

Improving Critical Thinking Skills and Tolerance through a *Culturally Responsive Teaching Approach* in Third Grade

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1. Abstract

Critical thinking skills are skills needed to face the industrial era 4.0 with 4C skills, including thinking skills. After learning at home students must return to mastering critical thinking skills that were not developed during online learning. During this period, students who tend not to socialize are regularly faced with individual differences in class that require an attitude of tolerance, so the urgency to improve critical thinking skills and tolerance for class III is very high. By using the Culturally Responsive Teaching approach to the Problem Based Learning I model in the Indonesian language. The research method used is classroom action research in collaboration with classroom teachers using data collection techniques from documentation, observation, tests and discussions. The research was conducted in two cycles and analyzed using technical triangulation. The subject of the study was the critical thinking skills and tolerance attitude of 28 third grade students in the city of Yogyakarta. The result of this study is that critical thinking skills increased from 56% to 79%. As for the attitude of tolerance from 61% to 89%. So that the Culturally Responsive Teaching approach with the Problem Based Learning model can improve critical thinking skills and tolerance attitudes of class III students.

Keywords: *critical thinking, Culturally Responsive Teaching Approach*

2. Introduction

Critical thinking skills can be used to prepare students' thinking to be more concerned with their surroundings. Critical thinking can also be the basis for carrying out other useful activities. Critical thinking can also be seen from the ability of students to solve problems by developing the knowledge they have. So that it can bring up extraordinary new ideas regardless of the examples given by the teacher. So that the students' interpretation process becomes more meaningful and aligned with the

analysis and evaluation process to solve the problem. According to Ennis (1996) critical thinking is reflective thinking that focuses on patterns of decision making about what to believe and do. Critical thinking ability is one of the competencies to face challenges in the 21st century education era. Critical thinking ability is the ability to make decisions through the stages of observation, analysis, and concluding a problem.

Tolerance is the key to fostering a sense of unity, togetherness, harmony and harmony between differences (P. Balint, 2016). This attitude is contained in the third principle of Pancasila, namely Indonesian Unity. So to practice it we need to cultivate an attitude of tolerance and mutual respect and acceptance within ourselves. The values of tolerance need to be promoted at all levels of society. The most effective way to prevent intolerance and diversity problems is to promote the values of tolerance through education (Lægaard, 2010)

Based on previous research, many have conducted research related to critical thinking as was done by Ningsih, et al (2018) which showed the result that by using the PBL model, class III critical thinking skills increased from 63% to 84% with two research cycles . Then Problem Based Learning is also applied to increase tolerance and learning achievement carried out by Maolani (2016) shows an increase from moderate to good. The two studies did not focus on the approach taken to improve critical thinking skills and tolerance, which made this research focus on using the approach in the *Problem Based Learning* (PBL) model used. Research conducted by Inayah, et al (2023) focuses on the *Culturally Responsive Teaching* (CRT) approach using learning media in the form of the *Kahoot game*, so to concentrate on this research, this research focuses on using the *Culturally Responsive Teaching* (CRT) approach. in the PBL model to improve critical thinking skills and tolerance attitudes of students in class III. A meta-analysis study conducted by Anugraheni (2018) regarding the application of the Problem-based Learning (PBL) model shows that in general PBL can improve critical thinking skills of elementary school students by up to 14.8%.

Gay (2000) suggests that Culturally Responsive Teaching is a way of using cultural knowledge, experience, and diverse student performance styles to create meaningful learning experiences. Gay (2000), who is the originator of the concept of

culturally responsive / relevant pedagogy, put forward the basic principle of Culturally Responsive Teaching, namely the creation of partnerships between educators and students in achieving better learning.

Stated that the steps of the Learning Model with the principles of the Culturally Responsive Teaching approach are: (1) Self-identity of students: developing their identity in differences; (2) Cultural understanding: students are involved in cultural understanding and knowledge construction through articles or any resources; (3) Critical thinking for reflection: students engage in debates to find out different perspectives by reflecting their values and understandings; (4) Collaboration: students work in groups to discuss cultural concepts and perspectives; (5) Transformative construction: students are involved in changing their values and understanding by presenting them through a project.

