

Use of the Constructivism Model as the Development of E-Learning in a Pandemic Era

¹Samsul Pahmi, ²Rahma Maulida, ³Dina Zesika Alfarizi, ⁴Lusiani Isty Astuti, ⁵Shelvi
Nurhalisah

¹Nusa Putra University, samsul.pahmi@nusaputra.ac.id

²Nusa Putra University, rahma.maulida_pg20@nusaputra.ac.id

³Nusa Putra University, dina.zesika_sd20@nusaputra.ac.id

⁴Nusa Putra University, lusiani.isty_sd20@nusaputra.ac.id

⁵Nusa Putra University, shelvi.nurhalisah_sd20@nusaputra.ac.id

Abstract: Since the beginning of 2020 the spread of Covid-19 in Indonesia has increased, this has an impact on all activities in Indonesia, one of which is in the field of education. In order to prevent the spread of Covid-19 in the field of education, the government issued a policy to replace face-to-face learning to study at home or it can be called e-learning. The author's goal in this discussion is to find out what kind of application of the constructivism learning model in the e-learning learning process during the pandemic. This research method uses a qualitative approach with a case study method conducted at one of the public elementary schools in Sukabumi Regency which implements the e-learning learning process. Data collection techniques using interviews and observations. The subjects of this study were teachers and 5th grade students of SDN Pamatutan who were considered to represent the view of e-learning learning. The results of this study indicate that the constructivist learning model in the development of the e-learning learning process during this pandemic has an influence on the mindset and personality of students so that they can be independent and active in finding learning resources from school books and internet media. Teachers and students have both applied this learning model because it is felt to be effective and suitable for the e-learning learning process.

Keywords: E-Learning, The Constructivism Model, Development E-Learning

JEL Classification:

INTRODUCTION

Education as an effort to prepare students in the future has a very strategic role in improving the quality of human resources and efforts to realize the ideals of the Indonesian nation (Utomo, 2019). Currently the pandemic has changed the learning system, where the teaching and learning process is not carried out face-to-face but by using remote technology media or it can be called e-learning (Astini, N. K. S., 2020). The learning process in education has several components, two of which are teachers and students. In order to be successful in the learning process, teachers must play a role in encouraging students to be active and creative in learning (Hendriana, H., 2014). According to the constructivism learning model, learning success depends not only on the environment or learning conditions but also on students' prior knowledge.

The knowledge cannot be transferred completely from the mind of the teacher to the students, but it is actively developed by the students themselves through real experiences. The use of appropriate learning methods or models is an interesting way and can trigger interest and activeness which in turn will improve learning outcomes (Samsul Pahmi, 2020). Learning carried out in schools is still teacher-centered. There are still some teachers who use their study time by discussing past assignments, giving new lessons, then giving assignments to students. Students only accept what is conveyed by the teacher, and students do not understand the concept well which results in students being passive.

The teacher's ability affects the child's ability to understand the material so that when presenting the material, the teacher does not pay attention to the needs and characteristics of students.

During this pandemic, learning was carried out online with or what is often referred to as ELearning. E-learning itself is a teaching and learning process that uses electronic circuits (LAN, WAN or Internet) to convey learning content, interaction or guidance. Some people interpret e-learning as a form of distance education via the internet. Meanwhile, in this online learning activity the role of the teacher is slightly reduced, so it requires the development of a learning system that can adapt to the learning process during this pandemic, such as the use of constructivist learning models, which can encourage students to be more active. This can be done by the teacher by providing opportunities for students to be fully and actively involved in learning, and students are required to take full responsibility for their own learning efforts while the teacher is tasked with facilitating it. Because students already have a lot of knowledge and skills through daily experiences where learning occurs when students integrate new knowledge and skills into previously owned knowledge and skills, researchers believe that there is an influence on the use of constructivist models as the development of e-learning during a pandemic.

