

Students' Critical Thinking Ability at Cokroaminoto Palopo University

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Abstract :

This study aims to determine the level of critical thinking of students and to determine the views of students' critical thinking ability in Semester IV, University of Cokroaminoto Palopo. The population in this study were fourth semester students and the sample of this study was 20 students. The researcher applied the quantitative descriptive method. In analyzing the data, the researcher gave a theme and the researcher conducted an interview test which was given to 20 students to find out the extent of the students' views on critical thinking, the researcher found the fourth semester students' critical thinking through the test procedure.

The researcher concludes The students' critical thinking of Cokroaminoto Palopo University is on average category. It can be seen by calculating the students' score. the students' score is 6 students scored 50 and 14 students scored 75. The students' of Cokroaminoto Palopo University view critical thinking skills as the ability to think clearly and rationally about what to do and what to believe. From the interview, it can be concluded that the students' know about critical thinking and they understand that it is needed by them as a students'.

Keywords: *Critical Thinking, higher students, descriptive*

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Introduction

The rapid development of the world of education is faced with increasingly severe challenges, one of which is that education should be able to form high intellectuality and superior character of students. One effort to overcome this is that students must have critical thinking skills, problem solving skills, and master information and communication technology. Suwartini (2017:220).

The low level of learning English which is still conventional, the ability of teachers to implement English learning is still very weak. The teacher learning model used in delivering learning to students is still conventional with a one-way delivery technique without any feedback. The process of learning English that has not provided opportunities for students to develop critical thinking skills. The ability to think critically is very important for students to have as a provision to face the challenges of the development of the 21st century. Critical thinking is one of the skills of higher order thinking which is a skill that must be possessed by students in solving a problem. (Kartimi & Liliarsari 2012). Therefore, the learning paradigm should shift from conventional learning which emphasizes low-level thinking skills towards learning higher-order thinking skills, especially critical thinking is the basis that students must have to be able to develop higher order thinking.

The results of a preliminary study conducted at SMP Negeri 02 Larompong, Luwu Regency, after conducting interviews with teachers who teach, the method that is often used in learning is the lecture method (conventional). But also sometimes use the discussion method, depending on the material being taught. Learning that is used using the lecture method will be boring for students. What's more, students will become less active because they only understand what the teacher is saying. This greatly affects the ability of students to think and analyze a material and indirectly makes students lazy to find out information independently. The lack of training in analyzing and reading certainly has a bad impact on the ability of students to learn. (Darma, 2018:6).

Based on the results of interviews with seventh grade teachers of SMP Negeri 02 Larompong in English subjects, in the learning process the use of learning models has not varied. The reason expressed by the teacher why they still use conventional methods is because teachers are not accustomed to trying new learning models in determining appropriate teaching materials.

The success of student learning is determined by the teacher as an educator. Teacher creativity in choosing the right learning model can help students understand the subject matter given. The learning model used can help overcome the difficulties of the teacher at the time of teaching. The results of the study. Fitriawati. (2016) stated that critical thinking is a systematic process that allows students to formulate and evaluate their own beliefs and opinions. Critical thinking is an organized process that allows students to evaluate the

evidence, assumptions, logic and language that underlie other people's statements. Therefore, the researchers will design and conduct a research entitled " Students' Critical Thinking Ability Of Fourth Semester Students Of Cokroaminoto Palopo University ". Based on the background of the study, the researchers tried to analyze the problem of this research with the following problem formulation: 1)To what extent is the students' critical thinking level of Cokroaminoto Palopo University? 2)How do students' of Cokroaminoto Palopo University view critical thinking skills?

Literature Review

Definition of Thinking

Thinking is a process that involves some manipulation of knowledge in the cognitive system and produces behavior that is directed at a solution. Wahab. R., (2016: 147). According to Said and Roustia, (2013) thinking is an important part of social and intellectual life. We can't know someone's thoughts in a certain period of time, it takes continuous understanding to arrive at new conclusions.

Thinking analysis consists of authenticity, criticism, and acceptance or rejection of hypotheses. Solving problems that are non-symbolic (e.g. solving puzzles), suggestions or criticism of hypotheses are carried out together, in open trial and error. The response is titled big muscle movements (Mahmud M.D., 2018: 84-89). Based on this description, it can be concluded that thinking is a process involving mind manipulation of knowledge and cognitive systems that are directed to produce behavior in solving problems or solutions.

