

## Impact of Using Online Learning Platforms on Student Engagement

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### ABSTRACT

**Background.** The use of platforms in learning will affect student engagement. Online platforms are changing the traditional approach to education. This will have a significant impact on student engagement. The online learning platform as a whole can have a positive impact on students. Student engagement in learning will provide effectiveness and independence.

**Purpose.** This research aims to identify how much impact the online learning platform has on student engagement. In addition, it can also analyze the positive and negative impacts of using online learning platforms during learning.

**Method.** The method used in this research is quantitative method. Data collection was done by distributing questionnaires to students and teachers. The questionnaire contains statements related to the impact of using online learning platforms on student engagement. This statement is loaded into google from which the results will be processed through the SPSS application. The data obtained can be tested by proving the statements listed on Google from. This is adjusted to the facts that often appear in the world of education.

**Results.** The result of this research is that the impact of online platform on student engagement can be effective. Technology developed in online learning will have the potential to increase student engagement during learning. But on the other hand, it still considers the factors that will affect the maximization of the benefits of the online learning platform.

**Conclusion** This research can be concluded that the use of platform in online learning will affect the engagement of students. Maximum use of the platform will be able to provide technological accessibility as well as adequate training for educators and students. The utilization of online platform will increase the effectiveness of distance learning. It will allow flexibility and ease of interaction between students.

### KEYWORDS

Engagement, Impact, Platform

### INTRODUCTION

Education is revolutionizing day by day. The use of online learning platforms in education is a form of revolution. Technology that has entered the world of education will have a rapid influence on the progress of education (Viberg et al., 2020). An online learning platform is a system or application that allows teachers and students

**Citation:** Banat, A., Wahyuni, E., Erwin, Erwin., Hanim, H, A & Mudinillah, A (2024). Impact of Using Online Learning Platforms on Student Engagement. *Journal Emerging Technologies in Education*, 2(1), 110–121.

<https://doi.org/10.55849/jete.v2i1.800>

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**Received:** February 12, 2024

**Accepted:** February 15, 2024

**Published:** February 26, 2024



to interact online (Zhu et al., 2020). This will facilitate the process of distance learning or what is often referred to as online. The platform will provide instruction tools to create, manage, and deliver courses or educational materials remotely to students (Yan et al., 2021). Popular online learning platforms today include *udemy*, *coursera*, *khan academy*, *ruang guru*, *google classroom*. These platforms offer a wide range of resources and tools to support online learning. This will also help students as well as teachers in the distance education process.

Student involvement in the learning process is very important. Student engagement can improve learning skills. Improve student motivation and academic outcomes (Tang et al., 2021). In the context of online learning, student engagement becomes even more crucial due to the challenges of isolation, lack of social interaction, and even restriction of interaction (El-Sabagh, 2021). Therefore, efforts to design a learning platform that will encourage student participation are needed. Support from the learning platform will trigger an increase in active participation from students. So that students can participate in the learning material to improve the knowledge and academics of students. Increased student engagement can be used with class quizzes, learning games, role reversal presentations, online group work, shared or collaborative assignments, and powerful tools and software support.

Research on the impact of using online learning platforms on student engagement has deep reasons to be researched. The use of platforms must be known for both positive and negative impacts. It aims to anticipate the risks that occur in the learning process (Taylor et al., 2020). In addition, to maintain the stability of the educational process even though it is carried out online. Teachers must also be able to choose a method or learning platform that suits students. So that learning can be done optimally (Pratama et al., 2020; Sandars et al., 2020). The involvement of students during learning will affect the results of the effectiveness of learning. Student understanding and mastery of the material from teachers who make students more active in online classrooms will help teacher assessment. The methods taught must also be in accordance with the objectives and characteristics of the students. Teachers are required to understand aka the development of the platform as well as the development of the existing curriculum.

This research will contribute to the development of the use of online learning platforms for teachers. The use of platforms such as Socrative and clickers will increase student engagement in the learning process. In addition, the positive influence of the use of platforms on critical thinking skills. There are several studies that link the use of online learning platforms to students' critical thinking skills (Saucier et al., 2022; To, 2022). The use of learning platforms is also an effective solution to the distance learning process. The utilization of e-learning platforms based on cloud computing is an example of the effectiveness of distance learning. Findings or innovations from digital technology will emphasize the cumulative impact and synergy in the world of education. This not only improves teacher competence but also student learning achievement.

