



Contextual Learning Approach in Improving Critical Thinking Skills of Guidance and Counseling Students of State University of Medan

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Abstract

This study is aimed at finding out the effectiveness of Contextual Teaching Approach on students' critical thinking. Theories of critical thinking and of contextual teaching are referred to so as to support this study. The research applied the Classroom Action Research design. The data were collected from 36 students of Guidance and Counseling of State University of Medan by using the Scale of Critical Thinking Ability through the implementation of Contextual Teaching Approach. The data were quantitatively analyzed. During the pre-test number of the students who already exhibited critical thinking skills were 4 (11%), and the rest, or as many as 32 students (89%), were still below the level. The average score for the whole class was 67. At the end of the first cycle, 17 students (47%) successfully showed good performance whereas 19 other students (52.7%) did not improve much. The class' average score increased to 74.2. In the second cycle, the number of students who were able to think critically significantly increased up to 34 (94%), and the other 2 (5%) still failed to achieve the target. The average score was 80.4. It could then be concluded that Contextual Teaching Approach has an effect on critical thinking skills among the students of Guidance and Counseling.

Keywords: Contextual; Teaching; Approach; Critical; Thinking; Skills

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1. Introduction

Paul et.al found that 89% of college educators claimed that they had been taught teaching techniques that stimulate students' critical thinking [1]. Only 19%, however, were able to define the nature of it, and even smaller, or 9%, implemented it in their teachings. Developing student's skills to be independently critical of both academic and social issues is the main objective of any educational system and an effort to bring about better citizens. Improving critical thinking skills is a basic requirement in building people's capacity to act democratically so that they can have high competences and become more competitive in today's more and more challenging and complex world. Educational institutions consequently ought to attempt to create programs that should train students' critical thinking skills [2].

In many universities, unfortunately, developing critical thinking skills is yet to become a high priority. Many universities focus on how to quantify students' cognition but fail to help them build their critical thinking skills. A tracer study conducted to the graduates of Psychology Faculty of Gajah Mada University revealed that they were mostly well-supplied with high quality of knowledge, on the one hand, but they were poor in critical thinking and narrow implementation of interdisciplinary thinkings, on the other [3].

Critical thinking is defined as a set of skills that drive an individual to think logically, an ability to argue proportionally and evaluate arguments logically with others. The techniques that may improve students' thinking skills involve students in identifying controversial issues, studying and evaluating various viewpoints related to the arguments they propose and debating in different perspectives [4]. Theoretically, practices using those skills provide opportunities for an individual to help grasp a particular concept or idea.

A study by Miri et.al emphasizing on critical thinking is a form of high level of thinking [5]. The result proved that when a teacher has an objective and consistently applies high thinking strategies, such as giving actual case, promoting group discussions, instructing to do in-depth experiments, he will most probably be able to develop students' critical thinking skills.

Teaching-learning processes commonly often focus on how to improve students' cognitive skills. As a result, the substantial objective cannot be optimally achieved, making students' success halted. Teachers mainly deal with how to deliver materials, which does not stimulate critical and creative thinking. This implies that they are cognition-oriented. Furthermore, most educational systems do not encourage students to widen and strengthen their horizons that can create new ideas and think over any pre-determined conclusion. Even worse, they do not have any idea what the knowledge they have learned for. To achieve the expected goals, teachers are supposed to use teaching model and media that involve students' participation and help them understand difficult concepts. One of the models that require students' participation and creativity is Contextual Teaching and Learning.

Teaching-learning process holds the key role in achieving the educational objective. A well-structured process will produce an effect to critical thinking. Such a process is characterized by active participation and

cooperation of the students. It can be said that a profound study through constructive teaching is necessary in developing college students' critical thinking skills.

