful in collecting processed data.

Table 1. Categories of Impact of Using Collaborative Learning Platfroam

No	Earning Category	Level of education	Persentase (%)
1	Strongly Agree	Student	>90%
2	Agree	Student	25-60%
3	Somewhat Agree	Student	10-30%
4	Disagree	Student	5-10%

Figure 1. Flow of data collection and analysis



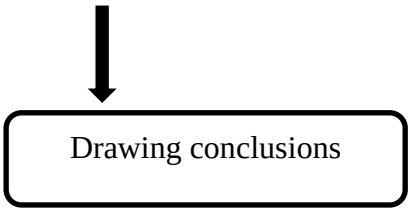


Figure 1 above shows how researchers collect and analyse research data. The results of data acquisition come from respondents' answers to researchers' questions. Furthermore, in quantitative research methods, researchers will also test again using the T-test which will be used to enter research data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

RESULT AND DISCUSSION

With the increasing use of technology-enabled devices in education, such as gadjets, tablets, and laptops for learning, the education sector is now turning to the realm of technology to create a more enjoyable learning process for students and teachers. Collaborative learning platforms are online tools that implement various interactive methods such as gamification to increase student engagement in learning. Collaborative learning also allows students of different ability levels to work together in small groups to achieve a common goal. Learners from different educational backgrounds can interact formally and informally through this collaborative learning platform. Students can also work on projects together or simply talk casually about schoolwork or other subjects.

Table 2. Recap of Percentage Results from Respondents' Answers

No.	Question	Strongly Agree	Agree	Somewhat Agree	Disagree
1	I agree that using a collaborative learning platform can improve students' communication skills	20%	70%	3%	7%
2	I agree that using a collaborative learning platform can be a solution in solving a problem	33%	54%	7%	6%
3	Collaborative learning can enable students to work well between	40%	53%	5%	2%

	teams				
4	Collaborative learning can make students more responsible in learning	25%	62%	10%	3%
5	Using a collaborative learning platform can also facilitate the learning process even if it is done online	30%	55%	11%	4%
6	Collaborative learning can increase the sense of tolerance between group members	35%	62%	2%	1%
7	Students have the opportunity to express ideas and concepts in collaborative learning	30%	70%	0%	0%
8	The use of collaborative learning platforms can improve students' understanding and skills in using technology	28%	50%	16%	6%
9	Collaborative learning platforms can also trigger students' addiction to using technology	80%	20%	0%	0%
10	The use of collaborative learning platforms always has a positive impact on the learning process	10%	45%	20%	25%

The table above is the distribution of questionnaires that have been carried out by researchers. The questionnaire contains 10 questions related to the impact of using the Collaborative Learning Platfroam on increasing student creativity. In distributing the questionnaire, the researcher has also percentageed each answer that has been answered by the respondents. So, from the questions that have been asked by researchers, respondents can answer them according to the options that researchers have provided, namely, strongly agree, agree, disagree, and disagree options. It can be seen from these questions, the first of which discusses I agree that using a collaborative learning platform can improve students' communication skills, obtaining a percentage result of 70% agree. In the second question that I agree that the use of collaborative learning platforms, can be a solution in solving a problem, obtained a percentage result of 54%

agree. The third question regarding collaborative learning can allow students to work well in teams, obtained a percentage result of 53% agree.

The fourth question about Collaborative learning can make students more responsible in learning 62% agree. In the fifth question about The use of collaborative learning platform, can also facilitate the learning process even though it is carried out online, obtained a percentage result of 55% agree. The sixth question about Collaborative learning can increase tolerance among group members, obtained a percentage result of 62% agree. In the seventh question about Students have the opportunity to express ideas in collaborative learning, obtained a percentage result of 70% agree. The eighth question regarding the use of collaborative learning platforms, can improve students' understanding and skills in using technology, obtained a percentage result of 50% agree. The ninth question about Collaborative learning platform, can also trigger students' addiction in using technology, obtained a percentage result of 80% strongly agree. and the last question about The use of collaborative learning platform always has a positive impact on the learning process, obtained a percentage result of 45% agree.