The innovation initiated in this research is the impact of using online learning platform on student engagement. Tailoring the learning platform to students to increase engagement in the learning process. In the research (XIANGGANG, 2023) which explains the impact of using online learning platforms that are in line with the title of this research. The difference from the study is that the involvement is aimed specifically at students in higher education who also affect success. While in this study the impact of using online learning platforms on students who are relatively vulnerable to addiction to playing gadgets. So that the right learning strategies and methods are needed. So that the online learning platform used is able to support the learning process actively and effectively.

The purpose of the research is to understand how the impact of using the platform on student learning outcomes. It will also help to understand self-directed learning strategies that will influence student engagement in the learning process. It shows that students' ability to organize their learning

has a big impact on how engaged they are in the online learning process (Zheng et al., 2022; Zhou et al., 2023). Inadequate facilities and challenges become self-directed learning. Organized learning strategies can help students to be more engaged in online learning.

The research hopes that the use of learning platforms will bring more positive things in the future. Day by day changes through digital technology are expected to bring progress in the world of education. With the learning platform, it can increase the development of ideas and knowledge from students and educators. The researcher's biggest hope is that this article will be able to make a significant contribution to changes in the world of education. In addition to change, it also contributes to the process of developing world digital technology. Hopefully this article can also be a material to provide consideration for further researchers who have similar discussions. It is hoped that the risk of the negative impact of using online learning platforms will be smaller.

## **RESEARCH METHODOLOGY**

### **Research Design**

This study uses a quantitative research design. The statements inputted as many as 20 items into Google form. In this case the statement includes the impact of using the online learning platform on student engagement. This method is used to formulate the results of statements and responses from teachers and students on the use of online learning platforms. Furthermore, it is developed into research that can be accounted for its accuracy. The data presented is in accordance with the events experienced by students that are visible to the teacher. Quantitative method is a form of data collection method in the form of numbers that can be measured. This stage begins with the presentation of a questionnaire containing 20 statements. The results of distributing the questionnaire will later be processed through SPSS. Researchers will also input the acquisition of the highest answer from the results of distributing questionnaires.

### **Research Procedure**

This quantitative research procedure will go through a series of systematic steps to collect, analyze, and provide an understanding of the data collected. This research begins with asking permission from the school and working with teachers and students who use the online learning platform. Each statement detailed by the researcher until it reaches the acquisition of data filling which the researcher considers to have obtained the expected thing. In addition, this research certainly does not forget the ethics in making questionnaires by using appropriate, good, and polite language. So that teachers who fill out the questionnaire distributed are also faster in carrying it out. This will make it easier for researchers to examine data and examine various problems faced by teachers in evaluating training in the use of learning technology.

### **Research Subjects**

Teachers and students in this study were asked as subjects. Teachers and students were randomly selected from various institutions or schools. The role of the researcher here is to collect every answer given by teachers and students. Conducting this research will be very important to find out the impact of using online learning platform on student engagement. The use of online platforms will also facilitate the distance learning process. However, factors that support the sustainability of the use of online learning platforms are needed. Other aspects are also useful to identify risks that occur when using online learning platforms. This step is a form of prevention effort from the damage of education to students. After the prevention efforts, it is expected to bring changes to the learning outcomes and enthusiasm of students. This will make learning precise and accurate, thus improving student achievement and understanding.

## Research Ethics

Research is the process of collecting data that is the topic of the problem. A research must have ethics that will affect the behavior of the researcher. This will affect how the intended subject responds. A research ethic will help in collecting information easily and comfortably. (Cho, 2018; Hakimi, 2021). This is because ethics will be able to combine researchers and research subjects in collecting data. In addition, ethics in research will also provide direction to the behavior of the researcher and the subject under study. This includes consent and permission from individuals to conduct research. In this study using 15 teachers and 10 students from various schools. Respondents were randomly selected to participate in answering the questions asked. The data collected will be kept secure. Research data will be sought for protection efforts from recognition as private property. The research will be conducted in a fair and impartial manner. Researchers as data collectors will not impose their will on research subjects. This will be useful for maintaining comfort between the two parties. In addition, the researcher appreciates all those who have helped this research.