2. The Literature Review

2.1. Critical Thinking

The definition of critical thinking was first introduced by the Delphi American Philosophical Association, pioneered by 46 experts of the field including Ennis, Facione, and Paul [4]. Critical thinking covers objective, evaluation by utilizing self-regulation that brings about interpretation, analysis, evaluation, and conclusion supported with facts, concepts, methods, criteria, and situational considerations in making a judgment. An ideal critical thinker has such characteristics as high curiosity, accurate source of information, strong and credible reason, openness to new things or ideas, flexibility in evaluation, honesty when facing bias from others, wisdom in making a decision and a desire to reconsider it consistently in order to achieve a final result that suits to the existing problem [6].

Facione proposes seven dimensions of critical thinking, namely: inquisitiveness, open-mindedness, systematicity, analyticity, truth seeking, self-confidence, and maturity [4]. These dimensions then became the points of *The California Critical Thinking Disposition Inventory (CCTDI)*. The seven dimensions can be elaborated as follows:

- 1) Inquisitiveness; it is a dimension that measures student's intellectuality in searching information and an intention to learn regardless of unavailable prerequisite knowledge.
- 2) Open-mindedness; it is to measure how high an individual tolerance is towards different thoughts against and sensitivity to his own individual bias.
- 3) Systematicity; it is to assess individual tendency to organize, arrange, focus and continue digging up information of high complexity.
- 4) Analyticity; it emphasizes on how an individual uses reasons and facts in solving problems, anticipate contingency of potential problem, and remain consistent with a need of intervention to deal with particular problems.
- 5) Truth seeking; it focuses on how an individual keeps on trying to pursue knowledge relevantly with the context, has an inner intention to question, holds honest and objective view in collecting the information even though the finding does not support or is against his own.
- 6) Self-confidence; it deals with one's confidence during the delivery of a reason concerning an issue. Self-confidence provides opportunity to accept other's reason and to lead to a rational solution.
- 7) Maturity; this last dimension measures one's tendency to evaluate before making a judgment. Maturity in critical thinking is characterized by the way he makes an approach to problem, gathers information and makes a decision in spite of dilemmatic situation, believes that some situations might be addressed with more than one alternative. In addition, the judgment should be in line with the standard, context, and facts related to the problem [4].

In accordance with the theory above, the critical thinking dimensions in this study cover all the seven elements.

2.2. Contextual Approach

The word contextual means 'to have relevance with the context' or 'in context'. Context itself can be interpreted as situation or event. In general, contextual can imply:

- 1) in connection with, relevant, a direct relation, following context; and
- 2) bringing purpose, meaning, and meaningfulness [7].

The above meanings of 'contextual' generate 'contextual rule'. Contextual rule is a rule that is set up on the basis of the meaning of contextual itself. In teaching-learning context, it is a situation in which students successfully achieve the objective (i.e. knowledge mastery) which is relevant to them and meaningful in their daily lives. Contextual Teaching Approach is aimed at supplying knowledge to the students, flexibly transferable from one problem to another, from one context to another. Contextual teaching can provide them with a skill to solve problems. When the learning activity is to let students work in groups, they will be encouraged to work together, show respect, and help with each other. Consequently, they will start building empathy, sympathy, and solidarity, making the class peaceful and harmonious.

The Directorate of the First Secondary Education assert that Contextual Approach bases itself on the learning notion such as learning process, learning transfer, students as subjects, and the importance of learning atmosphere [8]. Contextual Approach was developed by John Dewey, who concluded that students would achieve their best when they learned the object which is relevant with what they already knew and with what would probably occur in their surroundings. The approach emphasizes on high order of thinking, knowledge transfer, conclusion and data analysis, and solution to specific problem.

According to the Indonesian Ministry of National Education, the contextual teaching covers the following steps:

- 1) Stimulate students' mindset that they will achieve most when they are challenged to, by themselves, work, discover, and construct new knowledge and skills (*Constructivisme*)
- 2) Do as much as inquiry learning in all topics. (*Inquiry*)
- 3) Develop students' inquisitiveness by asking questions. (*Questioning*)
- 4) Create a learning community or learning in groups. (*Learning Community*)
- 5) Demonstrate so that they can see a model. (*Modeling*)
- 6) Do reflection at the end of the session (*Reflection*)
- 7) Do authentic and objective assessment in various methods [9].

