The Effect of Contextual Learning Approach (CTL) to Improve Students' Critical Thinking Ability in Organization and Management Subject

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Abstract—**This study aims to examine the effect of CTL learning model on critical thinking ability of Public Administration students in the course of Organization and Management. This research is an experimental research with population of Public Administration students who take Organization and Management Course at STIA Padang. The sample of this study consists of two classes of Organization and Management course. Class A as an experimental class were taught with CTL learning model and class B as a control class were taught using conventional learning model. Each class consists of 27 learners. The research instruments used to look at the thinking ability of learners is through questions posed by learners during journal presentations and questionnaire. Data were also collected based on the observation and documentation of the journal written by the learners. The results described the ability of students' critical thinking who were taught with CTL is higher than the learners who were taught with conventional learning model.**

Keywords—**CTL, critical thinking skill, organization and management**

I. INTRODUCTION

In facing 21st century, the improvement of human resources quality is the main focus of the nation. As stated by [1], in order to compete nationally and internationally in the globalization era, there are some skills that must be required by the learners as a human resource including: 1) thinking skills that includes critical thinking, problem solving, creativity, and metacognition; 2) communication and collaboration skills that is able to communicate and collaborate effectively with the various parties; 3) creativity and innovation skills that is able to develop its creativity to generate innovative breakthroughs; 4) information and communications technology literacy that is able to utilize information and communication technologies to improve the performance and activities of daily life; 5) contextual learning skills that is capable of undergoing self-contextual learning activities as part of personal development; and 6) information and media literacy skills that is able to understand and use a variety of communication media to convey ideas, implement collaborative activities, and interaction with various parties. Therefore, human resources should be able to think crtitically and creatively, to use the technology and information that they obtained and also capable to interpret the meaning of information and being the independent lerners.

One of the skills that must be mastered in this infinite era is to equip learners as human resources with critical thinking skills where the ability to filter information obtained whether it is a truth or a lie is needed. As emphasized by [2] that critical thinking is a process that leads to the conclusion of what we have to believe and what action we will do. Not to seek answers only, but the main thing is to question the answers, facts, or information available. The same thing also revealed by [3]that learners who are able to think critically automatically also have the ability to solve problems effectively, because knowing any information or knowledge alone is not enough. To be an effective learner later in the world of work, the learners must be able to have the ability to solve problems, make the right decisions, for that critical thinking skills are required. Specifically, [4]also explain that an ideal critical thinker has such characteristics as high curiousity, accurate source of information, strong and credible reason, openess 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. Furthermore, [5] proposes seven dimensions of critical thinking, namely: inquistiveness, open-mindedness, systematicity, analyticity, truth seeking, self-confidence, and maturity. These dimensions then became the points of The California Critical Thinking Disposition Inventory (CCTDI). Hence, critical thingking is described as a set of skills that take individual into a high level of thinking.

Improving critical thinking skills is a basic requirement in developing people's capacity as a result they are able to face the challenges of this multifaceted world. However, in many universities, developing critical thingking ability is still a high priority, they still focus on how to enumerate students' cognition but fail to help them build their critical thingking skills [6]. [7] also states that critical thinking was a useful characteristic in school learning at every level, although critical thinking rarely got the attention from the teachers. In indonesia itself, the critical thinking ability of Indonesian students are still low. This is known based on the 2012 Program for International Student Assessment (PISA), Indonesia's science literacy score is 382 with a rating of 64 out of 65 participating countries. Questions tested in PISA consist of 6 levels (lowest level 1 and highest in level 6) and the questions tested are contextual questions whose problems are drawn from the real world. Indonesian students only able to answer the routine questions at level 1 and level 2 [8].

This shows that the ability of Indonesian learners in answering questions that refers to the ability to think critically, logically, and problem solving is still very low.

The problem of low critical thinking ability of these learners also occurred in STIA Padang based on the observations done by the researcher in the Public Administration students when doing presentations and question-answer sessions. It was done since critical thinking is a well-directed and clear process used in mental activities such as problem solving, decision making, analyzing assumptions, and the ability to argue in an organized way and it is used in formulating questions that related to students prior knowledge and this prosess encourages students to think at a higher level [9] [10] [11]. On the other hands, critical thinking ability can be seen in the process of organizing idea and formulating questions and responses persuade students into the higher thinking process. The competence of learners in STIA Padang in asking and responding is seen still low. The questions asked are also in knowledge and understanding level, such as 'what is the difference between formal and informal organizations?', 'Can you explain the step of giving and sharing of authority?'. This type of query has been explained by the presenter so that the answer is only read by the respondents. In addition, the purpose of asking question responding to questions is to obtain points or grades from the lecturer. This phenomena is very unfortunate because learners have not been able to interpret the learning, as a result the process of education is just a duty to be followed and looking for a good value.