Definition of Critical Thinking

Critical thinking is the ability to analyze and evaluate information obtained from observations, experience, reasoning and communication to decide whether the information can be trusted so that it can provide rational and correct conclusions (Purwati, R., et al., 2016).

Interpret critical thinking as a directed and clear process in mental activities such as solving problems, making decisions, persuading, analyzing, making assumptions and conducting scientific research.

Based on the description, it can be concluded that critical thinking skills are a learning process that involves students in activating the ability to think more deeply, directed and logically to solve problems and find solutions based on facts or phenomena.

Develop Critical Thinking Skills

Santrock (2007:359) suggests ways for teachers to develop students' critical thinking skills in learning, namely:

- a. Students are trained to examine alleged facts to find out whether there is evidence to support them so that students can learn to argue based on evidence that can be justified. Students are trained in identifying any information they receive, distinguishing relevant and irrelevant facts and analyzing cause-and-effect relationships from the information they receive.
- b. Train the courage to express ideas in arguing rationally and prioritizing the ethics of using polite language. Students learn to present answers from various points of view to realize alternative answers and better explanations.

As for the steps in critical thinking, namely a skill or skill, critical thinking cannot be obtained in a short time without practice or habituation. Because critical thinking is an attitude, a habit, a skill, and a commitment to constantly question something, the only way to have such an attitude is to train yourself and continue to develop it. Sihotang, K. et al., (2012:7). The steps in developing critical thinking are:

- 1) Recognizing the problem is the first step to demonstrate critical thinking. Students who think critically must identify the problem first before drawing conclusions.
- 2) Find ways that can be used to deal with problems. After successfully identifying the problem, the next step is how students solve the problem.
- 3) Find ways that can be used to deal with problems. After successfully identifying the problem, the next step is how students solve the problem.

In solving problems, students should collect sufficient information to be able to assess something accurately and accurately related to the problem.

Basic Skills and Critical Thinking Indicators

The basic skills of critical thinking. Sihotang, K. et al., (2012:8) are:

- a. Ability to determine and take the right position in discussing an issue,
- b. The thoughts given must be relevant to the topic being discussed, 3) the arguments presented must be rational.
- c. Decisions must be accompanied by clear reasons, decisions must come from within yourself and not because they are influenced by others.

Facione, (2011). explains that to measure the ability of students to think critically to solve a problem, several steps can be used, namely: Identify, Define, Enumerate, Analyze, List, Self-Correct. These steps are then abbreviated as IDEALS, the following is an explanation of each step.

- 1) Identify (I) determine the main idea of the problem at hand.
- 2) Define (D) determine the facts that limit the problem, the facts of the problem in question include what is known, asked about the question, and what information is used or not needed.
- 3) Enumerate (E) determine or list the choices of possible answers to the problem in a reasonable manner.
- 4) Analyze (A)
- 5) List (L) states the exact reason why the answer choice is the best one
- 6) Self-Correct (S) re-checks thoroughly, whether there are actions to solve the missed questions.

Table 2. Aspects of critical thinking skills according to Facione

Critical thinking aspect	Critical thinking skills
Interpret	1. Categorize 2. Create a significant idea 3. Explain the meaning
Analyze	1. Analyze ideas and ideas 2. Identification of arguments 3. Identify reasons and sentences
Evaluate	1. assess the credibility of the claim

2. assessing the quality of arguments made using deductive or inductive reasons

Inferencing	1. prove
	2. formulate a hypothesis
	3. draw conclusions use deductive or inductive reasoning
Explain	1. explain the observations
	2. justify the procedure
	3. present arguments
self-regulation	1. self-monitoring
	2. correct yourself

(Source: Facione 2011)

The description of aspects and indicators of critical thinking skills is still very general. These aspects and indicators of critical thinking are still conceptual for an educator to be able to apply them in learning. Critical thinking involves the mental activity of elementary school students in an effort to acquire knowledge based on reasoning in the subject. Indicators of critical thinking skills are adjusted to the stages of thinking development of elementary school students, namely being able to use mental operations to solve actual problems and being able to use their mental abilities to solve problems even though they are still limited and require guidance from the teacher.

Based on this description, the critical thinking ability referred to in this study is a mental process that includes the ability to formulate problems, provide and analyze arguments, conduct inductions, evaluate, and make decisions and carry out actions. The components and indicators of each component of critical thinking can be presented as in the following table.