3. Material And Methods

A classroom action research was applied in this research. Kemmis and Taggart mention four basic components of the design: (1) planning, (2) action, (3) observation and (4) reflection [10]. The research was conducted from

August to November 2011 in General Psychologyclass. There were two cycles; the first was for one month long, and the second for two months. The data were analyzed quantitatively.

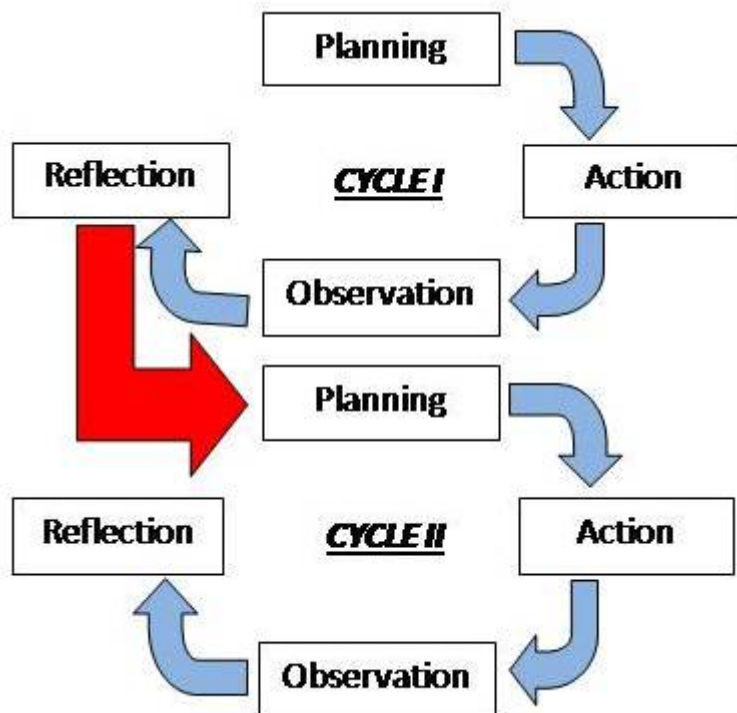


Fig. 1. Stages in Classroom Action Research by Kemmis and Taggart [10]

4. Findings and Discussion

The data collected from the pre-test, the results of cycles I and II, the observation on students' involvement during cycles I and II, as well as the observation on the teacher during the two cycles can be seen in table 1.

Table 1. The Recapitulation of Students' Critical Thinking on Pre-Test and Cycles I and II

No	Name	Pretest	Cycle I	Cycle II	Improvement	Remark
1	Annisa Tribuana	71.8	79.1	82.7	Yes	Target achieved
2	Maria Br Sembiring	65.5	69.1	76.4	Yes	Target achieved
3	Novarina Ayuko	55.5	67.3	71.8	No	Below target
4	Fauziah Hanum	74.5	80.9	80.9	Yes	Target achieved
5	Mawaddah	65.5	69.1	80.0	Yes	Target achieved

