



Student's Perspective on of Google Classroom in Biology Learning: A Study on National Standards of Education

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Abstract

This study aims to obtain an overview of students' perspectives on the use of Google Classroom in Biology learning in schools in terms of the National Education Standards (SNP). The sample in this study was randomly selected as many as 86 high school students in East OKU Regency. The instrument used was a questionnaire containing 33 statements developed from three aspects of the SNP, namely Process Standards, Facilities and Infrastructure Standards, and Assessment Standards. The three SNPs studied were described in the indicators. Questionnaires were distributed with the help of Google Forms. The research data were then analyzed by calculating the percentage of each indicator in each aspect of the SNP being studied. The results of this study indicate that the use of Google Classroom in Biology Learning for the three aspects of SNP is in the good category. The Assessment Standard is the Standard with the highest achievement (85.40%) while the Facilities and Infrastructure Standard is the Standard with the lowest achievement (54.46%). The results of this study indicate that it is important to improve facilities and infrastructure before online learning is carried out using Google Classroom in Biology learning at school.

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INTRODUCTION

Online learning has been implemented for more than two years since the Covid-19 outbreak took place in Indonesia. Online learning is not only implemented in Indonesia but also in all parts of the world and at all levels of education. The policy of implementing online learning was taken as a result of social restrictions carried out by the government to suppress the spread of the Covid-19 virus. Learning for students must still be carried out among all the limitations encountered (Wahyuni, et al., 2021). An alternative that can be done to continue to carry out the learning process is to utilize online-based learning media (Ismail & Alexandro, 2021).

Online-based learning media has various advantages, among others, students and teachers can access learning anywhere and anytime. This learning media also facilitates teachers to be able to develop learning to be more creative by utilizing various kinds of visual, audio, and even audio-visual media in the learning process (Tasyari, et al., 2021). Various online-based learning media can be used for learning, including the Learning Management System, Moodle, Edmodo, and Google Classroom. Various research results have been reported related to the use of the Learning Management System, Moodle, Edmodo and Google Classroom in Biology learning (Almareta & Paidi, 2021; Sumarni, et al., 2020; Utami, et al., 2021; Anas & Murti, 2021). . Google Classroom is a platform that is easier to use than the Learning Management System, Moodle, or Edmodo. In addition, Google Classroom is available for free and does not need to be reset again (Sumartini, et al., 2021).

Google Classroom is one of the effective and efficient learning media to use, however, the use of Google Classroom can turn out to be ineffective if students and teachers cannot implement it optimally in the learning process. The less-than-optimal implementation of Google Classroom in the learning process will result in many problems and can disrupt the ongoing learning process. The process of implementing online learning is dependent on the availability of supporting facilities for online learning. This activity requires equipment such as a laptop, tablet or smartphone that can be used to facilitate learning activities (Sadikin & Hamidah, 2020). In addition, online learning is also very dependent on the availability of electricity supply, signals, and quotas to access the learning media used. Internet and multimedia technology in online learning are also needed not only by students, but also by teachers to assist in carrying out the learning process related to material dissemination, assignment, implementation of learning evaluations, and even to provide feedback to students (Handarini & Wulandari, 2020).

Implementation of learning that takes place within these limitations must still be carried out with reference to the National Education Standards which have been explained in PP no. 57 of 2021. The National Education Standards aim to ensure equality in the implementation of education in Indonesia. PP No. 57 of 2021 explains that there are 8 National Education Standards, including Graduate Competency Standards, Content Standards, Process Standards, Educational Assessment Standards, Education Personnel Standards, Teaching Personnel Standards, Facilities and Infrastructure Standards, Management Standards, and Financing Standards. Among the eight National Education Standards, there are three Standards that are directly related to the learning process, including Process Standards, Facilities and Infrastructure Standards, and Assessment Standards.

Studies on the use of Google Classroom in the learning process have been carried out by many researchers before (Anas & Murti, 2021; Handarini & Wulandari, 2020). However, studies on the use of Google Classroom in the learning process in terms of National Education Standards have not been carried out. It is hoped that the results of this research can be used as material for improvement for the implementation of online learning in the future considering that the potential for hybrid learning is likely to be implemented if the Covid-19 Pandemic still takes place in the future.