## Data Collection Technique

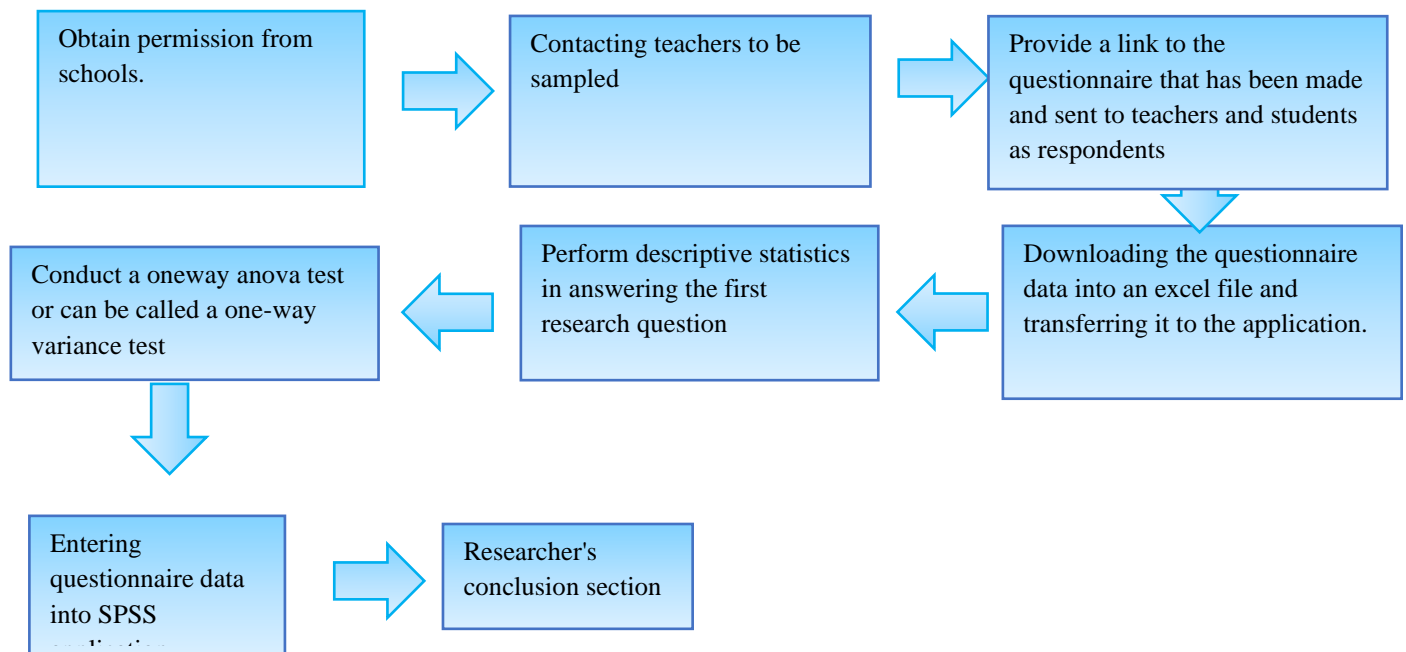
Data collection in this research uses the help of google from which is useful for easy access. The use of google from will also help accelerate data collection. Google from will later present statements related to the impact of using online learning platforms on student engagement. Questionnaires in the form of google from are distributed via WhatsApp. The data collected is the number of percentages responded to each statement given. The results will later be moved into excel and changed to a number format. This is to facilitate the data processing process using SPSS. A data in the form of a number format is a form of characteristics of quantitative methods. This is used to see teachers' responses to the impact of using online learning platforms on student engagement. This data will later be presented and explained the meaning of the numbers listed. In addition, the highest response of the proposed statement will also be explained.