6	Trisa Dea	60.9	67.3	81.8	Yes	Target achieved
7	Yuyun Khasannah	61.8	72.7	85.5	Yes	Target achieved
8	Mawadattul Husna	63.6	68.2	76.4	Yes	Target achieved
9	Sajidah	68.2	74.5	84.5	Yes	Target achieved
10	Widia Afyuna	65.5	70.9	76.4	Yes	Target achieved
11	Mohd Fadel	62.7	67.3	77.3	Yes	Target achieved
12	Ervina Sahara	60.0	69.1	75.5	Yes	Target achieved
13	Oski Putri	60.0	66.4	76.4	Yes	Target achieved
14	Putri Nadia Ningsih	67.3	69.1	81.8	Yes	Target achieved
15	Trini Jayanti	65.5	75.5	80.0	Yes	Target achieved
16	Sofiani	56.4	70.9	72.7	No	Below target
17	M Nauval	69.1	76.4	80.0	Yes	Target achieved
18	Willi Gabriel	72.7	77.3	76.4	Yes	Target achieved
19	Deni Perdana	74.5	80.9	84.5	Yes	Target achieved
20	Ramadhan	63.6	84.5	80.9	Yes	Target achieved
21	Vina Syafitri	73.6	75.5	83.6	Yes	Target achieved
22	Sri Sulastri	71.8	74.5	82.7	Yes	Target achieved
23	Suryati	66.4	77.3	86.4	Yes	Target achieved
24	Siti N Purba	65.5	70.9	80.9	Yes	Target achieved
25	Fishyola Alvisa	75.5	75.5	82.7	Yes	Target achieved
26	Mina Sari	66.4	78.2	83.6	Yes	Target achieved
27	Anggi Indriani	78.2	80.9	83.6	Yes	Target achieved
28	Riza Hariati	60.0	67.3	76.4	Yes	Target achieved
29	Putri Oksani	77.3	77.3	87.3	Yes	Target achieved
30	Yoga Arwanda	70.9	70.9	88.2	Yes	Target achieved
31	Ismail Saleh	69.1	75.5	77.3	Yes	Target achieved
32	Sakinah Hasibuan	63.6	79.1	81.8	Yes	Target achieved
33	Safrida	65.5	77.3	80.9	Yes	Target achieved
34	Irma Rahmayani	65.5	65.5	76.4	Yes	Target achieved
35	Mahyarita K	58.2	72.7	81.8	Yes	Target achieved
36	Naipa Hanum	81.8	81.8	87.3	Yes	Target achieved
TOTAL		2413.6	2670.9	2900.9		34
MEAN		67	74.2	80.6		95%

At the table 1 shows that 34 of 36 students successfully achieved the minimum score post Cycle II. This equals 95%. The rest 2 students (4%) did not meet the qualification.

The following table is the overall results of the research.

Table 2. The Research Results

No.	Activities	No. of Students	Mean	Target Achieved		Below Target		Students' Involvement	
				N	%	N	%	N	%
1.	Pre-Test	36	67	32	89	4	11	-	
2.	Cycle I	36	74.2	19	52.7	17	47.3	23.5	56.4
2.	Cycle II	36	80.6	2	5	34	95	28.2	80.5

At Table 2 depicts students' scores of the Pre-Test, Cycle I, and Cycle II. The results of the Pre-Test concluded that there were only 4 (11%) students who fulfilled the indicators of being critical thinkers, and 36 (89%) did not. The class' average score was 67. After Cycle I was completed, the number of those who achieved the target increased to 17 (47%), and 19 students (52.7%) did not succeed. The average score was 74.2.

Upon completion of Cycle II a significant increase was gained as 34 students (95%) were able to fullfil the indicators, and only 2 (5%) still had difficulties. The average score increased up to 80.4. Below is the chart of students' critical thinking improvement.