RESEARCH METHOD

This research is a quantitative descriptive study conducted at SMA N 1 Semendawai Barat, OKU Timur District. This study aims to get an overview of the use of Google Classroom in Biology Learning which is carried out online during social restrictions in the era of the Covid-19 pandemic. The data collection process was carried out in January 2022. The population in this study were all students at SMA N 1 Semendawai Barat, OKU Timur District. The number of samples involved in this study were 86 students who were randomly selected in the 2021/2022 school year.

The instrument used in this research is a questionnaire. This questionnaire was developed from three National Education Standards, namely Process Standards, Facilities and Infrastructure Standards, and Assessment Standards. Each of these standards is then translated into several indicators so that a complete picture of the use of Google Classroom in Biology Learning at school is obtained. This questionnaire consists of 33 statements which are positive statements and negative statements. After the questionnaire was developed, validation was then carried out to ensure that the instrument used could capture the expected data. The data collection process is carried out online with the help of Google Forms considering the current pandemic conditions.

Table 1 Description of descriptors on National Education Standards

Aspect	Indicator	Descriptor
Process Standard	Opening activity	Preparation of learning activities by students
		Able to interpret appreception made by the teacher
		Understand the learning objectives and the scope of the material
	Core activities	Shows interest in the learning process
		Interact well in the learning process
		Actively involved in the learning process
		Give a positive response in the learning process
	Closing activity	Synthesize conclusions and reflect
		Give a positive response to follow-up learning
Facilities and Infrastructure Standards	Availability of educational equipment	Have equipment that supports learning
		Stable power supply
	Availability of other supporting devices	Have the support for the learning devices used
Evaluation Standards	Assessment planning	Openness of assessment design
	Implementation of the assessment	Implementation of the attitude assessment carried out by the teacher
		Implementation of the knowledge assessment carried out by the teacher
		Implementation of skills assessment carried out by teachers
Processing and utilization of assessment results	Learning development is based on the initial assessment carried out	

Table 2 Distribution of questions in the questionnaire based on aspects of National Education Standards

Aspect	Descriptor	Number Statement
Process Standard	Preparation of learning activities by students	1
	Able to interpret the appreciation made by the teacher	2
	Understand the learning objectives and the scope of the material	3, 4
	Show interest in the learning process	5, 6
	Interact well in the learning process	7
	Actively involved in the learning process	8, 9, 10, 11, 12, 13, 14
	Give a positive response in the learning process	15, 16
	Synthesize conclusions and do reflection	17, 18
	Give a positive response to the follow-up learning	19, 20
	Facilities and Infrastructure Standards	Have equipment that supports learning
Stable power supply		3
Have the support for the learning devices used		4, 5
Availability of teaching materials provided by the teacher		6, 7
Assessment Standards	Openness of assessment design	1, 2
	Implementation of the attitude assessment carried out by the teacher	3
	Implementation of the knowledge assessment carried out by the teacher	4
	Implementation of skills assessment carried out by teachers	5
	Learning development is based on the initial assessment carried out	6

The questionnaire given consisted of positive and negative statements using the Guttman scale in the form of a check sheet. A value of 1 is given for a positive statement "yes" and a negative statement "no", while a value of 0 is given for a positive statement "no" and a negative statement "yes". Each statement is then calculated as a percentage for later interpretation by following the guidelines in Table 3.

Table 3 The achievement category of students' perspectives on the use of Google Classroom in terms of aspects of national education standards

No.	Category	Percentage
1	Excellent	81-100%
2	Very Good	61-80%
3	Good	41-60%
4	Poor	21-40%
5	Worse	0-20%

RESULTS AND DISCUSSION

The Covid-19 pandemic has changed many daily habits. Changes that must be made due to social restrictions change the pattern of learning that takes place face-to-face to distance learning. Google Classroom is a platform that teachers can use to carry out distance learning. So far online learning has been carried out as fully as possible to replace face-to-face learning. The study of the use of Google Classroom is reviewed from the National Education Standards. The National Education Standards are the minimum standards set by the government for all education providers to follow. This aims to ensure that the implementation of education is held evenly. National Education Standards related to the use of Google Classroom as a platform used in the learning process, namely aspects of Process Standards, Facilities and Infrastructure Standards and Assessment Standards. The research results regarding the use of Google Classroom in terms of the three

aspects of the National Education Standards are presented in Table 4.