**Table 1 Sample population**

| NO | Department of | Number of Participants | Percentage |
|----|---------------|------------------------|------------|
| 1. | Teacher       | 10                     | 40%        |
| 2. | Students      | 15                     | 60%        |

**Table 2 Research Sample Details**

| No    | Choice Category       | Tier Number |
|-------|-----------------------|-------------|
| 1     | Strongly Agree (5)    | >90%        |
| 2     | Agree (4)             | 70-80%      |
| 3     | Disagree (3)          | 50-60%      |
| 4     | Strongly Disagree (2) | 0-40%       |
| Total |                       | 100%        |



## RESULT AND DISCUSSION

| NO | Question   | SS (%) | S (%) | TS (%) | STS (%) |
|----|--|--------|-------|--------|---------|
| 1  | Use of online learning platforms increases student engagement with technology                              | 44%    | 56%   | 0%     | 0%      |
| 2  | Students tend to be more active in online discussions than in traditional classes                          | 31%    | 38%   | 25%    | 6%      |
| 3  | Online learning platforms allow teachers to provide feedback in real time, strengthening interaction       | 25%    | 50%   | 25%    | 0%      |
| 4  | The use of online learning platforms can distract students from the learning material                      | 31%    | 69%   | 0%     | 0%      |
| 5  | Student engagement in online platforms tends to vary depending on the quality of content and interactivity | 31%    | 63%   | 6%     | 0%      |
| 6  | Students have greater flexibility in exploring learning materials online                                   | 25%    | 56%   | 19%    | 0%      |
| 7  | Online assignments can increase student engagement by providing more personalized challenges               | 31%    | 38%   | 31%    | 0%      |
| 8  | Students may feel more comfortable participating in online discussions than in physical classes            | 19%    | 50%   | 31%    | 0%      |

|    |  |     |     |     |    |
|----|--|-----|-----|-----|----|
| 9  | Online formative evaluation allows teachers to monitor student engagement more efficiently                 | 19% | 50% | 31% | 0% |
| 10 | The use of online learning platform can expand the space for idea sharing and collaboration among students | 19% | 56% | 25% | 0% |

**Table 3 Responded by teachers to the statement regarding the impact of using the platform on student engagement.**

An online learning platform is a device application or system that allows learners to interact online in the context of distance or online learning. The platform will provide instruction tools to create, manage and deliver learning messages through designed features. The main features of an online learning platform include various conveniences. Starting from content creation and management that helps educators to develop and organize learning materials. In addition, the platform will also be an effective communication and collaboration support tool. The platform will provide a means for interaction between educators and students, as well as between students. In addition, the platform will also help assessment and evaluation with the facility to provide assignments and tests for students. The online learning platform will also help teachers and students to monitor the progress and success of the students' learning process. These things will give the impression of flexibility and can be accessed anywhere. So that it can provide opportunities for students.

There are various types of online learning platforms including udemy, coursera, khan academy, teachers room, google classroom. These types of platforms will offer resources and tools to support distance learning. This will help students and educators in the learning process. Student engagement in learning will be greatly supported by the existence of various types of online learning platforms. Students' involvement in actively participating in learning such as participating in joint discussions, completing assignments enthusiastically, and attending virtual classes. In addition, it can also be related to the emotional aspect or feelings of students. Emotions towards online learning with a sense of interest, motivation, even a positive attitude towards the material taught in the distance learning process. Another involvement also comes from the cognitive process. It provides the mental effort that students give to understand the learning material. Applying effective learning strategies, and critical reflection on the content or material learned.

The table above is the result of responses from teachers to statements related to the impact of using online learning platforms on student engagement. The statement that has the highest response in item number 1 the use of online learning platform increases students' engagement with technology has a strongly agree response of 41%, agree 56%, and there is no rejection of the statement. This statement is supported by the provision of interactive features such as videos, simulations, and educational games that will make the learning process much more interesting and easy to understand. The existence of digital technology will allow students to access learning materials from anywhere and anytime. This will create flexibility in learning. This will help reduce time and space barriers in the education process. The existence of various platforms will help students create a more dynamic and relevant learning experience. This will encourage student interaction and participation in increased student engagement. Online learning platforms not only facilitate the learning process but will also actively help students' engagement in the use of technology.

| NO | Question | SS (%) | S (%) | TS (%) | STS (%) |
|----|----------|--------|-------|--------|---------|
|----|----------|--------|-------|--------|---------|