Table. 3 Indicators of Critical Thinking Skills to be studied

Critical Thinking Ability	Indicators
Formulate the problem	Formulate questions that guide investigations
Give arguments	Shows the equation and Difference
Doing induction	Draw a conclusion
Carry out evaluation	Evaluating based on facts
Taking decisions and actions	determine the way out

Source: Modification of Ennis (1985) in Arnyana (2004), Glencoe and McGraw.

Method

According to Sugiyono (2015: 207), quantitative descriptive analysis technique is data analysis by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the public. According to Sugiyono (2016:80) "Population is a generation area consisting of: objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions. So the population is not only people, But also objects and natural objects another. The

population is also not just the number of objects/subjects studied but includes all the characteristics/properties possessed by the subject or object”.

The total number of population of fourth semester student English student at Cokroaminoto Palopo was 31 students in a class.

Table 4. Number of English student of Cokroaminoto Palopo

No.	Class	Gender		Total
		Male	Female	
1.	A	4	27	31
Total		4	27	31

(Source: 2022 data processing results)

Systematic Sampling is where every case after a random start is selected. Hamed Taherdoost (2020:21). How to take simple with systematic sampling technique is as follows: The sample that the research used in this study were 20 students in A class and the researchers divided part of the number and characteristics possessed by the students.

Technique or method that the researchers uses is a descriptive method.

1. the researchers submits a permit to the study program
2. The researchers contacted the fourth semester lecturer and asked for permission to enter the class to research.
3. after the researchers was allowed, the researchers took over the class then the researchers gave a theme and interview test and the researchers gave instructions to the students to describe the theme and gave an interview test that aims to see how students think about critical thinking after the researchers was allowed, the researchers took over the class then the researchers gave a theme and interview test and the researchers gave instructions to the students to describe the theme and gave an interview test that aims to see how students think about critical thinking.
4. researchers draw conclusions from research results

The researchers used collect the attendance list of the class that got research, then the researchers choosed 20 students in the class and divide them into group and the researchers gave student the instrument. The instrument that be gave to students is a paper with a topic of problem, the instrument is theme and blank paper.

Testing of students' critical thinking

Indicator		Operational Verb	Theory	Frequency
Give a simple explanation		Analyze statements, submit and answer clarifying question	Ennis (1985)	25
		Assessing the credibility of a source, researching, assessing research results	Ennis (1985)	20
Building basic skills				
Make further explanation		Identify terms, assess definition, identify assumptions	Ennis (1985)	15

Set strategy and technique	Decide an action, interaction with other people	Facione (1990)	15
Interpretation	Understand, express, convey, significant, and classify meaning	Facione (1990)	15
Explanation	Identifying reasoning, representing reasoning	Facione (1990)	10
			100

(Source: Miftahul fajrianti 2013)

In getting the level of students' critical thinking results, the researchers carried out the following procedures: During the data collecting process, the researchers applied the following procedures, such as:

1. Procedur of testing

- Preparing one instruments of the research for the students who will get the treatment.
- Give the instruments to students.
- After gave the instrument to students, the researchers will give the students time about 20 minutes.
- The researchers tells the students to give their opinion on the blank paper and it has to do personally.

The data analysis technique used to answer the problem formulation or test the hypothesis that has been formulated in the proposal, because the data is quantitative, the data analysis technique uses statistical methods that are already available (Sugiyono, 2016:87). Analyzing data is a very critical step in research. Data analysis aims to narrow and limit findings so that the data are organized, structured and more meaningful.

The data collected is Experiment. The researchers gave the score directly to the students: Table 5. Category of Questions.

Criteria	Score
1. According to Data explanation	20
2. Personal opinion but rational	15
3. personal opinion and not specific	10
4. Only writing	5
	50

1. The formula used to count the percentage:

$$Score = \frac{\text{Correct answer}}{\text{Total point}} \times 100$$

Source: Adopted by Saleh (in Roby Ilham Ramdani 2001:31)

2. Calculating the mean score of the students by using the formula.

$$P = \frac{F}{N} \times 100\%$$

Note:

P : Percentage

F : Number of frequency

N : The Number of sample

3. Classification of the students' skill score

Table 6. the classification answer of the analysis student university

Classification	Score
Excellent	96-100
Very Good	86-96
Good	76-85
Average	66-75
Fair	56-65
Poor	36-55
Very Poor	0-35

Source: Gay (1981)

Results

In this section, the researchers presents students' critical thinking level and their perception on critical thinking.