Table 4 Student's perspective on the use of Google Classroom in terms of the aspect of National Education Standards

No.	Aspect	Indicator	Percentage (%)		Category
			Yes	No	
1	Process Standard	Opening activity	87,21	12,79	Excellent
		Core activities	80,52	19,48	Excellent
		Closing activity	80,81	19,19	Excellent
2	Facilities and Infrastructure Standards	Availability of educational equipment	46,51	53,49	Good
		Availability of supporting devices	47,09	52,91	Good
		Availability of learning media	69,77	30,23	Very good
3	Assessment Standards	Assessment planning	67,44	32,56	Very good
		Implementation of the assessment	92,25	7,75	Excellent
		Processing and utilization of assessment results	96,51	3,49	Excellent

Based on PP No. 55 of 2021, Process Standards are the minimum criteria for implementing the learning process to achieve the expected graduate competency standards consisting of opening activities, core activities and closing activities. All stages of this learning activity become one unit that must be carried out by the teacher in learning both face-to-face learning and learning that takes place through Google Classroom. The data shows that the implementation of Biology learning activities through Google Classroom has been carried out properly. The teacher continues to provide appreciation, motivation and convey learning objectives that will be carried out through the Google Classroom application. Students' interest in Biology Learning carried out through Google Classroom is also illustrated by the results of this study. As many as 93.02% of students made good preparations before participating in learning using this platform. This is a good first step for the ongoing learning process.

Appreciation is very important to do to initiate student knowledge and make students relax before learning begins (Puteri, 2018; Musthofa & Sujadi, 2020). The results of the study explained that appreciation carried out through Google Classroom was not optimal. The teacher carries out appreciation by providing pictures or videos related to the concepts to be studied, but students have difficulty understanding the images or videos given. Although many research results have examined the effectiveness of using images or videos in learning (Ayitney, et al., 2019; Hartoyo & Gafur, 2019; Kareem, 2018), the use of images and videos in appreciative activities in online learning still needs to be directed by the teacher to help students more easily understand and avoid misconceptions that students might experience.

The implementation of the core learning studied in this study includes student interest, active involvement of students, student interaction and responses given by students in Biology learning using Google Classroom. The results of this study indicate that students are interested in ongoing learning, students are also very well involved in the learning process and show very good responses from the learning process that has been carried out through Google Classroom. The active involvement of these students is shown in practicum activities which are carried out independently, carrying out discussions, being able to follow teacher instructions related to the learning process, and making activity reports. Student response in Biology learning through Google Classroom is shown by a good response when the teacher provides feedback and confirmation.

The weakness of the online learning process carried out through Google Classroom in this study is the lack of student interaction with other students. This weakness was also identified in his other research

(Gherhes, et al., 2021). Interaction between students must still be maintained even though learning is carried out online. The interaction between students and teachers also has an important role. The interaction between teachers and students can affect the learning process, create a more positive learning atmosphere, and encourage student involvement in the learning process (Sun, et al., 2022). Things that can be done to increase interaction between students and between students and teachers include conducting joint reflections, reflecting through games between teachers and students, students carry out collaborative reflection with other students, students are encouraged to listen to their friends' opinions and actively share experiences and opinions, and students are encouraged to be more active in explaining or asking questions (Wu, et al., 2022).

PP No. 55 of 2021 explains that the Standard of Facilities and Infrastructure that must be owned by schools as educational units refers to the principle of supporting the implementation of active, creative, collaborative, fun, and effective learning. Facilities and infrastructure that are directly related to the learning process greatly affect the quality of the ongoing learning process and student learning outcomes (Santika, et al., 2021; Ruhjana & Aeni, 2019). Learning management system as a means of supporting learning has a very important role in the online learning process (Wakocha, et al., 2017; Mohd. Basar, et al., 2021). The existence of the Learning Management System allows the learning process to take place anywhere, anytime, and enriches students' learning experiences (Hassan Ja'ashan, 2020).

Biology learning in schools in terms of Facilities and Infrastructure Standards shows that almost all students use smartphones to access Google Classroom (97.67%) compared to laptops (27.91%). The use of smartphones which is more common than the use of laptops is very often found in students with low levels of education, while students with higher levels of education prefer to use laptops or personal computers. Students with higher levels of education usually begin to have more complex assignments and more difficult final evaluation preparations. The large percentage of smartphone use by students in the implementation of online learning is also caused by the availability of these devices anywhere (Bezgodova, et al., 2020). The use of laptops and smartphones is one combination that can facilitate the implementation of online learning carried out by students at various levels and knowledge groups (Gamage & Perera, 2021).

