



Application of E-Learning Based on Constructivism Approach to Understanding of Student Concept in The Study of Social Students

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Abstract. This research used qualitative descriptive method. The aims of this research is to find out the application of an E-learning-based constructivism approach to the understanding of student concepts in Social Studies Subjects. The subjects of this study were the students of second semester B of PGSD FKIP UNPAK which totaling 26 students. Data collection techniques are through observation, interviews and documentation. Data analysis techniques is through qualitative descriptives. Based on the results of data analysis, the results of the application of the constructivism approach to orientation for results are 100% carried out, 100% elasticity, 100% restructuring, used many ideas 100%, 98% review. Whereas for understanding the concept the results obtained scores in the range 0-20 by 1 student with a percentage of 4% with very poor interpretation, range 21-40 by 1 student with a percentage of 4% with poor interpretation, range 41-60 by 2 students with a percentage 8% was good interpretation, range 61-80 as many as 5 students with a percentage of 19% was good interpretation, range 81-100 as many as 17 students with a percentage of 65% was very good interpretation. From the above research, it can be concluded that the application of the e-learning-based constructivism approach to the understanding of student concepts in Social Studies courses was very good.

Keywords: Constructivism, concept understanding, Social Studies

INTRODUCTION ~ Social studies is one of the courses that equip students to be competent in understanding social concepts. Social studies subjects in elementary schools provide provisions for students to be able to socialize and interact with the community and the environment. The learning process developed in elementary schools should be designed based on the competencies to be achieved, the needs and background of students in elementary schools. Therefore, in the lecture process, the lecturer seeks to present lectures that stimulate students to actively form a frame of mind in understanding each concept that is given so that students have the ability to develop social knowledge already formed in elementary schools.

Another phenomenon found in the lecture process of Social Studies courses is the

different backgrounds and motivations of students who are able to make lecturers trapped to dominate lectures, one of which is the concept of the material being studied, sometimes the Lecturer delivers directly in the process where students form knowledge, therefore it is necessary a learning pattern that directs students to be active in high-level thinking activities in processing and shaping knowledge.

One of the learning approaches that researchers choose in developing an active lecture process in shaping the framework of a comprehensive and comprehensive IPS Study Course is to use the E-learning-based Constructivism Approach. Kusuma (2016: 3) states constructivism approach considers that the *pe m learning mengkonstruk / alanmebangun* own knowledge they have. The construction (development) of



ICEE-2

knowledge is carried out based on one's own experience or from the experience of people. According to Brooks and Brooks in Wardoyo (2013: 23) Constructivism can be interpreted as an approach in the learning process that leads to the discovery of concepts that are born from the views and images and initiatives of students. Another concept understanding put forward by Beetlestone (2012: 40) is that the concept is the element that represents the most important problem because it is often assumed to be static.

Furthermore, Sagala (2009: 71) states that the concept shows a relationship between the concepts that are simpler as a basis for human estimates or answers to questions that are basic about why a phenomenon can occur. The concept is the mind of a person or group of people expressed in the definition so that it becomes a product of knowledge that includes principles, laws, and theories. Concepts are obtained from facts, events, experiences through generalization, and abstract thinking. The concept can undergo changes adapted to facts or new knowledge while the usefulness of the concept is to explain and predict.

The renewal of the learning paradigm through the view of constructivism and the shifts that occur due to advances in information and communication technology are two things that are very in line and mutually reinforcing.

The results of previous studies have proven that blended learning gives better results than conventional methods. Students who

graduated using blended learning reached 88%, whereas in conventional learning only reached 63% (Mendez & Gonzales, 2011: 626).

The e-learning-based constructivism approach that researchers have developed in Social Studies courses is a learning approach that directs students to shape and build their own knowledge that is studied through active and critical thinking activities carried out through the E-learning stages, namely the presentation of teaching materials, discussion forums, assignments, and evaluation. One of the reasons researchers chose an approach to constructivism based on e-learning to design lectures that make students easy to understand the concepts of social studies, including because the constructivism approach is a learning approach oriented to the formation of knowledge through experience so that the knowledge formed becomes meaningful. Besides that e-learning stages Researchers use in the lecture process because e-learning helps Lecturers in improving the quality of learning conducted through Information Technology in the current digital era. Rosenberg (2001), emphasizes that e-learning refers to the use of internet technology to deliver a series of solutions that can enhance knowledge and skills.