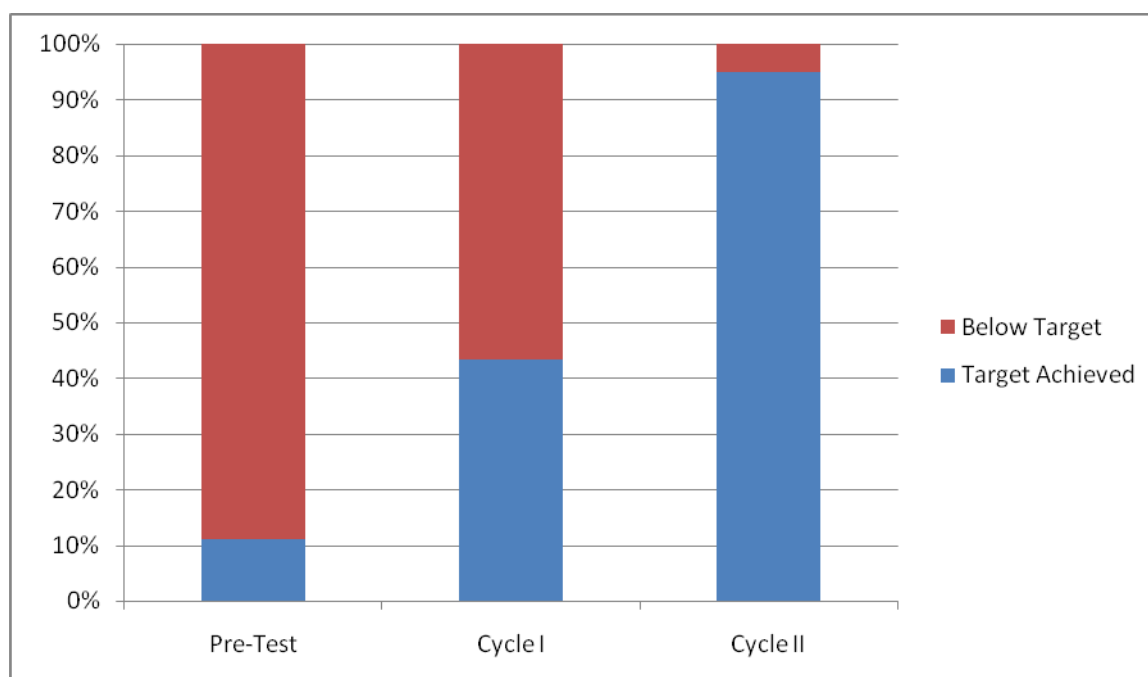


Chart 1. Improvement of Critical Thinking Skills of the Guidance and Counseling Students

The following table illustrates the comparison of students' involvement between Cycle I and Cycle II.

Table 3. Process Observations of Cycles I and II

No	Indicators of Critical Thinking Skills	Cycle I		Cycle II	
		N	%	N	%
1	Participation	24	66.7	29	80.5
2	Ability to speak out opinions	23	63.8	28	77.7
3	Teamwork	25	69.4	31	86.1
4	Analyzing information based on facts	21	58.3	27	77.7
5	Enthusiasm in asking questions	25	69.4	29	80.5
Average		23.6	65.4	28.2	80.5

At the table 3 shows how the students got involved in the process and demonstrated all the indicators of critical thinking skills. There is an increase in the number from 23 (65.4%) in Cycle I to 28 (80.5%) in Cycle II. Chart 2 illustrates the improvement in this process assessment.

