



## Support Student Engagement through Technology-Based Collaborative Platforms

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### Article Information:

Received July 06, 2024

Revised July 14, 2024

Accepted July 19, 2024

### ABSTRACT

Keeping students engaged in teaching and learning activities is a very difficult task for teachers and schools. Changes in school systems are continuously changing the way students interact and engage in learning, forcing educators to explore resources and strategies to better support students. Educational technology helps educators meet today's needs and is an important resource for the learning process. Increased use of technology in learning environments can support and enhance student engagement. The emergence of collaborative platforms is a form of technological interest to support student engagement. The purpose of this research is to explore whether technology with collaborative platforms can support student involvement in the learning process. Through research on supporting student engagement through this technology-based collaboration platform, researchers hope that using technology-based collaboration platforms in learning can help students in the learning process. The method used in this research is a quantitative method. Researchers conducted a survey using a Google form consisting of 15 sentences related to the research title. The researchers found that supporting student engagement through technology-based collaborative platforms had a major impact on student engagement. The presence of a collaborative learning platform makes students more enthusiastic and excited. Students feel that with cooperation in the learning process, learning becomes more differentiated and attracts students' attention. The limitations of this research are that researchers only conduct research in schools and researchers do not conduct research directly in schools but share survey links on Google forms containing statements about supporting student engagement through technology-based collaborative platforms.

**Keywords:** *Learning Activities, Collaborative Platform, Student Engagement*

How to cite: Priyatno, D., Wardhani, R., Cheriani, Cheriani., Alfredo, F, Y & Sabur, F. (2024). Support Student Engagement through Technology-Based Collaborative Platforms. *Journal International of Lingua and Technology*, 3(2), 298–312. <https://doi.org/10.55849/jiltech.v3i2.678>

Published by: Sekolah Tinggi Agama Islam Al-Hikmah Pariangan Batusangkar

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## INTRODUCTION

Current education still involves technology in its learning system (Oztemel & Gursev, 2020). The various roles of technology in education are very helpful and facilitate the learning process. The existence of technology has allowed education to develop significantly (Ting et al., 2020). Technology has become a magnet for the development of the world of education in this modern era (Chick et al., 2020). Technology plays a very important role and has a huge contribution to the learning process. The existence of technology has enabled the emergence of innovative and diverse learning processes (Theobald et al., 2020). Technology also allows the creation of an interactive learning process that involves enthusiastic students to actively participate in the learning process (Granić & Marangunić, 2019). Students can even be actively involved in learning activities, because they are assisted by technology which offers varied learning both in terms of learning styles and the methods and media used. (Alqahtani & Rajkhan, 2020). Of course, this technology can bring new ways of learning and more creativity in the learning process.

Technology creates various innovations that are fully capable of supporting the educational process (Kim, 2020). One technology that can be used for the learning process to support student engagement is a collaboration platform (Smidstrup et al., 2020). As we all know, collaborative platforms produce collaborative innovation, namely innovation that is very diverse (Pavlik, 2023). With a collaborative platform, teachers can create innovative media with technological collaboration. The presence of a collaborative platform allows learning to be interactive and different than before, encouraging students to participate in learning activities. Collaborative Platforms are a form of online collaborative learning (Schiavone et al., 2021). Collaboration platforms increase student engagement, motivation, and performance by providing opportunities for interaction, feedback, and peer-to-peer learning (Cozzolino et al., 2021). Collaboration platforms can also leverage 21st century skills, such as communication, critical thinking, creativity, and digital literacy, that are critical for future success (Lamberti et al., 2019). Collaboration platforms also enable teachers to diversify teaching strategies, content use, and assessment, and harness the potential of technology to support student learning.