|    |  |     |     |     |    |
|----|--|-----|-----|-----|----|
| 1  | Students feel more engaged in learning when using online platforms because they can interact more                    | 31% | 50% | 19% | 0% |
| 2  | Sometimes students feel left behind or lose focus when using online learning platform                                | 31% | 63% | 6%  | 0% |
| 3  | Students prefer to discuss in online forum because they can think more carefully before expressing their opinion.    | 25% | 50% | 25% | 0% |
| 4  | Technical difficulties in using the online platform can interfere with students' engagement in learning              | 25% | 69% | 6%  | 0% |
| 5  | The online learning platform allows students to learn at a more flexible place and time                              | 25% | 75% | 0%  | 0% |
| 6  | Students feel more motivated to participate in challenging and relevant online assignments                           | 31% | 50% | 19% | 0% |
| 7  | Students find it easier to express their thoughts in writing than verbally   | 38% | 50% | 13% | 0% |
| 8  | With online learning platform students can share thoughts and ideas with more classmates                             | 19% | 50% | 31% | 0% |
| 9  | Students feel less motivated to participate in online discussions due to lack of immediate response from the teacher | 50% | 48% | 6%  | 0% |
| 10 | Students feel more engaged in learning when materials are presented through various media in the online platform     | 31% | 69% | 0%  | 0% |

**Table 4 Responded by students to the statement regarding the impact of using the platform on student engagement.**

In the table above which is the students' response from several statements regarding the impact of using online learning platform on students' engagement. The statement that has the highest response is item 9 regarding students feel less motivated to participate in online discussions due to the lack of direct response from the teacher. Direct interaction that often occurs in face-to-face classes can provide quick feedback and also recognition of student motivation. Whereas in an online environment, delays in response and even lack of personal interaction can make students feel less engaged (Franklin & Harrington, 2019). This can be addressed in several ways. Educators should get to know students individually by trying to understand the needs and preferences of each student to customize the approach. It also creates a positive learning environment. So that it supports in increasing student motivation in engagement while learning. On the other hand, it must provide a variety of teaching methods to be able to keep the class interesting so that boredom does not occur (Wu & Teets, 2021). Technology can also be utilized to make materials more interesting and allow better interaction between students and educators. Setting realistic and clear objectives will help students and educators to understand the material and learning outcomes. Another thing that will support student motivation and engagement is to provide materials and relate them to everyday life. This action will help students imagine things realistically. So that the meaning of the material is conveyed to students.

## ANOVA

|      |         | Sum<br>Squares | of<br>df | Mean Square | F      | Sig. |
|------|---------|----------------|----------|-------------|--------|------|
| X.1  | Teacher | 3.233          | 6        | .539        | 8.622  | .004 |
|      | Guru    | .500           | 8        | .063        |        |      |
|      | Total   | 3.733          | 14       |             |        |      |
| X.2  | Teacher | 8.833          | 6        | 1.472       | 3.719  | .045 |
|      | Teacher | 3.167          | 8        | .396        |        |      |
|      | Total   | 12.000         | 14       |             |        |      |
| X.3  | Teacher | 5.767          | 6        | .961        | 6.590  | .009 |
|      | Teacher | 1.167          | 8        | .146        |        |      |
|      | Total   | 6.933          | 14       |             |        |      |
| X.4  | Teacher | 2.833          | 6        | .472        | 7.556  | .006 |
|      | Teacher | .500           | 8        | .063        |        |      |
|      | Total   | 3.333          | 14       |             |        |      |
| X.5  | Teacher | 3.333          | 6        | .556        | .      | .    |
|      | Teacher | .000           | 8        | .000        |        |      |
|      | Total   | 3.333          | 14       |             |        |      |
| X.6  | Teacher | 5.767          | 6        | .961        | 6.590  | .009 |
|      | Teacher | 1.167          | 8        | .146        |        |      |
|      | Total   | 6.933          | 14       |             |        |      |
| X.7  | Teacher | 10.000         | 6        | 1.667       | .      | .    |
|      | Teacher | .000           | 8        | .000        |        |      |
|      | Total   | 10.000         | 14       |             |        |      |
| X.9  | Teacher | 6.567          | 6        | 1.094       | 7.505  | .006 |
|      | Teacher | 1.167          | 8        | .146        |        |      |
|      | Total   | 7.733          | 14       |             |        |      |
| X.9  | Teacher | 6.267          | 6        | 1.044       | 12.533 | .001 |
|      | Teacher | .667           | 8        | .083        |        |      |
|      | Total   | 6.933          | 14       |             |        |      |
| X.10 | Teacher | 6.267          | 6        | 1.044       | 12.533 | .001 |
|      | Teacher | .667           | 8        | .083        |        |      |
|      | Total   | 6.933          | 14       |             |        |      |