Purpose In this research is to find out the application of e-learning-based constructivism approach to the understanding of student concepts in social studies subjects.

ICEE-2
METHOD

The research method used is a descriptive qualitative research method, which is a study aimed at describing or describing phenomena that exist, both natural phenomena or human engineering (Syadiah, 2009). This is because this study aims to obtain a clear picture of the application of an e-learning-based constructivism approach to understanding students' concepts in the Social Studies Study. Data obtained from this study are the results of document analysis, and observations, interviews, and questionnaires which is in accordance with the opinion of Syadiah (2009). The subjects

in this study were the second semester students of Class IIB PGIP Study Program FKIP Pakuan University.

A. Description of Research Statistics Data

The description of the research data is grouped into two parts, consisting of: research data Application of the Constructivism Approach and understanding of Social Studies Concept Concepts.

1. Student Activities in E-learning

Student Activities In e-learning Social Studies courses can be seen as follows:

a. Material Reading Activity

Table. 4.1 Reading Activities Material in E-learning

Material Reading Activity	Frequency	Percentage
4 Topics	2	8%
5 Topics	4	15%
6 Topics	20	77%
amount	26	100%

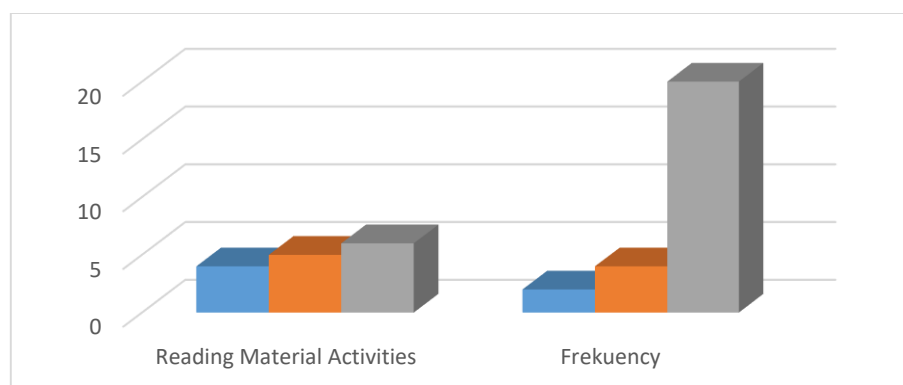


Figure 4.1 Histogram Diagram of Reading Material Activities

Based on Table 4.1 above it can be seen that the activity of reading material during E-learning learning which consists of 6

Learning Topics can be seen that there are 2 students reading 4 material topics, 4 students reading 5 materials and 20

ICEE-2

students reading 6 materials. If the percentage will look like the diagram below.

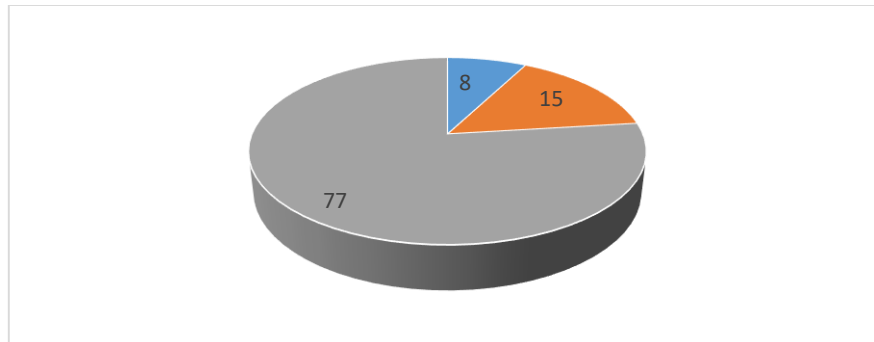


Figure 4.2 Pie Diagram Percentage of Material Reading Activities

Based on the picture. 4.2 above that there are 8% of all students who read material only 4 topics, there are 15% of all students who only read 5 topics of material and,

there are 77% of students who read material 6 topics.

b. Video Analyzing Activity

Table 4.2 Activity Analyzing videos

Video Analyzing Activity	Frequency	Percentage
5 Topics	6	23%
6 Topics	20	77%
amount	26	100%

Based on table 4.2 that student activity in analyzing videos there are 6 Students who only analyze 5 Learning Video topics or 23% and there are 20 students who

analyze 6 learning video topics or 77%. Next on the video analysis activity diagram is displayed.