Table 3. Recap of Percentage Results from Respondents' Answers

No.	Question	Strongly Agree	Agree	Somewhat Agree	Disagree
1	I agree that the use of collaborative platforms in learning can enable teachers to monitor classes more effectively	20%	60%	9%	11%
2	There is more conducive feedback between students in collaborative learning	30%	40%	12%	18%
3	Some students become dependent on their group members in collaborative learning	40%	50%	5%	5%
4	Collaborative learning platforms are indeed very appropriate to use in current	20%	75%	3%	2%

	technological developments				
5	The use of collaborative learning platforms can enable students to explore more complex knowledge in using technological devices	25%	65%	4%	6%
6	Special adaptations are needed to suit students' use of the collaborative learning platform	10%	77%	6%	7%
7	The use of collaborative learning platforms can increase student creativity in the long term	33%	44%	15%	8%
8	Collaborative learning platforms are also very suitable for students' different learning styles	50%	50%	0%	0%
9	A teacher needs to maximize students' creative potential in using the collaborative learning platform	50%	40%	10%	0%
10	The use of collaborative learning platforms can also enable students to create learning materials that they like together	40%	60%	0%	0%

From the table statement above, it can be seen in question number one asked by the researcher regarding I agree that the use of collaborative platfroam in learning, can allow teachers to monitor the class more effectively, obtained a percentage result of 60% agree. Question number two regarding There is more conducive feedback between students in collaborative learning, obtained a percentage result of 40% agree. In the third question about Some students become dependent on their group members in collaborative learning, obtained a percentage result of 50% agree. The fourth question that collaborative learning Platfroam is indeed very appropriate to be used in today's technological development, obtained a percentage result of 75% agree. The fifth

question about the use of collaborative learning Platfroam can make students explore more complex knowledge in using technological devices, obtained a percentage result of 65% agree.

The sixth question that special adaptation is needed in the suitability of students using the collaborative learning Platfroam, obtained a percentage result of 77% agree. The seventh question that the use of collaborative learning platfroam can increase students' creativity in the long run, obtained a percentage result of 44% agree. The eighth question about the collaborative learning Platfroam is also very suitable for students' different learning styles, obtained a percentage result of 50% in strongly agree and agree statements. The ninth question regarding A teacher needs to maximise the potential of student creativity in using collaborative learning platfroam, obtained a percentage result of 50% strongly agree. And the last question regarding the use of collaborative learning Platfroam, can also allow students to create learning materials that they like together, obtained a percentage result of 60% agree.