**Table 5 Responded by teachers to statements about the impact of using the platform on student engagement using the oneway anova test.**

The table above is a sample of responses from teachers regarding the impact of using online learning platforms on student engagement. On the statement that the use of online learning platforms can expand the space for sharing ideas and collaboration between students with the acquisition of sum of squares 6,933, df of 14, mean square 1.04, F 12,533, and Sig. 0,00i. This statement explains that the platform can be used as a means of sharing ideas and collaboration. This is supported by the ease of wider access. The online platform will allow students from various locations or places to connect and collaborate without geographical restrictions. In addition, it will also provide space for time flexibility in interacting and working together at different times and places. This facilitates collaboration between students with diverse schedules.



**ANOVA**

|      |          | Sum<br>Squares | of<br>df | Mean Square | F      | Sig. |
|------|----------|----------------|----------|-------------|--------|------|
| X.1  | Students | 7.067          | 6        | 1.178       | 14.133 | .001 |
|      | Students | .667           | 8        | .083        |        |      |
|      | Total    | 7.733          | 14       |             |        |      |
| X.2  | Students | 2.267          | 6        | .378        | 1.133  | .422 |
|      | Students | 2.667          | 8        | .333        |        |      |
|      | Total    | 4.933          | 14       |             |        |      |
| X.3  | Students | 7.333          | 6        | 1.222       | 14.667 | .001 |
|      | Students | .667           | 8        | .083        |        |      |
|      | Total    | 8.000          | 14       |             |        |      |
| X.4  | Students | 4.400          | 6        | .733        | .      | .    |
|      | Students | .000           | 8        | .000        |        |      |
|      | Total    | 4.400          | 14       |             |        |      |
| X.5  | Students | 2.933          | 6        | .489        | .      | .    |
|      | Students | .000           | 8        | .000        |        |      |
|      | Total    | 2.933          | 14       |             |        |      |
| X.6  | Students | 7.067          | 6        | 1.178       | 14.133 | .001 |
|      | Students | .667           | 8        | .083        |        |      |
|      | Total    | 7.733          | 14       |             |        |      |
| X.7  | Students | 5.467          | 6        | .911        | 4.970  | .021 |
|      | Students | 1.467          | 8        | .183        |        |      |
|      | Total    | 6.933          | 14       |             |        |      |
| X.8  | Students | 7.067          | 6        | 1.178       | 14.133 | .001 |
|      | Students | .667           | 8        | .083        |        |      |
|      | Total    | 7.733          | 14       |             |        |      |
| X.9  | Students | 4.133          | 6        | .689        | 3.758  | .044 |
|      | Students | 1.467          | 8        | .183        |        |      |
|      | Total    | 5.600          | 14       |             |        |      |
| X.10 | Students | 2.933          | 6        | .489        | .      | .    |
|      | Students | .000           | 8        | .000        |        |      |
|      | Total    | 2.933          | 14       |             |        |      |

**Table 6 Responded by students to statements regarding the impact of using the platform on student engagement using the one way anova test.**

In the table above regarding the statement students feel more involved in learning when the material is presented through various media in the online platform. This statement has a sum of squares of 2,933, df 14, mean square of 0.489, and no F and sig. So that in the final condition the two sample groups have balance. This is due to the involvement of students in learning using online learning platforms in the form of sharing ideas and collaboration between students. This is a form of student involvement in the presentation of diverse materials from educators.

## DISCUSSION

Increasingly rapid digital technology affects the world of education. The use of online learning platform brings changes to the learning process. The use of online learning platform will provide wider and varied access. This will give students the possibility to explore materials outside the stsiswar curriculum. The existence of technological sophistication in the form of online platforms will provide learning flexibility to students. The flexibility starts from the speed and learning style of students that can be adjusted. So as to increase student engagement and understanding. Student collaboration is needed to customize the learning atmosphere and student engagement. This will enrich the learning experience of students. Each student has different characteristics and learning styles. Feedback from the platform is also available instantly to help students understand their weaknesses and weaknesses effectively.