Students' critical thinking level

No	Respondent	Value	Mean score
		Procedure of Testing	
1	Ai	75	
2	Al	50	
3	Am	75	
4	An	75	
5	Dz	50	
6	Fh	75	
7	Fr	75	
8	Gr	75	
9	Gu	75	
10	Im	75	
11	Ju	50	
12	Mo	75	
13	Na	50	
14	No	75	
15	Nu	50	
16	Ri	75	
17	Sa	75	
18	Sr	50	
19	Si	75	
20	Wi	75	

=1350:20

=67,5

Table 1 Frequency of Students Critical Thinking Level

No.	Classification	Range	Pre-test	
			Frequency	Percentage(%)
1	Excellent	96-100	0	0
2	Very Good	86-96	0	0
3	Good	76-85	2	50
4	Average	66-75	10	0
5	Fair	56-65	0	0
6	Poor	36-55	10	50
7	Very poor	0-35	0	0
Total			20	100

The Result of Interview

No.	Interview Question	Respondent
1	What do you think about critical thinking?	R.1. Critical thinking is the ability to think clearly and rationally about what to do what to believe. Critical thinking includes the ability to engage in reflective and independent thinking.
2		R.2. Critical thinking is about the objective analysis and evaluation of an issue in order to form a judgment.
3		R.3. Critical thinking is the way analyze something that we can.
4		R.4. Critical thinking is the intellectual disciplined process of actively skillfully conceptualizing, applying, reflection, as a guide to belief and action.
5		R.5. Critical thinking is the ability to think clearly and rationally about what to do what to believe.
6		R.6. Critical thinking is human way of thinking to learn respond to someone and by analyzing.
7		R.7. Critical thinking is the ability to analyze facts, generate and organize ideas, defend opinions, make comparisons, draw conclusions, evaluate arguments and solve problems.
8		R.8. Critical thinking is the way people to think critical, develop their think, critical analyze for getting a important think.
9		R.9. Critical thinking is the objective analysis

- and evaluation of an issue in other to form achievement processor of to find difficult to and chose critical thinking a most the students.
- 10 **R.10.** Critical thinking is the ability to think clearly and rationally about what to do what to believe.
- 11 **R.11.** Critical thinking is the objective analysis and evaluation of an issue in other to form achievement processor of to find difficult to and chose critical thinking a most their students.
- 12 **R.12.** Critical thinking is this is always looking for analysis something that is to by other people.
- 13 **R.13.** Critical thinking is the personal thinking to analyzing information to the fact.
- 14 **R.14.** Critical thinking is that mode of thinking about any subject, content, or problem in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it.
- 15 **R.15.** Critical thinking is a human way of thinking to respond to someone by analyzing facts to farm judgments.
- 16 **R.16.** Critical thinking is the ability to think clearly and rationally about what to do what to believe. Critical thinking includes the ability to engage in reflective and independent thinking.
- 17 **R.17.** Critical thinking is the intellectually disciplined process of actively and skillfully, reasoning, or communication, as a guide to belief and action.
- 18 **R.18.** Critical thinking is the ability to think clearly and rationally about what to do or what to belief.
- 19 **R.19.** Critical thinking is includes the ability to engage in reflective and independent thinking.
- 20 **R.20.** Critical thinking is the intellectually discipline process actively and skillfully conceptualizing, applying, analyzing.

Discussion

In this study, researchers used descriptive methods to determine students' critical thinking skills. After calculating and analyzing the data and findings, the researchers represented the discussion of student data. This stage aims to determine the views of students' critical thinking skills. In this study, the researchers used the type of interview test and gave a theme. In the procedure of testing, the researchers found and found out that students'

abilities were very low and students who got low scores only rarely got the "Average" classification. Then after the treatment and the researchers gave an explanation of critical thinking so that it was easier for students to understand it, and after the treatment the researchers gave a procedure of testing to the students and they experienced a significant improvement. So the researchers found that the significance of students' critical thinking increased.

Based on the result of data analysis and the findings above, the researchers found out that Students' Critical Thinking Ability Of Fourth Semester Students Of Cokroaminoto Palopo University. Based on table 1, it can be seen that before being given treatment using a descriptive method. there are no students who get a very good classification. The researchers found that there were 10 students (50%) who obtained the "Medium" classification, and no students who obtained the "Enough" classification, and there were 10 students (50%) who obtained the "less" classification and no students who obtained the "Very Poor" classification. . This means that students have low critical thinking skills.