The results of the research that have been carried out show that the obstacles that greatly interfere with the implementation of Biology learning through Google Classroom are the availability of electricity supply and signal support on devices that are not good. The availability of a stable electricity supply (13.95%) is grouped in the bad category while the signal stability on smartphones is reported in the poor category (38.37%). The instability of electricity supply and signal on smartphones is one of the weaknesses of implementing online learning through Google Classroom which takes place in the Regency area. The instability of this electricity supply not only affects students but also affects teachers (Bwire, et al., 2020). Electrical supply and signal problems in online learning have been widely reported by other researchers (Bringula, et al., 2021; Dhawan, 2020; Rijal, 2021; Gherhes, et al. 2021). Disturbances in the supply of electricity and signals greatly affect learning carried out through Google Classroom because this results in students not being able to access applications to carry out the learning process (Bringula, et al., 2021). Dependence on electricity supply and signal on smartphones is very high when online learning through Google Classroom is implemented.

The results of the research conducted indicate that the teacher has prepared good learning materials for students through the Google Classroom application (100%), but students have difficulty understanding the teaching materials provided by the teacher (60.47%). The same thing is also found when the teacher gives appreciation to students in the form of pictures or videos. The results of this study direct that teachers continue to accompany students in the learning process to help understand important concepts even though it cannot be done directly (face-to-face). This indicates a weakness in the implementation of Biology learning through Google Classroom although on the other hand learning through Google Classroom has advantages for students and teachers (Pirrone, et al., 2021). Online learning that took place during the Covid-19 pandemic

was admittedly difficult to carry out various practical activities and made it difficult for teachers to explain various learning concepts which made the learning process more difficult to implement (Gherhes, et al., 2021).

The Assessment Standard is a minimum criterion regarding the mechanism for assessing student learning outcomes. Assessment of learning outcomes is carried out in accordance with the purpose of the assessment. In this study, the Assessment Standards studied included the assessment planning process, the implementation of the assessment, and the processing and utilization of the assessment results. Weaknesses in the use of Google Classroom for Biology learning related to assessment standards are found in the assessment planning indicators. After the teacher announced that the assessment would be carried out, students preferred not to open teaching materials or subject matter that had been provided by the teacher through Google Classroom (65.12%). Students find it easier to open textbooks than to reopen subject matter in Google Classroom.

The results showed that the implementation of the assessment and processing and utilization of the results of the biology learning assessment carried out through Google Classroom had been carried out very well. The process of assessing learning outcomes through Google Classroom is integrated with the Google Form application. Google Forms is an application also developed by Google. This application has many benefits, including being easy to use, providing detailed results, making it easier for teachers to check student exam results and making it possible to provide questions with a high level of difficulty (Sari, et al., 2020; Anwar, et al., 2020). However, behind all the benefits of using Google Forms as an application used in the evaluation process, this application has not been able to provide maximum results for questions in the form of essays or complex descriptions. In the type of essay questions, teachers still need to check student exam results (Sari, et al., 2020).

Research that has been conducted regarding the use of Google Classroom in terms of three aspects of National Education Standards, namely Process Standards, Facilities and Infrastructure Standards, and Assessment Standards in general has been going well. Some of the problems encountered in the learning process that takes place through Google Classroom include, students have difficulty understanding the pictures and videos provided by the teacher through appreciative activities, lack of interaction between students in the learning process, technical problems related to electricity and signal supply, insufficient quota, students' difficulties in understanding the teaching materials provided by the teacher, and students' lack of interest in reviewing the subject matter that has been given through Google Classroom. The results of this study also illustrate that the biology learning process through Google Classroom makes students interested, students participate actively and give good responses in the learning process and follow the assessment process carried out through Google Classroom.

CONCLUSION

Research that has been conducted regarding the use of Google Classroom in terms of three aspects of National Education Standards, namely Process Standards, Facilities and Infrastructure Standards, and Assessment Standards in general has been going well. Some of the problems encountered in the learning process that takes place through Google Classroom include, students have difficulty understanding the pictures and videos provided by the teacher through appreciative activities, lack of interaction between students in the learning process, technical problems related to electricity and signal supply, insufficient quota, students' difficulties in understanding the teaching materials provided by the teacher, and students' lack of interest in reviewing the subject matter that has been given through Google Classroom. The results of this study also illustrate that the biology learning process through Google Classroom makes students interested, students participate actively and give good responses in the learning process and follow the

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