3. Methods

This research is a classroom action research in collaboration with classroom teachers. In each cycle consists of 4 stages, they are : planning (planning), action (action), observation (observation) and reflection (reflective). This research was conducted in Class III Yogyakarta City with a total of 28 students, they are 13 girls and 15 boys. The average age of students is 10 years. The research focuses on students' critical thinking skills and tolerance during the Indonesian language content in the 2013 curriculum.

The data collected is information about critical thinking skills and tolerance attitudes of class III students and the learning that has been carried out by the class teacher before the action. The data collected comes from class teachers and students as informants, ongoing activities, and documents or archives in the form of learning plans and learning outcomes.

Action research is considered successful if it meets the following criteria:

1. Data on students' achievement in critical thinking skills reached a percentage of > 70% in good and very good categories

2. Student achievement data in tolerance attitudes reach a percentage of > 70% in the good and very good categories

Analysis of the variables of students' critical thinking skills was carried out by observation/observation while students were participating in the learning process. Each student is assessed based on predetermined indicators. If the average student's critical thinking skills reach a minimum of 70% or are categorized as good and very good, then the corrective action is considered complete.

Critical thinking skills are measured based on indicators that have been developed and adapted to class needs. The indicators used are indicators based on Facionce in Husnidar (2014), they are interpretation, analysis, evaluation, drawing conclusions, explanations and self-regulation. Of the 6 indicators of critical thinking, it was developed into 11 points which were used for observation. Instruments are also needed when assessing LKPD to find out the ability to solve problems in students, so that instruments for LKPD and questions are needed to determine students' abilities. The following is the development of 6 indicators of critical thinking according to Facionce (2014):

Critical thinking indicator	Observation Instrument	LKPD Assessment Instrument
Interpretation	Students can complete LKPD on time	Students answer questions/LKPD in their own language
Analysis	Students can work on LKPD based on their own understanding	Students answer questions/LKPD according to the context of the material
	Students can work on LKPD according to the direction of the teacher	
	Learners can separate between materials	
Evaluation	Students can provide input	Students answer the questions/LKPD according to the order
	Students can answer questions	
Draw a conclusion	Students can conclude the content of learning	Students answer questions/LKPD by providing information about the answers
Explanation/Explanation	Students can present LKPD	

	Students can give reasons for their answers	Students answer the questions/LKPD in accordance with the material presented
Independence/Self-regulation	Students can answer evaluation questions	Students answer questions/LKPD with their own abilities
	Students can follow the lesson	Students write their own answers to questions/LKPD

Table 1 Critical thinking indicators

Observations made to determine the attitude of tolerance in students using 4 indicators. Akhawani (2021) states that indicators or elements of tolerance are: (a) accepting differences, (b) respecting others, (c) respecting other people's beliefs, (d) allowing or not forcing desires. Based on these four elements, it is then described to compile questionnaires and observation instruments. The questionnaire contains 13 questions with closed yes and no answers and one open answer regarding the reasons for the answers. The following is a list of questions and instruments based on the four indicators :

Tolerance indicator	About the questionnaire	Observational instrument
Accept differences	I made friends with everyone in class and around the house	Students want to work in groups
	I think my friends who are different (religious, social, physical and economic) interfere in class even though they don't do anything	Students receive group members who have been divided
Respect for others	I once mocked a friend and hurt his feelings	Learners help each other with group members
	I once interrupted a friend while he was talking	Students do not impose their opinions followed by other members
	I feel happy when someone interrupts me when talking	Students provide opportunities for friends to express opinions
Respect other people's beliefs	When the teacher is talking I listen	Students do not do activities that trigger fights when in groups
	When a friend is giving a presentation, I am silent and pay attention	
Allowing or not forcing desires	If my friend and I differed, I forced his will to follow me	

Aldo ridicules Ruri who is a Hindu for not being allowed to eat beef	Learners do not provoke groups/members of other groups
If we differ in opinion, then we must respect each other	
Daniel believes in the existence of Santa at Christmas while Nanda does not believe in the existence of Santa, these differences do not make them disagree	
I don't like my friends playing with other friends besides me	
There are friends I don't like. If so, why?	