To increase student involvement and reduce student boredom during teaching and learning activities, teachers must use learning approaches or models that students like (Esteva et al., 2019). Such as learning that contains elements of play which can increase students' competitiveness so that students are motivated to always learn (Ismail Fawaz et al., 2019). If teachers still use old methods that make students bored, this will ultimately result in students' grades being incomplete (Johnson & Khoshgoftaar, 2019). Even as a teacher, you need to always improve your professionalism by continuing to

improve your pedagogical quality (Ma et al., 2019). Use a method that suits the students' desires and needs so that it can be used as an alternative to overcome these problems (Brunton et al., 2020). Low quality education is often the result of poor school and classroom management. Learning plans are visible in the teaching and learning process in the classroom (Wang et al., 2018). The low quality of the teaching and learning process can also be influenced by various factors, including: low quality teachers, little use of pedagogical methods, inappropriate and inadequate facilities, low teacher creativity, low motivation and level of student involvement or participation, and others. Given these problems, the role of a collaborative platform is needed to support student involvement or student participation in learning.

## **Review of Literature**

### **1. Student engagement**

According to the Big Indonesian Dictionary (2000:668), involvement is a condition that causes someone to be involved, namely personal involvement or the role of an individual's attitudes or emotions in a particular situation. (Mishra, 2020). While a process is a series of changes/events in the development of something, processing means experiencing a process. It can be concluded, student involvement is individual student participation or student participation in the learning process, both personal participation, both attitudes or feelings in the learning process (Ahmed et al., 2020). Student success in the academic process is not only seen from the test results given at the end of learning, but also seen from student participation in stages which is called the learning process. So the abilities demonstrated by students in the continuous learning process must be taken into account to determine student learning success (Anwar et al., 2019). Student involvement in learning activities must include several things, namely: 1) Student preparation when receiving learning material, 2) Ability to remember material/knowledge provided by the teacher, 3. Focus on lessons and the learning process, 4) Student ability to answer teacher questions, 5) Able to play an active role in group discussions, 6) Able to work in groups, 7). Students' ability to complete assignments, 8) Ability to play an active role in learning games, 9) Ability to bring value to the team.

Involving students in the learning process also requires the important role of the teacher. In general, teachers teach because they enjoy teaching (Van Mieghem et al., 2020). One of the keys to effective learning is that teachers can communicate their knowledge clearly and enthusiastically (Enikolopov et al., 2020). This ability also contains the secret of being a good teacher. Becoming a successful teacher depends greatly on the teacher's ability to create harmonious relationships with students. Such relationships will increase the likelihood that students will pay attention to and understand the teacher's message (Olivier et al., 2019). If students pay close attention, they will carry out their assignments diligently and persistently, despite many trials and obstacles. They will look happy when they complete their

assignments and that means they feel interested in learning. With the emergence of a sense of interest within the student, it certainly creates an effect of student involvement in learning. Especially if teachers can use sophisticated technology in the learning process.

## **2. Collaborative platform**

The term "collaborative platform" or "collaboration platform" is increasingly known in educational circles in the modern era (Aledhari et al., 2020). This tool is designed to increase school productivity as it enables sharing of information, files and documents, and helps in communicating faster in educational environments (Schrotter & Hürzeler, 2020). Almost everyone knows the definition of "collaboration", so the meaning of such a platform is relatively easy to understand. These tools are intended to facilitate communication and collaboration (Wang et al., 2020). All types of shared program files, tasks, and project management features are part of the collaboration tool. Thanks to collaborative platforms, students and teachers can communicate with each other to get the best out of their processes and find solutions to difficulties that may arise as a result of working remotely (Liu et al., 2020). Some examples of service delivery on collaborative platforms are email, personal and group calendars, video meetings, collaborative documents, and message logs. Collaborative learning is a strategic learning model that can strengthen a team's work ethic (Felszeghy et al., 2019). The initial idea of developing this learning style was that concept construction should be done in pairs, not independently. Collaborative platform learning has been offered during the new normal learning season. What for? Because in general learning in the new normal is very imaginative so students can learn on their own. Even if you have to work together, even with your parents or siblings. Meanwhile, the basic principle of humans is social existence.