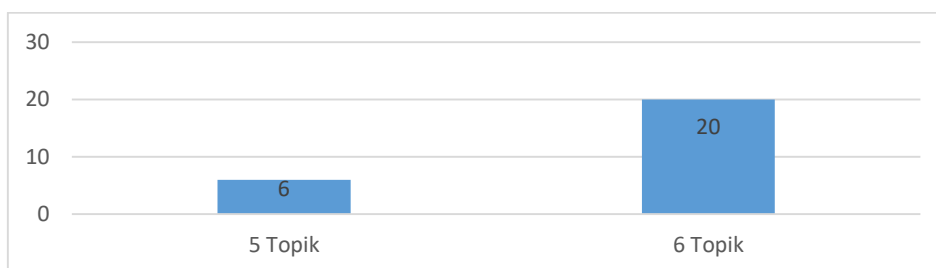


Figure 4.3 Histogram diagram for analyzing video activities

Based on Figure 4.3 there were 6 students analyzing videos with only 5 topics and 20

ICEE-2

students analyzing 6 learning video topics .
If looks were presented in a pie chart

diagram s e Perti following:

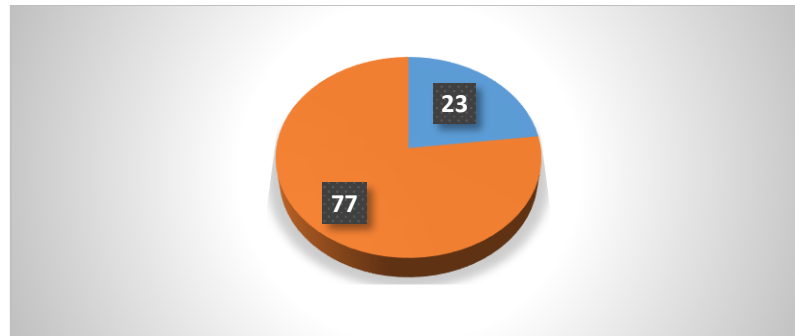


Figure 4.4 pie chart diagram of the percentage of video analysis activities

Based on Figure 4.4 above, it can be seen that 77% of students analyzed videos for 6 topics and 23% of students only analyzed learning videos for 5 topics.

c. Discussion Forum Activity

From several topics in e-learning activities, the following discussion forums can be seen :

Table 4.3 Student Activities in Discussion Forums

Discussion Forum Activity	Frequency	Percentage
4 Topics	1	4%
5 Topics	5	19%
6 Topics	20	77%
amount	26	100

Based on Table 4.3 it can be seen that there are 1 students whose activities in the discussion forum are only 4 topics or 4%, there are 5 students whose activities in the forum are 5 topics or 19%, and there are 20

students who activity in the discussion forums for 6 topics or 77%. Based on the table above, if it is written in a variety, it looks like this:

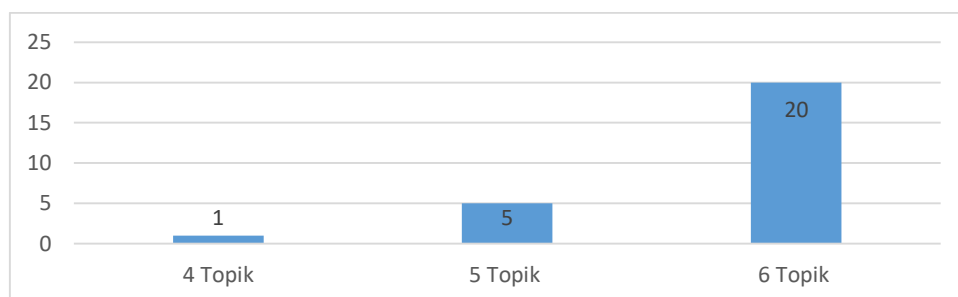


Figure 4.5 Activity histogram diagram in the discussion forum

Based on Figure 4.5 there are 1 students who filled 4 topics in the discussion forum, there were 5 students who filled 5 topics in

the discussion forum and there were 20 students who filled 6 topics in the

discussion forum. If the percentage will look like the diagram below:

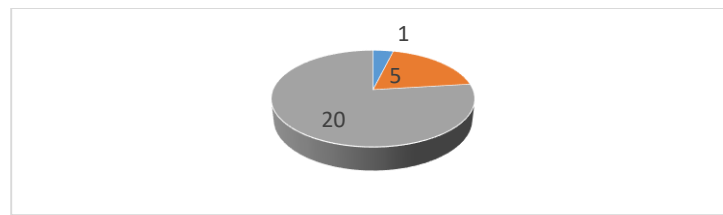


Figure 4.6 Percentage of activities in the discussion forum

Based on Figure 4.6 that there are 4% of all students whose activities in the forum are mastered with only 4 topics, there are 5% of students whose activities in the discussion forum only fill 5 topics and there are 20 students whose activities in the discussion forum fill 6 topics.

2. Description of statistical data Application of the Constructivism Approach

The technique of collecting data on the Constructivism Approach used observation sheets which were carried out by 4 observers (Social Studies Lecturers). In the observation instrument consists of 7 items observed.

Table 4.4 Frequency of E-learning-based Constructivism Approach

NO	ACTIVITY	ANSWER	
		YES	NO
1	Orientation: Students are given the opportunity to develop motivation in learning a topic	4	0
2	Elicitation: students are helped to express their ideas clearly by discussing, writing	4	0
3	Idea restructuring. In this case there are three things. 1) Clarification of ideas that are contrasted with the ideas of others or friends through discussion or through the collection of ideas. 2) Building new ideas.	12	0
4	3) Evaluate new ideas with experiments.	4	0
5	Use of ideas in many situations	3	1
	Review	17	1
	amount	17	1

Based on the results of data analysis from the assessment of the Collaborator team, it was found that in the Social Studies study during the application of the

constructivism approach based on e-learning, lecturers did and students did several other things : 1. Orientation: Students were given the opportunity to



ICEE-2

develop motivation in learning a topic from the results Observation of the four observers stated that all lecturers doing this orientation can be seen from a score of 4 (yes) and 0 (no). 2. Elicitation: students are helped to express their ideas clearly by discussing, writing from the observations of the four observers stating that the Lecturer conducts elicitation this can be seen from the scores of 4 (yes) and 0 (no), 3. Restructuring ideas. In this case there are three things. 1) Clarification of ideas that are contrasted with the ideas of others or friends through discussion or through the collection of ideas. 2) Building new ideas. 3) Evaluate the new idea with experiments from the observations of the four observers

stating that the Lecturer restructuring the idea can be seen from the score of 12 (yes) and 0 (no). 4. The use of ideas in many situations from the observations of the four observers stated that the Lecturer made use of these ideas can be seen from a score of 4 (yes) and 0 (no). 5. Review of the observations of the four observers stated that the lecturer did not fully review this matter, it can be seen from the score of 3 (yes) and 1 (no).

The data table above is poured into the frequency distribution diagram and histogram.

Frequency of *E-learning-* based Constructivism Approach if the percentage is as follows:

Table 4.5 Percentage of Application of *E-learning-* based Constructivism Approach

NO	ACTIVITY	YES (%)	NO (%)	—
1	Orientation: Students are given the opportunity to develop motivation in learning a topic	100	0	
2	Elicitation: students are helped to express their ideas clearly by discussing, writing	100	0	
3	Idea restructuring. In this case there are three things. 1) Clarification of ideas that are contrasted with the ideas of others or friends through discussion or through the collection of ideas. 2) Building new ideas. 3) Evaluate new ideas with experiments.	100	0	
4	Use of ideas in many situations	100	0	
5	Review	92	8	

Percentage diagram of the application of the e-learning-based Constructivism Approach as follows

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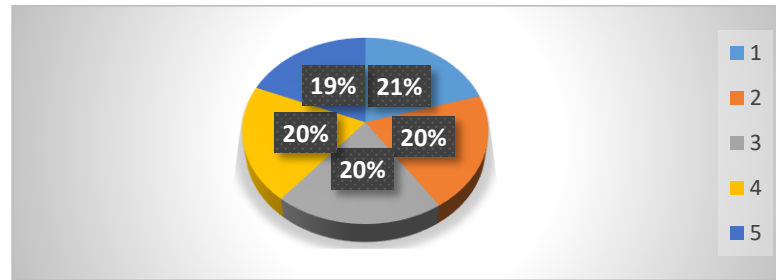