Table 2 indicators of tolerance and questionnaires

The data collection techniques used were observation, discussion, document review and tests in the form of questionnaires used to measure tolerance according to what happened.

1. Observation is carried out using instruments that have been prepared to determine critical thinking skills and tolerance shown by class III A. Based on indicators developed according to their level of education. Observations were carried out by class teachers and researchers to obtain comprehensive data. Video capture is needed to re-validate the data that has been obtained when making observations.
2. Discussion, carried out by discussing what action will be taken so that an agreement is obtained between the class teacher and the researcher. Discussions determine the actions to be taken and the impact of the actions and improvements that should be made.
3. Document review, is comparing documents such as learning outcomes and learning plans to find actions that are appropriate to the problems faced, namely to improve critical thinking skills and tolerance.
4. Tests, are questionnaires distributed before the action and after the action to see the progress felt by students as a whole from 28 students.

The data that has been collected is then analyzed using technical triangulation, namely testing credibility by checking from various sources that have been obtained. Data analysis was carried out qualitatively and data presentation was carried out

quantitatively. The data analysis was carried out according to Miles & Hubberman (Sutama, 2019), they are:

1. Data reduction, from the data obtained, namely in the form of observation instruments that have been filled out by class teachers and researchers, documents, results of discussions and tests in the form of questionnaires, then the data will be focused on critical thinking skills and tolerance. The data obtained is selected to suit the indicators and instruments used so that it is credible. After being reduced and adjusted to the indicators, the data is presented.
2. Presentation of data is done by presenting it in quantitative form because the changes that occur will be more easily seen using numbers, so that they are more detailed and focused. Presentation of data is taken by finding the average in each action using instrument data and comparing each action cycle. Then a number will be found that will show the changes after the action is taken.
3. Drawing conclusions, based on the presentation of the data carried out, the next step is to draw conclusions. Conclusions can be drawn by comparing them with the concept of indicators that are fulfilled or an increase in the average indicator in the instrument that is mastered by the subject.

4. Results and Discussion

Critical thinking is a skill that can be seen by differentiating the behavior shown by students. Efforts to determine changes in critical thinking skills in this study can be seen in the following table:

Critical thinking	Pre-cycle		Cycle 1		Cycle 2	
	The number of students	Percentage	The number of students	Percentage	The number of students	Percentage

Very good	3	11%	5	18%	8	29%
Good	7	25%	8	29%	14	50%
Enough	10	36%	9	32%	5	18%
Not enough	8	28%	6	21%	1	3%
Very less	-	-	-	-	-	-

Table 3 Data on the percentage of critical thinking

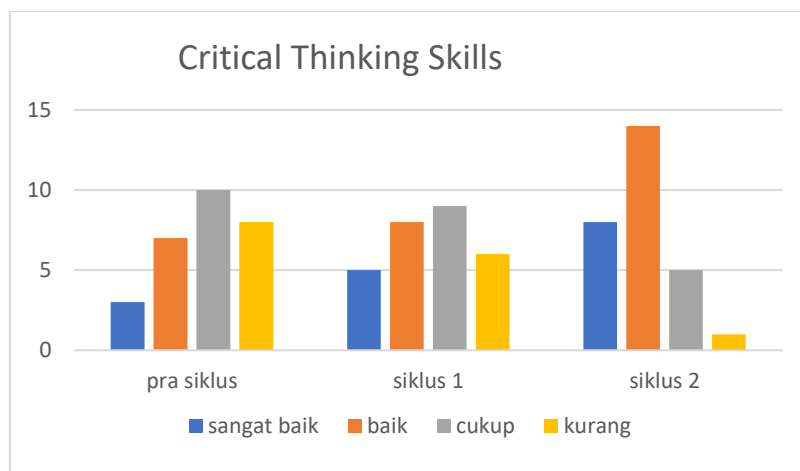


Figure 1 chart of critical thinking skills

In table 3 and figure 1 it can be seen that the development of critical thinking skills in class III at SDN Yogyakarta City with a total of 28 students. In the pre-cycle to cycle 2, the category was very good by fulfilling more than 3 out of 6 indicators of critical thinking skills, only 11% and increased to 29% or an increase of 18%. Then in the good category it increased from the previous 25% to 50% or an increase of 25%. Meanwhile, in the sufficient category, it decreased from 36% to 18% or decreased by 18%. Then in the less category it decreased from 28% to 3% or decreased by 25%.