LITERATURE REVIEW

First Literature

Sudarsana, I. K. (2018) argues in the results of their research that the phenomena that occur in the field in the learning process, students often feel bored and think learning is not important, therefore it is necessary to strive for a learning activity that is able to provide conditions for students to develop their abilities. Facing this phenomenon, Sudarsana developed the use of technology in implementing curriculum in school

Second Literature

In line with the above view, online learning is a learning activity based on electronic devices. In the process of transforming traditional education into a digital form, the concept of elearning has a significant influence on both content and systems. The term "online learning" has a very broad definition.

E-learning consists of the letter "E" which represents electronics and the word "learning" represents learning. Therefore, ELearning is defined as learning through the use of electronic devices, especially computer devices (Rahman, 2018: 169-170).

Third Literature

E-learning is also known as an asynchronous learning activity that uses computer electronic equipment to obtain learning materials that suit their needs (Yazdi, 2012: 146). E-learning refers to the use of internet technology to provide a series of solutions that can enhance knowledge and skills. The emphasis is on the nature of using the Internet as e-learning in education. The term "E" or an abbreviation of "Electronics in ELearning" refers to all technologies used to support teaching through internet electronic technology (Yazdi, 2012: 146).

Fourth Literature

In practice, the teaching and learning process at home, students and teachers are assisted by online learning applications equipped with modules and videos or films as learning media where students positively welcome the existence of films as learning media (Lina Herlina, 2020).

Hyphothesis

The use of e-learning as a management learning medium during the COVID-19 pandemic is very suitable to be applied. Using e-learning as a management learning

medium, only a little procedural knowledge is needed in the operation of e-learning.

METHODOLOGY

Research Strategy

This research is an exploratory study which aims to determine the effectiveness of using the constructivism model in e-learning learning during the pandemic. This study used a qualitative approach with a case study method carried out in an elementary school in Sukabumi district, namely SDN Pamatutan. The subjects of this study were students of grade 5 SD for the academic year totaling 34 students.

This research is carried out by observation (observation) and reflection, the observation stage is carried out by observing the cognitive, affective and psychomotor aspects during the learning process. From the results of observations, researchers can reflect on themselves by looking at the observation data whether the learning model that has been done can have a good effect on the online student learning process.

The research data were obtained by observation, while the data analysis carried out was the analysis of student learning outcomes, completeness in doing online assignments and student activeness in learning. Research is said to be successful if students are able to complete, master competencies or 75% of learning objectives individually in the cognitive aspect.

Meanwhile, students are said to have thoroughly studied the affective and psychomotor aspects if all or at least 70% of the aspects are observed. Data collection techniques used interviews and observations to get a description of the implementation of the constructivism model in e-learning.

DISCUSSION

Interview

Based on the results of interviews conducted at SDN Pamatutan, teachers as the role of educators who guide students have experienced what online learning is like during this pandemic. The teacher felt that his role was slightly reduced compared to face-to-face learning.

Currently teachers are carrying out teaching and learning activities using learning media, teachers are also required to be more active in encouraging students and building student motivation to be more active in the learning process. The use of the constructivism model in elementary schools is indeed considered to be in accordance with current online learning, where this learning model can add to the skills of teachers to be more attractive in presenting lessons to students and also to be more active in being able directing students so that they can improve their learning abilities without having to be influenced by the ability of the teacher.

The results of interviews with students can show that at the beginning of this online learning they found it difficult, because the system used seemed to be the same as when they studied face-to-face.

Currently, students are given the opportunity to be able to find their own study materials so that they are more active and creative. Appreciation from the teacher has always been a motivation for them to be more active in finding learning materials independently.