Furthermore, the final grades of learners in the courses of Organization and Management in the odd semester of the academic year 2016/2017 where only 35% of learners whose scores were above the average and 65% others got a less satisfactory value, their value is on the scale C-D. Such an achievements become a cause for concern and need improvement. This phenomenon is certainly very unfortunate considering the course of Organization and Management is one of the compulsory subjects for students of Public Administration. Graduates from these universities are expected to have the skills to manage various types of organizations in a comprehensive manner and the ability to make strategic decisions. For that reason, this course is one of the means for learners to get used to develop reasoning power in a critical, rational, and objective, so that it can be utilized to disseminate scientific information to the wider academic community. Therefore, learning management organization in STIA must be managed well in order to be able to encourage independent learners in reasoning able to see the interrelationship between concepts and materials, able to communicate, and able to solve problems that are faced in terms of organizational. Based on the above explanation, it can be concluded that critical thinking is absolutely necessary in line with the demands of the 21st century era that challenges the ability of qualified young people and one way to achieve it is to have critical thinking skills. As explained by [12], the effort for the optimal formation of students' critical thinking skills requires an interactive class. Students are seen as non-educated thinkers,

and teachers act as mediators, facilitators, and motivators who assist students in learning rather than teaching .

One of the factors that determine the success of the students' critical thinking skills is the skill in selecting and using the right learning model. According to [13] learning model is a broad and comprehensive approach and can be classified based on learning objectives, syntax (pattern sequence), and the nature of the learning environment. Thus, the learning model is selected and used based on the learning objectives as well as the characteristics of the teaching environment and the learners. One of the learning models considered to be able to improve the critical thinking ability of learners is contextual learning model (CTL). [14] states that Contextual Teaching and Learning (CTL) is a learning concept that helps learners connect learning content with real life. In other words, this CTL learning model helps learners to relate learning content to the real situations found in everyday life. [15] also added that CTL is one of the active learning models designed to help learners connect what they already know with their new knowledge and what learning they get from it so that they gain new knowledge. Besides, this learning model is more empowering students with the expectations of constructing knowledge in their minds, instead of memorizing facts [16]. It can be concluded that CTL is an active learning model than enable students to construct their new knowledge based on prior knowledge and new information obtained.

Moreover, [17] explain that there are some characteristics of Contextual Teaching and Learning (CTL), they are interdisciplinary learning, problem-based learning and external contexts for learning. [18] comprehensively identified eight components of CTL in detailed, as follows: making meaningful connections, doing significant work, self-regulated learning, collaborating, critical and creative thinking, nurturing the individual, reaching high standards and using authentic assessment. Thus, CTL demands reasoning ability and make the learners become independent in the learning process so that they are able to form a new knowledge and learning becomes more meaningful. 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 [19]. In conclusion, there are seven actions that must be followed in the process of using contextual teaching, they are constructivisme, inquiry, questioning, learning community, modelling, and reflection.

Based on the explanation above, the purpose of this research is to examine the effect of Contextual Teaching and Learning Model (CTL) in improving learners' critical thinking ability in the Organization and Management course.

II. METHODS

The type of this research is experimental research. This is in accordance with the purpose of research is to examine the effects of the use of contextual learning model (CTL) in improving students' critical thinking ability in the subject of Organization and Management at STIA Padang. The population of this study is the students of Public Administration STIA Padang. The research sample consisted of two classes, namely experimental and control class, each consisting of 27 students. The research instruments are observation and questionnaire. The critical thinking ability of learners is seen from the indicators of critical thinking skills that is adopted from Facione and Rohmani. This study was conducted for six meetings until the data has been saturated.

III. RESULTS AND DISCUSSION

The data in this study were obtained from the observation and the type of questions raised by the learners during the presentation process. In addition, at the end of the meeting, the students were also asked to fill out a questionnaire containing some statements about the characteristic of critical thinking. The indicator of this questionnaire is adopted from [20]. Data obtained through observation and questionnaire were analyzed using percentage technique. Table 1 below is a percentage of critical thinking questionnaires that are filled by the learner after six meetings in the course of Organization and Management.