Diagram 1

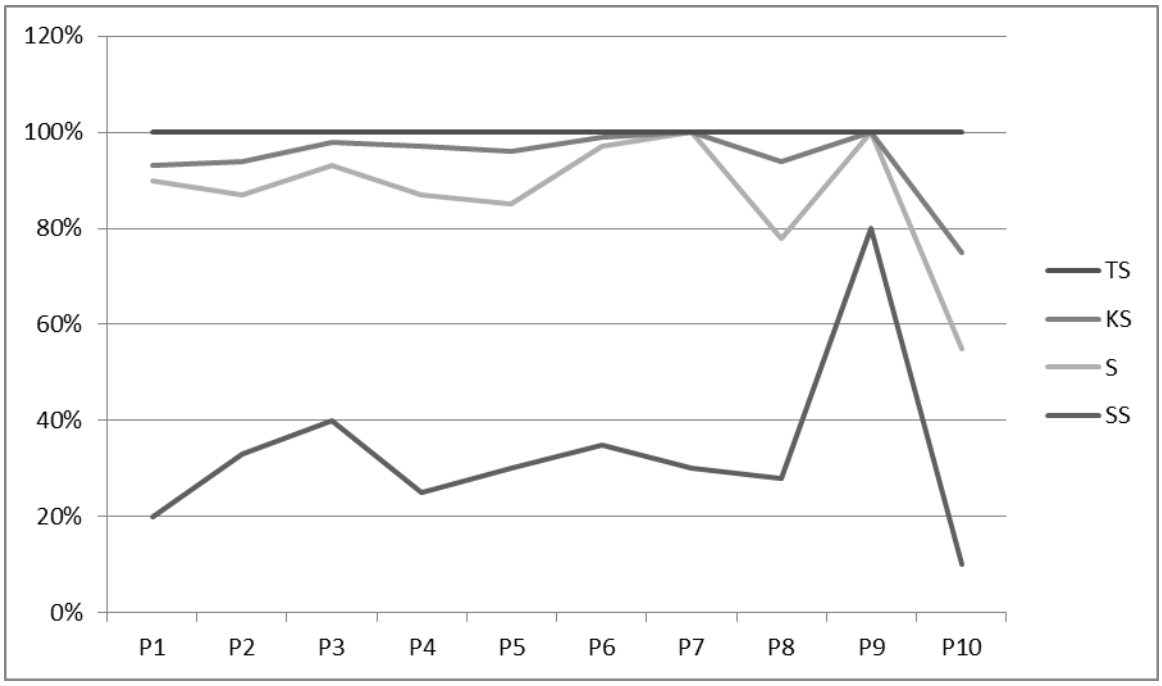


Diagram 2

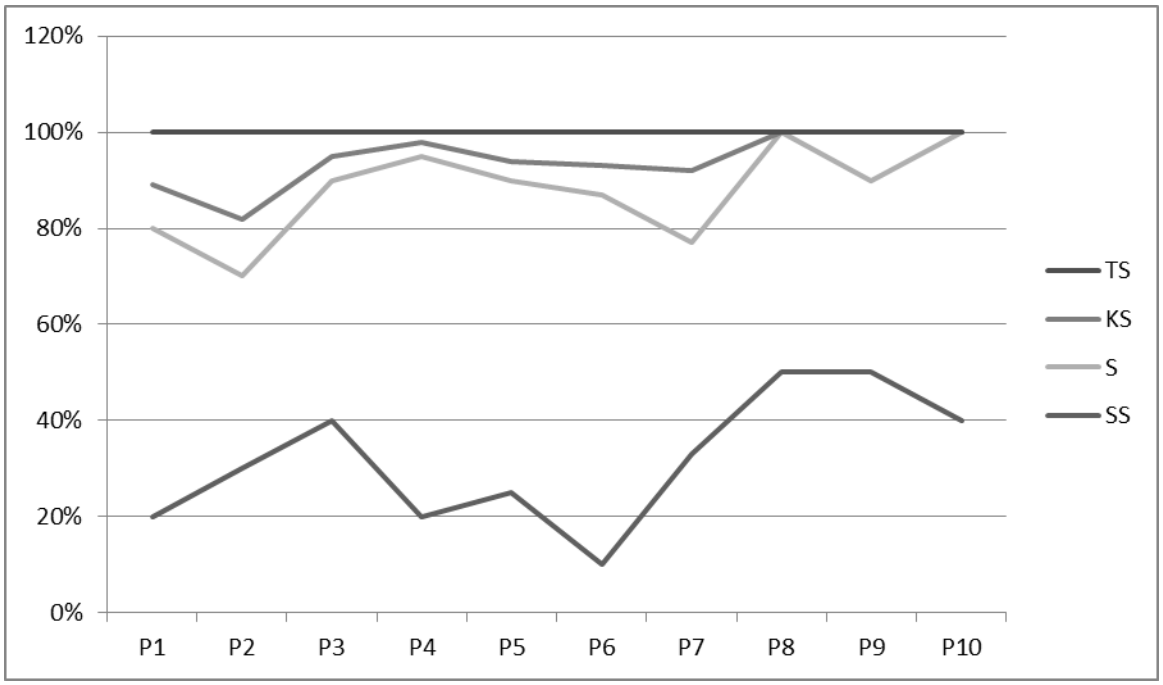


Table 3. T-test of the Impact of Using Collaborative Learning Platfroam on Increasing Student Creativity

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	32.4500	20	15.68934	3.50824
	POST TEST	55.1000	20	13.68403	3.05984

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	-.709	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	PRE TEST - POST TEST	-22.65000	27.16088	6.07336	-35.36168	-9.93832	-3.729	19	.001

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 32.4500, while in the Post Test the result was 55.1000. 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 -709, and the sign size is 000. Next, in the Paired Samples Test section, you get a result of 27.16088 in the Std section. Deviation, while in the Std. Error Mean obtained a result of 6.07336. Based on these results, the impact of using a collaborative learning platform can indeed increase student creativity in learning.