Conclusion

Based on the results of the theme given, the researchers can conclude that:

1. The students' critical thinking of Cokroaminoto Palopo University is on average category. It can be seen by calculating the students' score. the students' score is 6 students scored 50 and 14 students scored 75.
2. The students' of Cokroaminoto Palopo University view critical thinking skills as the ability to think clearly and rationally about what to do and what to believe. From the interview, it can be concluded that the students' know about critical thinking and they understand that it is needed by them as a students'.

References

- Darma. (2018), .6 The Effect of Learning-Based Learning Model on Scientific Literacy Ability and Critical Thinking Skills in Grade V SD Imppres Cambaya
- Facione, P.A. 2011. *Critical Thinking: What it is and why it counts*. Insight assesment.
- Fitriawati, Neni. (2010), Application of Problem Based Learning model in Improving Students' Critical Thinking Ability in Integrated JPS Subject Class VIII at MTsN Selorejo Blitar. (UIN Maulana Malik Ibrahim Malang). p.36.
- Gay, L.R. (1981), *Educational Research: Compentencies for Analysis and Application*. Colombus: Charles E. Merill Publishing Company.
- Hosnan. (2014), *Scientific and Contextual Approaches in XXI Century Learning*. Bogor: Ghalia Indonesia.
- J.W, Santrock. (2007), *Educational Psychology second edition*. Jakarta: Kencana Prenada Media Group.
- K, Sihotang. et al. (2012), *Critical thinking: Building logical thinking*. Jakarta: PT Pustaka Sinar Harapan.
- Kartimi & Liliarsari. (2012), *Development of Critical Thinking Measuring Instruments on Thermochemical Concepts for Upper and Middle School High School Students*. Indonesian Science Education Journal.1 (1):21-26.

- L.N, Rosana. (2014), The Effect of Learning Methods and Critical Thinking Skills on Students' History Learning Outcomes. *Journal of Historical Education*, 3 (1), 34-44.
- Lestari, Putrie Dewi. (2008), Modifikasi dari single systematic sampling yang memberikan taksiran tak bias untuk mean populasi dan taksiran tak bias untuk variasinya, Universitas Indonesia.
- M, Fajrianti. (2013), Development of Learning Model Devices Oriented with Guided Discovery Learning Methods on the Achievement of Science Process Skills and Critical Thinking Skills for Students of MAN 2 MKS Model. Thesis is not published. Makassar PPs UNM.
- M, Huda. (2015), Teaching and Learning Models. Methodical and paradigmatic issues. Yogyakarta: Student Library.
- M.D, Mahmud. (2018), Psychology An Introduction. Yogyakarta: BPFE
- M.S, Sumantri. (2016), Learning Strategies: Theory and Practice at the Elementary Education Level. Jakarta: Rajawali Press.
- N, Fazriyah. (2015), The Effect of Learning Models and Critical Thinking on Learning Outcomes of Natural Sciences in Depok City Elementary Schools. *Journal of Basic Education*, 6 (1), 48-57
- Nasrul. (2014), *Contextual Learning Approach In Improving Critical Thinking Skills Of Guidance and Counseling Student Of State University Of Medan*. International Journal of Sciences. Basic and Applied Research (IJSBAR), 18 (1).
- P.A, Facione. (2011), *Critical Thinking: What it is and why it counts*. Insight assesment.
- R, Purwati., Hobri, H., & Fatahillah, A. (2016), Analysis of students' critical thinking skills in solving quadratic equation problems in creative problem solving model learning. *Kadikma*, 7 (1), 84-93.
- R, Wahab. (2016), Psychology of Learning. Jakarta: Rajawali Press.
- R.A, Sani. (2015), Scientific Learning for 2013 Curriculum Learning. Jakarta: Earth Literacy. Rineka Cipta.
- Rusman. (2017), Learning and Learning. Jakarta. date.
- S, Arikunto. (2010), Research Procedures A Practical Approach. Jakarta:
- S, Santoso. (2018), Proficient in Multivariate Statistics with SPSS. Jakarta: PT. Alex Media Komputindo
- S.J.G, Saed., and Roust, S.N. (2013), The Effect of Problem-based Learning on Critical Thinking Ability of Iranian EFL Students, *Journal of Academic and Applied Studies (Special Issue on Applied Linguistics)*, 3 (7):1-14.
- Sugiyono. (2016), Research methods: Quantitative, Qualitative, and R&D. Bandung: Alfabeta.
- Suwartini, Sri (2017). Pendidikan karakter dan pembangunan sumber daya manusia berkelanjutan. Universitas Widyadharma Klaten