Observation

During this online learning the teacher plays a role in facilitating students in the learning process. Teachers provide lesson material via WhatsApp to students so that learning during the covid-19 period can be carried out anywhere then the teacher controls and coordinates the learning hours and the teacher also works with the school to be able to make it easier to understand the material by making instructional videos

From the table above it can be concluded that e-learning learning using the constructivism model is in accordance with the implementation of learning at SDN Pamatutan seen from "Design and Material Making" is very suitable (80.14%), in "Delivery" material from the teacher is very appropriate (82, 00%),

No	No Tasks given by the teacher on	Observation Results	No	No Tasks given by the teacher on	Observation Results	No
1.	Learning is given through videos, students are directed to write down things that are considered	Students find it easier to understand the lesson	1.	Learning is given through videos, students are directed to write down things that are considered	Students find it easier to understand the lesson	1.

	important from the video.			important from the video.		
2.	The teacher manipulates the teaching materials with props via video	Students become more creative and happy in learning	2.	The teacher manipulates the teaching materials with props via video	Students become more creative and happy in learning	2.
3.	The teacher gives assignments that students can do in their daily activities	Students are more active and can be more independent in doing assignments	3.	The teacher gives assignments that students can do in their daily activities	Students are more active and can be more independent in doing assignments	3.
4.	Provide opportunities for students to ask simple questions	Students can be more comfortable in learning because they can communicate lessons with the teacher even though they are online	4.	Provide opportunities for students to ask simple questions	Students can be more comfortable in learning because they can communicate lessons with the teacher even though they are online	4.
5.	The teacher directs students to find answers to the problems given assignments	Students become more active in finding	5.	The teacher directs students to find answers to the problems given assignments	Students become more active in finding	5.
informatio n or study materials on their own			informatio n or study materials on their own			informatio n or study materials on their own
6.	Assessment of student learning outcomes is related to	The result is that students get good results because the	6.	Assessment of student learning outcomes is related to	The result is that students get good results because the	6.

	learning and occurs through teacher observations of student work, activeness and skills	learning process goes quite well as expected and students are happy with the		learning and occurs through teacher observations of student work, activeness and skills	learning process goes quite well as expected and students are happy with the	
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Tabel 2.

No	Indicators of using constructivism models in e-learning	Percentage	Category	
1.	Design and manufacture of materials	80,14%	Perfectly Fit	
2.	Delivery of subject materials	82,00%	Perfectly Fit	
3.	Student Interaction	74,10%	Corresponding	
4.	Student Activity	84,50%	Perfectly Fit	
4.	Evaluation	83,20%	Perfectly Fit	

Source: Own (2020)