There are several previous research opinions regarding research on Supporting Student Engagement through Technology-Based Collaborative Platforms. Firstly by Muhammad Nur Ashar Asnur, with the research title Characteristics of Collaborative Foreign Language Learning in Google Classroom and obtained research results that show that there are 18 great features in Google Classroom that might support the process of collaborative foreign language learning. Meanwhile, the results of the analysis based on Doyle, Sammon, and Neville's cooperative learning ethos show that the four existing features fulfill most of the functions provided by Google Classroom. However, the role of the guide is different Features that excel in Google Classroom compared to others. The second research, The Importance of Technology in the Context of Educational Innovation and obtained research results. The use of information technology in education has been proven to increase student engagement, facilitate project-based learning, encourage collaboration, and help educators design effective learning experiences. The third research by (Rahmawati, 2020), with the research title Technology Supports Student Learning in Integrated Social Science

Subjects and obtained research results. The use of technology in the four identified strategies will support student learning and significantly improve student experience and support the ideas that students know and apply.

Research conducted by previous researchers is different from current research. Meanwhile, the study conducted by researchers was entitled Supporting Student Engagement through Technology-Based Collaborative Platforms. Researchers found that using collaborative platform-based technology was able to support student involvement in the learning process. Collaborative platforms create collaborations in the learning process that create an effect of interest or fascination within students. Apart from that, the collaborative platform also provides new learning innovations so that the learning process becomes fun and different from before. Collaborative platforms can also be used as interactive learning media that create new breakthroughs and are more sophisticated than previous learning. Thus, new breakthroughs in education must begin to be implemented so that the education system in Indonesia moves more advanced and does not become outdated.

## **RESEARCH METHOD**

Research methods are methods or processes specifically used to solve problems presented in research(Zou et al., 2020). Research methods can be understood as guidelines and references in the process of conducting research. In research on Supporting Student Engagement through Technology-Based Collaborative Platforms, the author uses quantitative research methods. Quantitative means a research method that is based on quantity or quantities(Fang et al., 2019). Quantitative research requires large amounts of data. maybe tens, hundreds, even thousands. Indeed, the range of respondents in quantitative research must be wide. Quantitative research is suitable for studying problems that are clear, have large numbers, and for testing hypotheses. A hypothesis is a first conclusion whose validity has not been tested. There are two types of hypotheses in quantitative methods, namely  $H_a$  and  $H_o$ (Riggs et al., 2020). Research using quantitative methods involves testing hypotheses using available theories. Therefore, research is often more objective than subjective.

Research methods using quantitative research methods have their own characteristics. Among them, quantitative methods examine research with two variables and then measure their effect. Quantification also considers the effect between two variables(Liang et al., 2019). Quantification also uses samples that are already represented in the population. The nature of this quantitative research is objective and concise. In general, quantitative research uses survey methods to collect data from large populations. The survey was carried out by distributing questionnaires to respondents in the form of statements. Apart from surveys, there are various methods such as empirical methods and content analysis(Yu et al., 2020). An experiment is a study that attempts to determine the influence between variables under controlled conditions. The purpose of content analysis is to see the content of variables under certain conditions. A questionnaire is a data collection technique or commonly known as a research tool or



quantitative research tool. Quantitative research data collection techniques can also be carried out through observation, interviews, documentation, or literature review. It all depends on the needs of each researcher.

## **RESULTS AND DISCUSSION**

Collaborative platforms are a form of technological progress to support the development of the world of education. As is known, technology has a very important role in supporting the development of the educational process. Through technology, teachers can change and improve the current education system. Technology enables innovation and develops creativity in the learning process. The existence of technology has given birth to various kinds of learning methods which are supported by sophisticated and innovative facilities. Collaboration platforms are an example. This collaborative platform provides a form of collaborative learning. Learning using collaborative platforms is usually done online but can also be done offline. Online collaborative learning is group collaboration that takes place over the Internet and requires structured steps so that teams can work towards a common goal, where everyone is responsible for their part, including respecting the abilities and opinions of other students.