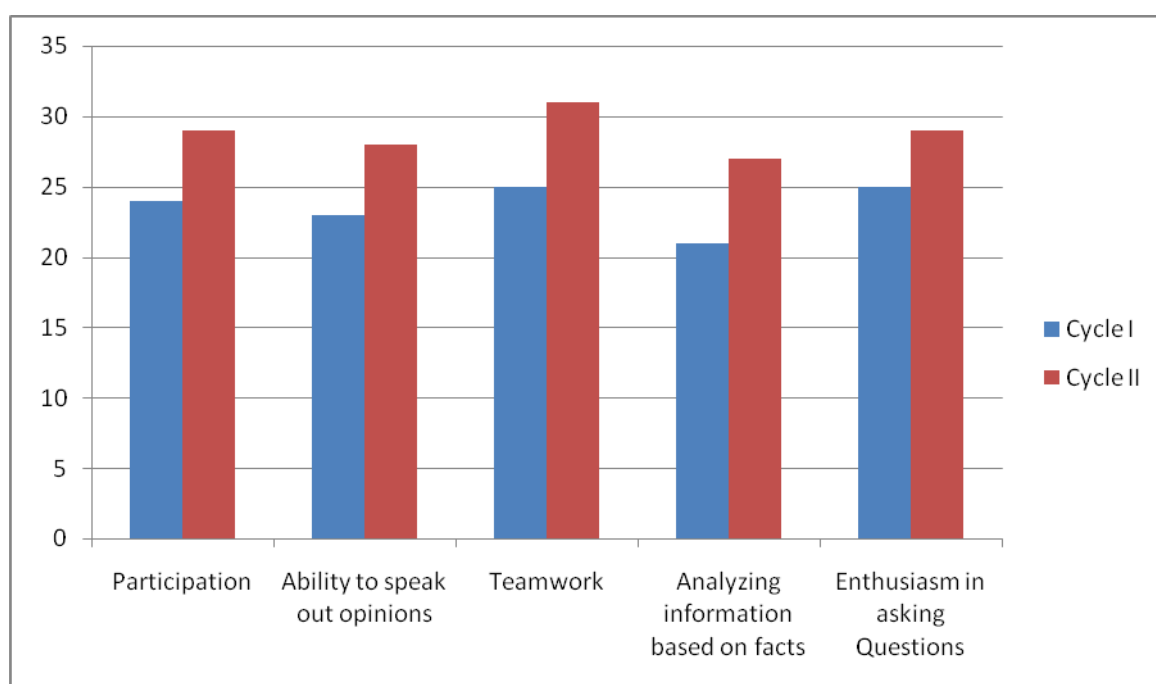


Chart 2. Indicators of Critical Thinking Skills among Students

The data from the observation on the teacher concerning the application of Contextual Teaching Approach also revealed an improvement.

Table 4. The Overall Observation Results of Cycles I and II

No.	Activities	Cycle I				Cycle II			
		1	2	3	4	1	2	3	4
A.	Opening the Class								
	1. Attractive				√				√
	2. Teaching Performance			√				√	
	3. Giving motivation				√				√
B.	Time Management and Strategy								
	1. Presenting learning resources				√				√
	2. Using time effectively		√					√	
	3. Objective-oriented activity								√
	4. Giving instruction to encourage students to give opinions and ask questions			√		√			√
C.	Involving Students during the Process								
	1. Letting students get themselves involved				√				√
	2. Providing opportunities to students to give opinions and ask questions				√				√
	3. Encouraging students to ask questions				√		√		
D.	Communicating with the students								
	1. Giving time to students to discuss their task			√					√
	2. Developing students' critical thinking skills			√					√
E.	Evaluating								
	1. Giving assignment which stimulates students' critical thinking			√					√
	2. Giving reward for any action reflecting critical thinking			√				√	
	Total				48				53
	Average				78.6				92.8

5. Discussion

Contextual teaching is a concept that helps teachers relate the teaching materials with the context of real life and encourages students to build up relation between their prior knowledge with the practical application in life. It focuses on how students comprehend the meaning of what they learn, what it is for, what its status is, how it is gained, and how they demonstrate what they have learned. In addition, contextual teaching is an approach that helps develop students' high cognitive level. Such an approach can also train students to think critically and creatively in collecting data, understanding an issue, and solving a problem. This is proven particularly in this research in which Contextual Teaching Approach successfully improves students' critical thinking skills. The

General Psychology subject which presents materials closely related to real life contributes to students' understanding of the materials they learn according to the context.

A study conducted by Miri et.al dealt with critical thinking is a work of high order thinking [5]. The result concludes that if a teacher has an objective and constantly applies high order thinking strategy to his class such as coping with real problem, promoting discussions, and facilitates in-depth experiment he will help develop students' critical thinking skills.

6. Conclusions

- 1) The results of the Pre-Test showed that 4 out of 36 students fulfilled the characteristics of being critical thinkers. This number equals 11%, with an average score of 67.
- 2) After Cycle I was completed, the number increased to 17 (47.3%) with an average score of 74.2
- 3) The number significantly increased up to 34 (95%) at the end of Cycle II, with an average score of 80.4.

6.1. Suggestions

- 1) Contextual Teaching Approach effectively contributes to students' critical thinking skills, and therefore, it is advisable that other teachers choose it as one alternative to make the teaching-learning process more meaningful.
- 2) It is compulsory for students to develop their critical thinking as the global world requires more than just academic knowledge or hard skills; soft skills also influence their success.
- 3) Creating and inventing models of teaching which can stimulate students' critical thinking should become the interest of other researchers to help teachers do best practices.

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