Figure 4.7 Pie chart diagram percentage of the application of the constructivism approach. Description of statistical data The results of the study to understand the Understanding of IPS Study Concepts concept of social studies study as mentioned below :

Table 4.6. Frequency Distribution of Understanding IPS Study Concepts

Interval Class	Class Limits	Score The middle (X ₁)	Absolute F e F	F relative (%)	F . X ₁
0-20	0.5 - 19.5	10	1	4	10
21-40	20.5 - 39.5	30	1	4	30
41-60	40.5 - 59.5	50	2	8	100
61-80	60.5 - 79.5	70	5	19	350
81-100	80.5 - 99.5	80	17	65	1360
amount	-	-	26	100	1850
				%	

The frequency distribution of the results can be seen in histogram below: Based on the histogram graph above can be explained that the highest frequency in the interval 81-100 class, while the lowest frequency at intervals of 0-20 class

Based on the calculation results of the concept understanding of 26 students that the smallest value was between 0-20 and the highest score was between 81-100. From these data obtained the interval class 0-20 with a frequency of 1 with Very

Poor criteria, 21-40 with a frequency of 1 Poor criteria, 41-60 with a frequency of 2 Good Enough criteria, 61-80 with a frequency of 5 Good criteria, 81-100 with a frequency of 17 criteria Very Good

From these data it can be obtained as many as 5 class intervals with a class length of 20. The first interval starts from 0-20, the second class starts from 21-40, the third class starts from 41-60, the fourth class starts from 61-80, the fifth class starting from 81-100,

ICEE-2

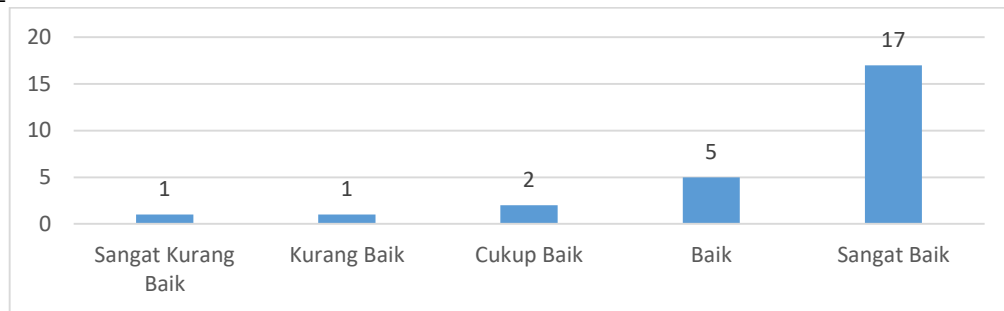


Figure 4.8 Distribution Diagram of Frequency of Understanding Social Studies Concept

The data above description is poured into the frequency distribution table and histogram. The percentage diagram of students' understanding of the Social Studies subject is as follows:

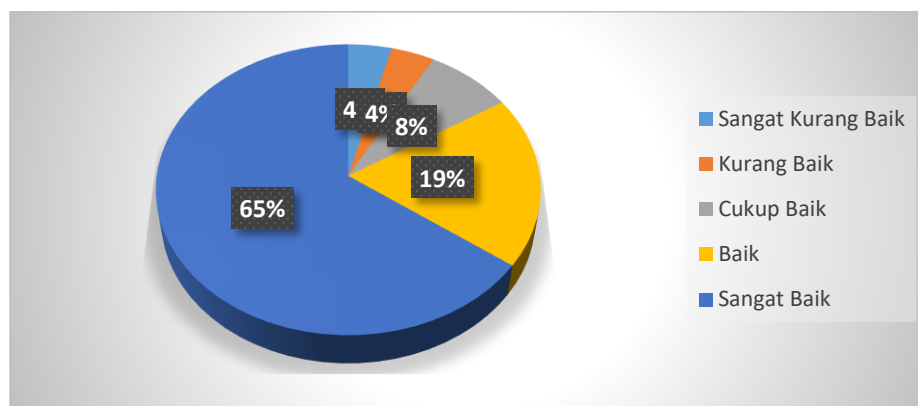


Figure 4.9 Percentage Diagram of Social Studies Concept Understanding

From the diagram above it can be seen that the scores in the range 0-20 are 1 student with a percentage of 4%, range 21-40 of 1 student with a percentage of 4%, range 41-60 by 2 students with a percentage of 8 %, range 61-80 5 students with a percentage of 19%, ranging from 81-100 as many as 17 students with a percentage of 65%

DISCUSSION

To practice the ability to think at a higher level and to form constructs of concept understanding, students are required to be able to reflect on them in digital age learning that utilizes information technology in the learning process. Learning is done online and also done

face-to-face or called blended learning or a combination of learning.