Often students feel less motivated to participate in online discussions. This is due to the lack of direct teacher response. The face-to-face atmosphere that can provide immediate feedback will often be different in virtual time. Teachers can do some things to solve this problem. Start by getting to know students individually to understand their needs. This aspect is useful for adjusting the approach to learning. The environment will also have a big influence on students' motivation and engagement in learning. A positive environment will provide a comfortable effect on students to understand the material presented. The use of varied methods will make the classroom atmosphere more interesting. So as not to cause boredom in students and educators. In addition, learning requires material in accordance with curriculum objectives. It takes a proper understanding of the curriculum to determine clear and realistic goals.

Classroom learning should be conducive and constructive. Feedback given by the teacher must be timely to increase students' motivation to keep trying. The material presented is also expected to be connected to everyday life. This method is expected to attract students to learn and apply in real life. As an educator, provide opportunities for students to make decisions about learning. These things will have an effect on increasing the sense of ownership and motivation in students. The use of learning platforms in education brings a big change to students' involvement in the learning process. Formative evaluation will assess student engagement more efficiently. Formative evaluation is an assessment process that takes place during the learning process. It aims to see the progress of learners' learning process and provide helpful feedback to students. In addition, formative evaluation will also help teachers to adjust teaching methods more effectively.

formative evaluation process will be efficient when data collection is fast and accurate. Teachers are required to be able to carry out rapid data collection on student understanding and progress through online quizzes or assignments. Assessment on online media is much more diverse ranging from short quizzes to more complex ones. In addition, teachers will also be able to conduct continuous monitoring. With an understanding of students' needs and learning levels, teachers will be able to tailor their teaching approach to support each student effectively. The characteristic of formative evaluation is continuity, which allows for a periodic process of assessment and learning. Formative evaluation is important because it facilitates learning that is adaptive and responsive to the needs of individual students.

## CONCLUSION

Online learning platforms will affect the way students learn. It takes the right strategy to create a more interactive and engaging learning environment. Digital technology is increasingly impacting the world of education. The use of online learning platforms brings changes to the learning process. Online learning platforms allow wider and more diverse access. This gives students the opportunity

to engage with materials beyond the stsiswar curriculum. The presence of technological sophistication in the form of online platforms provides flexibility for students in studying. This flexibility starts from the student's learning pace and customisable learning style. This increases student participation and understanding. Student cooperation is needed to adjust the learning atmosphere and student participation. This enriches the learning experience for students. Each student has different characteristics and learning styles. In addition, the instant feedback from this platform helps students understand their strengths and weaknesses effectively. Students often feel less motivated to join online discussions.

This is because the teacher does not respond directly. The face-to-face atmosphere, where Students can get immediate feedback, is often different virtually. Teachers can do what they think will be the solution to this problem. Start by getting to know individual students and understanding their needs. This aspect helps students adjust their learning approach. The environment also has a significant influence on students' motivation and engagement in learning. A positive environment allows students to better understand the content presented. The use of varied methods can make the classroom atmosphere more interesting. So that students and teachers are not bored. In addition, learning requires materials that fulfil curriculum objectives. Setting clear and realistic objectives requires a thorough understanding of the curriculum. Classroom learning should be useful and constructive. Teacher feedback should be timely to motivate students to continue their efforts. The researcher hopes that the material that the researcher introduces can provide connections in students' daily lives. This method is expected to encourage students to learn and apply it in real life.

As educators, providing opportunities for students to make decisions about their learning. This results in increased student ownership and motivation. The utilisation of learning platforms in education brings significant changes to student engagement in the learning process. Introducing formative assessment allows students to evaluate student work more effectively. Formative assessment is an evaluation process conducted during the learning process. Its purpose is to track students' learning progress and provide useful feedback to students. In addition, formative assessment can also help teachers adjust their teaching methods more effectively. The formative assessment process becomes efficient if data collection is done quickly and accurately. Teachers need to be able to quickly collect data on students' understanding and progress in online tests and assignments. Assessments in online media are much more diverse, ranging from short quizzes to more complex quizzes. In addition, teachers can also conduct continuous monitoring. By understanding students' needs and learning levels, teachers can tailor their teaching methods to support each student effectively. The continuous nature of formative assessment allows for regular evaluation of the learning process. Formative assessment is very important because it allows learning to adapt and respond to the needs of individual students.

## **AUTHORS' CONTRIBUTION**

Author 1: Conceptualization; Project administration; Validation.

Author 2: Conceptualization; Data curation.

Author 3: Data curation; Investigation.

Author 4: Writing - review and editing.

Author 5: In-vestigation.

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