Collaborative learning is active learning that requires: High motivation and different learning abilities from direct or face-to-face learning. Collaborative learning is a positive learning environment that fosters critical thinking skills, fosters leadership and tolerance, increases self-confidence, reduces anxiety, improves learning outcomes, and increases student involvement to actively participate in the learning process. Learning using a collaboration platform is very necessary because considering that cooperation is necessary, especially now that information and communication technology (ICT) is developing very rapidly. Currently, collaborative learning is very possible to achieve. Cooperation is indeed a human need, where humans as social creatures are always in contact with other people, working together and helping each other. Likewise, in learning activities, collaboration is a necessity. In normal learning activities, collaboration often occurs between students or teachers in the same school or class. However, with the availability of internet communication networks, collaboration between schools, between regions and even across national borders is possible. therefore, it is possible to carry out learning using a collaborative platform.

Learning with a collaborative platform brings great added value to students and teachers. These benefits include; 1) Students gain experience by working together not only with their classmates but also with other students they did not know before, 2) by learning using a collaborative platform, interactions between students they know are targeted because they follow the program given by the teacher, 3) Collaborative activities generally encourage motivation and a positive competitive spirit in students. 4) Students also receive many learning resources from teachers other than their own teachers whom they have always known. Apart from these benefits, of course there are many other benefits, both direct and indirect. The possibilities for implementing learning with collaborative platforms are certainly very broad. ICT infrastructure and networks in schools are generally better

prepared than 10 years ago. Along with preparing teachers to build innovative learning models, now many teachers are able to use ICT in learning.

Learning using collaborative platforms is not only for students, collaborative platforms can also be used as a tool to improve teachers' ICT skills, even in ICT skills, sharing and collaboration occupy the highest level. In the field of action or performance, cooperation is a form of cooperation to achieve a common goal. Collaboration at this level can occur between teachers, between schools, or between institutions. Meanwhile, collaboration as a learning model is an effort by teachers or educators to improve learning efficiency and performance, as a strategy for solving learning problems and achieving learning goals optimally. Some of the benefits of adopting learning with a collaborative platform are as follows; 1) outstanding academic results; 2) deeper student understanding; 3) The learning process is more enjoyable; 4) develop a leadership spirit; 5) increase positive attitudes; 6) increased self-esteem; 7) inclusive learning; 8) the realization of mutual respect between students; and 9) develop skills towards the future. In fact, the most important thing in using a collaborative platform in the learning process is to create student involvement in actively participating in the learning process.

The existence of a collaborative platform also saves several things on the education system, including time, place and effort for students and teachers. teachers and students do not need to spend time communicating, working on the learning process. It's all on the platform, regularly available to teachers and students. Communication can be via voice, text or even video, making it easy to customize the learning space for each individual. schools do not need to invest in physical resources such as school facilities and infrastructure. This will reduce school operational costs. This will also increase teacher and student productivity, as everyone will be able to take lessons from their ideal location. No commute, no school-related inconveniences. Not to mention the focus on sustainability due to reduced costs. Students and teachers can stop by a nearby shared learning space and join in the conversation on the go.



Figure 1. Collaborative platform in the learning process

Based on the picture above, it can be concluded that collaborative platforms have an important role in the learning process. Where almost all online learning processes are assisted by a collaborative platform. Learning using a collaborative platform allows students to learn with other students outside of school, so that a sense of competition and fear of

losing in gaining knowledge arises in students. This certainly raises the enthusiasm of students to be more active in studying so as not to be less competitive with students from other schools. But still compete in a healthy way. The existence of this collaborative platform also increases student involvement to be actively involved in the learning process. Apart from that, the collaborative platform also increases a sense of tolerance and an attitude of respect and mutual respect between students. Collaborative platforms also provide a learning process that is more fun and different than before. The existence of a collaborative platform in the learning system allows students to exchange ideas with other students, as well as receive and gather a lot of information so that students' knowledge will be broader than before.