Blended e- learning as a combination of the characteristics of traditional learning and the electronic learning environment or *Blended learning* . combining aspects of *Blended learning* (electronic format) such as web-based learning, video streaming, synchronous and asynchronous audio communication with traditional "face-to-face" learning. E-learning learning leads to independent learning

The independent learning process gives students the opportunity to digest teaching material with a little help from the lecturer. They participate in learning activities with specially designed teaching



ICEE-2

materials so that learning problems or difficulties are anticipated beforehand. This independent learning model is very useful, because it is considered flexible, does not bind and train the independence of students so as not to depend on the presence or description of teaching material from the lecturer. Based on the ideas of flexibility and independence, independent learning has 'metamorphosed' in such a way, including being an open learning system and distance learning. These changes are also influenced by other sciences and reality in the field.

The independent learning process changes the role of the lecturer or instructor, becoming the facilitator or designer of the learning process. As a facilitator, a lecturer or instructor helps students overcome learning difficulties, or he can be a learning partner for certain material in the tutorial program. The task of the designer of the learning process requires lecturers to process the material into a format in accordance with independent learning patterns.

Based on the results of data analysis that in lecturing Social Studies during the implementation of the constructivism approach based on *e-learning* lecturers and students do several things, among others: 1. Orientation: Students are given the opportunity to develop motivation in learning a topic from the observations of the four observers stating that all lecturers do This orientation can be seen from the

score 4 (yes) and 0 (no). 2. Elicitation: students are helped to express their ideas clearly by discussing, writing from the observations of the four observers stating that the Lecturer conducts elicitation this can be seen from the scores of 4 (yes) and 0 (no), 3. Restructuring ideas. In this case there are three things. 1) Clarification of ideas that are contrasted with the ideas of others or friends through discussion or through the collection of ideas. 2) Building new ideas. 3) Evaluate the new idea with experiments from the observations of the four observers stating that the Lecturer restructuring the idea can be seen from the score of 12 (yes) and 0 (no). 4. The use of ideas in many situations from the observations of the four observers stated that the Lecturer made use of these ideas can be seen from a score of 4 (yes) and 0 (no). 5. Review of the observations of the four observers stated that the lecturer did not fully review this matter, it can be seen from the score of 3 (yes) and 1 (no).

Based on the results of research conducted by researchers that the application of the *e-learning*-based constructivism approach to the understanding of the concept of Social Studies shows **very good** results . This can be seen from the scores in the range 81-100 as many as 17 students with a percentage of 65% with **Very Good** criteria ,range 61-80 as many as 5 students with a percentage of 19% with **Good** criteria , range 41-60 by 2 students with a percentage of 8 % with **Good enough** criteria , range 21-40 by 1 student with a



ICEE-2

percentage of 4% with the criteria of **Not Good** , range 0-20 by 1 student with a percentage of 4% with the criteria **Very Poor**

Based on these results, the application of the e-learning-based constructivism approach shows the ability to think at a high level where students can think constructively in digging information to gain knowledge about understanding the concepts in the Social Studies Study.

CONCLUSION

Based on the results of research conducted by researchers that the application of the *e-learning* -based constructivism approach to the understanding of the concept of Social Studies shows **very good** results . This can be seen from the scores in the range 81-100 as many as 17 students with a percentage of 65% with **Very Good** criteria ,range 61-80 as many as 5 students with a percentage of 19% with **Good** criteria , range 41-60 by 2 students with a percentage of 8 % with criteria **Pretty Good** , range 21 - 40 in 1 students with a percentage of 4% with the criteria **Less**

Good , range 0 - 20 as one student with a percentage of 4% with the criteria for **Very Poor Good**

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