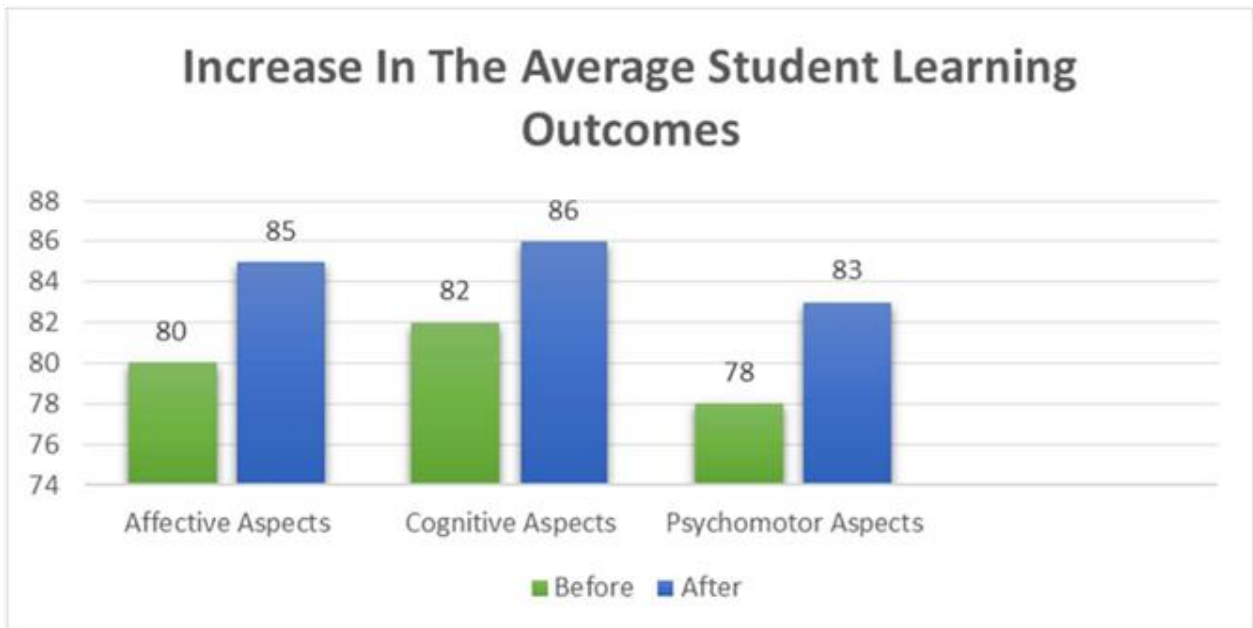


Figure 2. Example of figure

So that it affects the indicator "Student Interaction" according to (74.10%), "Student Activeness" is very suitable (84.50%) and the indicator

"Evaluation" is very appropriate (83.20%).

So the use of this constructivism model has a good influence on student activity and is development of e-learning learning at SDN Pamatutan.

Based on the observation of the results data before and after the implementation of this model on the cognitive, affective and psychomotor aspects of the 5th grade students of SDN Pamatutan, obtained the average

The affective, cognitive and psychomotor learning outcomes of 5th grade students of SDN Pamatutan have increased when the implementation of the constructivism model in online learning has been implemented. From the results before the implementation, the average score of students' scores on the affective aspect increased from 80 to 85, the cognitive aspect from 82 increased to 86 and psychomotor from 78 increased to 83. This observation activity can be seen from most students sometimes find it difficult to carry out online learning activities. Observations were made regarding the learning model used in schools that implement e-learning. The results of the observations that have been made show that teachers and students in these elementary schools have implemented the use of constructivism learning models in value data. (Image 1).

E-Learning and have felt the positives. This learning model applied so that the online learning process in this elementary school can run as expected and can help teachers and students in carrying it out. This also affects the behavior of students who show better behavior changes with this constructivism approach, making it easier

for teachers to direct students to be more active in learning.

Student activities in finding learning information. The active role of students in the constructivism learning model implemented by this school will help the learning process fit. There are some difficulties in carrying out this, but with the habituation process, the parties involved in online education can follow well and can even complete practical learning students, students can gain the breadth of knowledge acquired.



Figure 2. Results of Student Practicum Assignments

CONCLUSION

Based on the results of research using the constructivism model in the development of elearning learning during the pandemic period, it can be concluded:

1. The school also realizes that this learning model has a good effect on improving teacher
2. Quality and also developing student creativity. In this case the teacher must be able to use the media in the learning process, educators or teachers are also required to be more active and interesting in their presentation. Not only old or outdated methods must be used, such
3. as lecturing and taking notes, but the teacher must teach in a certain way so that students must be actively involved in learning.
4. Learning activities include observing phenomena, collecting data, formulating and testing hypotheses, and collaborating with
5. others. Students can also be active and they will develop their own knowledge through exercises, experiments or discussions between them

The aspects of designing and making elearning learning materials are in the quite effective category by looking at the suitability of assignments and responses from students.

The indicators in the implementation of this constructivism model also show their suitability in the design and manufacture of materials with a percentage of 80.14% and the suitability of student activity with a percentage of 84.50%.

The delivery aspect or delivery method of e-learning shows that the category is very suitable with the tendency level of 82.00%.

The aspect of student interaction shows the categories according to the tendency level of 74.10%. Evaluation aspects of the implementation of constructivism learning models in the development of e-learning shows that the category of suitability of the method with the Elearning process is in accordance with the trend of 83.20%.

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