Several challenges can be encountered when implementing learning using collaborative platforms. One of the main challenges is in the field of communication. The inability to communicate face-to-face can lead to ambiguity and misunderstandings. Additionally, time zone, culture, and language differences can also be barriers to virtual collaboration. Lastly, a lack of intimate social interaction can reduce the sense of togetherness and enthusiasm between teachers and students. Despite facing various challenges, collaborative platforms also have many benefits, including: First, learning to use collaborative platforms provides access to global talent. Schools can interact with students and teachers from all over the world without geographical boundaries. This increases diversity and enriches the perspectives brought to collaboration. Second, collaborative platforms can reduce operational costs. By reducing or eliminating the need for school space, schools can save on facilities and infrastructure costs. Additionally, collaborative platforms also minimize travel and accommodation costs required for face-to-face meetings. Third, collaboration platforms enable time flexibility and better work-life balance. Teachers and students can teach and learn wherever they want, with a schedule that suits their individual needs. This increases teacher and student satisfaction, and helps reduce fatigue levels caused by long commutes or travel time.

Researchers collected data about students' perspectives and responses to Supporting Student Engagement through Technology-Based Collaborative Platforms, namely through distributing questionnaire links to students. The aim of distributing this questionnaire is to obtain results and also to find out whether technology-based collaborative platforms can support student involvement or not. The questionnaire given by researchers to students contains 15 statements covering Supporting Student Involvement through Technology-Based Collaborative Platforms. The questionnaire was created using Google Form. Apart from that, researchers also need to pay attention to aspects of the relevance of the statements given, also related to the accuracy of the statements with the title of the research. The response of students who filled out the questionnaire was very positive regarding Supporting Student Involvement through Technology-Based Collaborative Platforms. The data that the researcher obtained then summarized it in one table, as below:



NO	Statement	SS	S	RR	T.S	STS
1	I feel with useTechnology-based collaborative platforms can support student involvement in the learning process	60%	40%			
2	I feel that usetechnology-based collaborative platformhas a positive impact on student involvement in the learning process	33.3%	50%	16.7%		
3	I feel that usetechnology-based collaborative platformcan make it easier for teachers to increase student involvement in the learning process	40%	60%			
4	I feel the usetechnology-based collaborative platformcan support student involvement in learning	66.7%	33.3%			
5	In my opinion, the development of usetechnology-based collaborative platformmust be followed by every educational institution	55%	45%			
6	I feel that usetechnology-based collaborative platformcan make it easier for teachers to teach	50%	50%			
7	I think usagetechnology-based collaborative platformvery suitable to be applied in the educational process	60%	40%			
8	I think with usetechnology-based collaborative platformthe process of increasing student involvement in learning will run more effectively	50%	50%			
9	According to usagetechnology-based collaborative platformas a form of educational transformation	50%	50%			
10	I feel with usetechnology-based collaborative platform thenThe learning system will be more advanced than before	30%	50% %	20%		
11	I feel with usetechnology-based collaborative platformthe communication process becomes	40 %	60 %			

	easier					
12	I feel that every student should be able to master its use technology-based collaborative platform because collaborative platforms have many benefits in their use	60%	40%			
13	I feel the process of increasing student engagement will improve if used technology-based collaborative platform	55%	45%			
14	I feel that use technology-based collaborative platform can change the way students learn	50%	50%			
15	I think use technology-based collaborative platform doesn't take up much time	33.3%	50%	16.7%		

**Figure 1: Table of filling out questionnaires by students**

Information :

SS = Strongly Agree

S = Agree

RR = Undecided

TS = Disagree

STS = Strongly Disagree

The table above is a table of assessment results from the questionnaire given to students. Feedback or response

s given by students are needed to provide an assessment of the role of information and communication technology in educational transformation whether it is optimal or not. In this statement there are 5 assessment categories, namely Strongly Agree (SS), Agree (S), Undecided (RR), Disagree (TS), Strongly Disagree (STS). Based on this table, the first highest assessment result was 66.7% with the assessment category strongly agree. The second assessment was 60% with the assessment category strongly agree. The use of collaborative platforms in the learning process is sufficient to support student involvement. Although there are still several obstacles in its implementation. By using a technology-based collaborative platform, the learning process becomes more individual and flexible. Students feel a sense of being actively involved in the learning process.