So it can be concluded that students' critical thinking skills have increased. The pre-cycle was dominated by enough and less, namely as much as 64% in cycle 2 to 19%. In cycle 2 the very good and good categories reached 79% of the 28 students. This shows that learning using the Problem Based Learning model with a Culturally Responsive Teaching approach can improve students' critical thinking skills up to 38%. The same thing was stated by Simanjuntak (2019) that an increase in students'

problem-solving abilities occurs when they are faced with difficult questions so that they try to find a way out and find the answer. Apart from that, Robo (2021) says that the Culturally Responsive Teaching approach can improve 21st century skills including critical thinking.

Tolerance is an attitude whose changes can be observed gradually by using certain instruments and indicators. The results of tolerance from this study can be seen in the following table:

Tolerance attitude	Pre-cycle		Cycle 1		Cycle 2	
	The number of students	Percentage	The number of students	Percentage	The number of students	Percentage
Very good	7	25%	10	36%	12	43%
Good	10	36%	11	39%	13	46%
Enough	8	28%	5	18%	3	11%
Not enough	3	11%	2	7%	0	0

Table.4 Data of Tolerance

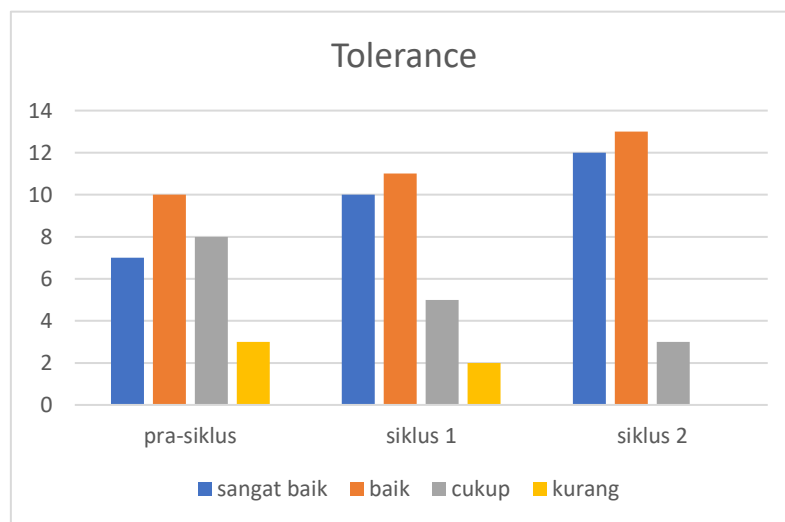


Figure 2. Tolerance chart

Based on table 4 and figure 2, it can be concluded that class III tolerance in the city of Yogyakarta has increased. In the very good category, from 25% during the

pre-cycle, it increased to 43% during cycle 2. Meanwhile, in the good category, from 36% to 46% or an increase of 10%. Then in the moderate category it decreased from 28% to 11% or decreased by 17%. As well as for the less category decreased by 11%.

This shows that the use of the Culturally Responsive Teaching approach can increase students' tolerance because it has elements that introduce different cultures. According to Abadi (2020) states that the integration of the Culturally Responsive Teaching approach and Islamic education can lead to a tolerant generation. Apart from that, the use of the Problem Based Learning model can also increase the tolerance attitude of students as said by Maolani (2016), which originally valued tolerance from moderate to good.

5. Conclusion

Based on the results and discussion above, it can be concluded that the use of the Culturally Responsive Teaching approach can improve critical thinking skills and class III social attitudes. This can be seen by the increased critical thinking skills mastered by students from pre-cycle 36% to 79%. In addition, tolerance also increased from 61% to 89%. This increase in percentage is an indication that the Culturally Responsive Teaching approach can improve critical thinking skills and tolerance in class III students as Anugraheni (2018) regarding the application of the Problem-based Learning (PBL) model shows that in general PBL can improve critical thinking skills of elementary school students by up to 14.8%.

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