Table 4. T-test regarding the impact of using collaborative learning platforms on increasing student creativity

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	6.9000	20	5.83907	1.30566
	POST TEST	5.5500	20	6.41934	1.43541

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	.718	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	PRE TEST - POST TEST	1.35000	4.63709	1.03689	-.82023	3.52023	1.302	19	.208

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 6.9000, and the Post Test results were 5.5500. In the Paired Samples Correlations section, we obtained a Correlation of 718, with a Sign result of 000. Meanwhile, in the Paired Samples Test section, we obtained a result of 4.63709 in the Std section. Diviation, and Std. The mean error is 1.03689. Based on the results of this research, it can be seen between each question asked by the researcher regarding. The Impact of Using Collaborative Learning Platforms on Increasing Student Creativity.

Collaborative learning platforms can enable students, teachers and colleagues to work together during the learning process (Mora et al., 2020). Everyone who uses this platform can work together, share information, and learn online together. Collaborative learning platforms have features such as discussion forums, chat rooms, joint document editing, and joint quizzes. Collaborative learning platforms provide students with opportunities to participate in discussions and learn together, improve their critical thinking skills, solve problems together, and expand their knowledge through collaboration with others (Yu et al., 2021). Educators can also use this platform to facilitate class discussions, provide feedback, and provide interactive learning materials.

Collaborative learning platforms also enable facilitators to manage collaborative activities, monitor student progress, and encourage active student participation in the learning process (Al-Samarraie & Saeed, 2018). Thus, this platform can be an effective tool for increasing student engagement, collaboration skills, and overall better learning outcomes. One of the advantages of collaborative learning is that it can improve students' character skills such as the ability to communicate with each other, interpersonal skills, problem solving abilities, organizational abilities and the ability to build groups (Sun et al., 2018). Because collaborative learning places more emphasis on learning together, students become more enthusiastic in learning so that they can improve students' academic abilities.

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If used correctly and responsibly, collaborative learning platforms have great potential to increase student creativity (Qureshi et al., 2023). However, existing challenges and risks also need to be managed well to maximize benefits and minimize negative impacts as well as to reduce losses that will arise (Li et al., 2022). In general, maximizing the challenges and risks associated with collaborative learning platforms means using them as opportunities to learn, innovate, and gain skills that will be beneficial in the long term. In other words, it does not mean letting problems arise without being addressed (Loes et al., 2018). By maximizing the challenges and risks that arise from the use of collaborative learning platforms, the main goal is to improve the quality and effectiveness of the learning process by preparing each student to proactively overcome and manage these challenges and risks. Based on this statement, it will be possible to strengthen cooperation between teams in collaborative learning.

CONCLUSION

Education is a conscious and planned effort to create a learning environment where students actively contribute their potential to have religious spiritual strength, self-control, personality, intelligence, noble morals, and skills necessary for themselves, society, nation, and culture. Entering the twenty-first century, many things have changed in various aspects of human life, including education. Education must have the ability to protect the nation's culture and civilization from foreign ideas and cultures in

the increasingly global 21st century. Indonesia must be able to become an independent ultic by meeting the various needs of society in accordance with its ideals, hopes and dreams because it is a cultural ultic with diverse societies and cultures.

One of the technological advances in the field of education is the use of collaborative learning platforms. With a collaborative learning platform, it can enable students to work together or to understand each other, solve problems, or create products together. Collaborative learning is also based on sharing and learning from each other, so that no student is left behind or gets ahead on their own. Based on this statement, students are collectively able to understand the use of a learning platform well, especially in the field of collaborative learning. The use of collaborative learning platforms can improve student learning outcomes, which means that students have greater self-confidence in learning.

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