Next, the researcher will describe the results of filling out the questionnaire. For the first statement, namely I feel that the use of a technology-based collaborative platform can support student involvement in the learning process, the response was in the strongly agree category of 60% and the agree category of 40%. For the second statement, I feel that the use of technology-based collaborative platforms has a positive impact on student involvement in the learning process, obtaining responses in the strongly agree category of 33.3% and the agree category of 50% and the unsure

category of 16.7%. For the third statement, I feel that the use of technology-based collaborative platforms can make it easier for teachers in the process of increasing student involvement in the learning process. Obtaining responses in the strongly agree category was 40% and the agree category was 60%. For the fourth statement, I feel that the use of technology-based collaborative platforms can support student involvement in learning, receiving responses in the strongly agree category of 66.7% and the agree category of 33.3%. For the fifth statement, I think the development of the use of technology-based collaborative platforms should be followed by every educational institution, obtaining responses in the strongly agree category of 55% and the agree category of 45%.

Furthermore, for the sixth statement, I feel that the use of technology-based collaborative platforms can make it easier for teachers to teach, obtaining responses in the strongly agree category of 50% and the agree category of 50%. For the seventh statement, I think the use of technology-based collaborative platforms is very suitable to be applied in the educational process, receiving responses in the strongly agree category of 60% and the agree category of 40%. For the eighth statement, I think that with the use of a technology-based collaborative platform, the process of increasing student involvement in learning will run more effectively, obtaining responses in the strongly agree category of 50% and the agree category of 50%. For the ninth statement, According to the use of technology-based collaborative platforms as a form of educational transformation, the response was in the strongly agree category of 50% and the agree category of 50%. For the tenth statement, I feel that with the use of a technology-based collaborative platform, the learning system will be more advanced than before, getting responses in the strongly agree category of 30% and the agree category of 50% and the unsure category of 20%.

Furthermore, for the eleventh statement, I feel that with the use of a technology-based collaborative platform, the communication process becomes easier to obtain responses with a strongly agree category of 40% and an agree category of 60%. For the twelfth statement, I feel that every student must be able to master the use of technology-based collaborative platforms because collaborative platforms have many benefits in their use, obtaining responses in the strongly agree category of 60% and the agree category of 40%. For the thirteenth statement, I feel that the process of increasing student involvement will increase if a technology-based collaborative platform is used, obtaining responses in the strongly agree category of 55% and the agree category of 45%. For the fourteenth statement, I feel that the use of technology-based collaborative platforms can change the way students learn, getting responses in the strongly agree category of 50% and the agree category of 50%. For the fifteenth statement, I think the use of technology-based collaborative platforms does not take much time to obtain responses with the strongly agree category being 33.3% and the agree category being 50% and the unsure category being 16.7%.

## **CONCLUSION**

Based on the results and discussion above, it can be concluded that technology-based collaborative platforms are quite helpful in increasing student involvement in the learning process. Collaborative platforms create collaborations in the learning process that create an effect of interest or fascination within students. Apart from that, the collaborative platform also provides new learning innovations so that the learning process becomes fun and different from before. Collaborative platforms can also be used as interactive learning media that create new breakthroughs and are more sophisticated than previous learning. Thus, new breakthroughs in education must begin to be implemented so that the education system in Indonesia moves more advanced and does not become outdated. Learning using a collaborative platform is a positive learning environment that fosters critical thinking skills, fosters leadership and tolerance, increases self-confidence, reduces anxiety, improves learning outcomes, and increases student involvement to actively participate in the learning process. The existence of a collaborative platform also saves several things on the education system, including time, place and effort for students and teachers. teachers and students do not need to spend time communicating, working on the learning process. It's all on the platform, regularly available to teachers and students. Communication can be via voice, text or even video, making it easy to customize the learning space for each individual. schools do not need to invest in physical resources such as school facilities and infrastructure. This will reduce school operational costs. This will also increase teacher and student productivity, as everyone will be able to take lessons from their ideal location. No commute, no school-related inconveniences. Not to mention the focus on sustainability due to reduced costs. Students and teachers can stop by a nearby shared learning space and join in the conversation on the go.

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