TABLE I.   THE RESULT OF STUDENTS QUESTIONNAIRE ABOUT THE ABILITY OF CRITICAL THINKING

| Statements of Questionnaire	Experiment Class	Control Class
1. I am able to analyze problems, concepts or arguments..	70%	65%
2. I believe with my ability and this is the basis of the primary consideration in judging a problem	83%	53%
3. Reasoning, understanding and discerning the core of the matter is very easy for me	77%	45%
4. I can always understand the implied meaning in the text	67%	45%
5. I easily find evidence that supports an opinion	81%	67%
6. I can understand a problem from multiple point of views	71%	45%
7. If I'm not sure, I'll be eager for evidence	88%	41%
8. I can articulate the idea clearly	86%	55%
9. I easily recognize patterns (problems, thoughts, situations)	79%	34%
10. I can evaluate the importance of learning materials.	92%	70%

Based on the results from the questionnaire above, it can be seen that learners in the experimental class taught by using contextual learning model has a rapid ability to identify relevant information and separate it from irrelevant information. They can use the information to formulate problem solutions or make decisions, and if necessary seek additional relevant information. As for the control class, learners who are taught using conventional learning method have less ability to gather all facts and information by looking at them as important. They do not see, recognize the catch or think about the core problem.

The data obtained from that questionnaire is also supported by observational data based on the type of questions raised by the learners during the journal presentation process. Questions that sharpen critical thinking follow the principle of Socratic Questioning [21]. The Socratic Question also consists of several types: first type, questions formulated for clarification on an information; what do you mean by memorandum, can you explain in your own language?. The second type, the question of developing assumptions; you stated that leaders should be able to develop their talents and skills. What is the basis of that and how leaders are able to develop the talents of their organization members?. The third type, the question to confirm the proof; why do you think that is true? '. The fourth type, the question to understand the implications and consequences; 'Why is this important?' .

The results of the types of questions that students asked in the courses of Organization and Management are described in the following graph:

TABLE II.   GRAPH 1. THE FREQUECY OF SOCRATIC QUESTIONS ASKED BY THE LEARNERS
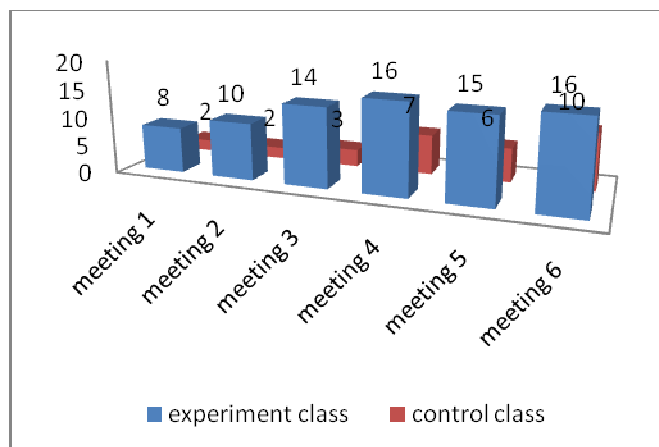
This graph shows the number of socratic questions expressed by learners in experimental classes taught by CTL learning models and control classes taught by conventional learning models in six meetings. Based on this, it can be concluded that learners who are taught by using CTL learning model use the socratic question more often than the control class. In conclusion, the learning model of CTL can improve students' thinking ability, beside that the learners are also actively involved in the learning process. This is in line with what [22] say that contextual learning models create an atmosphere of learning where learners are centers of learning and enable them to develop their abilities. [23] also found that CTL learning is a complete learning process

that integrate creative thinking with critical thinking as a result it engages students thinking skills.

In addition, the increasing frequency of questions posed by learners is one proof that they enjoy and interested in learning. As [24] emphasizes that student-centered learning can significantly improve their critical thinking skills. Thus, the CTL learning model has a significant impact on the development of critical thinking skills of learners, in which they appear to be more active in participating, enjoying and more interested in learning.

The result of observation also revealed the data of the improvement of learners' critical thinking ability. The indicators of critical thinking ability in the process of observation adopted from Fascione.

TABLE III.   THE RESULT OF PROCESS OBSERVATION OF STUDENTS' CRITICAL THINKING ABILITY IN THE PROCESS OF TEACHING AND LEARNING

Indicators of Critical Thinking Skills	Experiment Class	Control Class
1. Participation	81.5%	65%
2. Ability to speak out opinions	79%	43%
3. Teamwork	76%	55%
4. Analyzing information based on facts	86%	53%
5. Enthusiasm in asking questions	84%	61%

The percentage of learners' critical thinking ability above was obtained based on the process of observation. It can be stated that the learners' ability in analyzing information based on facts in experimental class is higher than another indicators of critical thinking skills and compared with the control class. This ability followed by another skill; enthusiasm in asking questions, participation, ability to speak out opinions and teamwork. In other words, CTL is able to increase learners critical thinking ability. It can be seen from the process of teaching and learning in Organization and Management subject in which the learners become more active in participating, asking questions and giving opinions. This is consistent with the result of research that have been done by [25] and [26], the increase in critical thinking skills can be seen from the quality of the link something in understanding, addressing, evaluating, and draw correct conclusions.

Based on explanation above, CTL is one of the learning model that is able to improve learners' critical thinking ability, especially in the process of teaching and learning. The result of this research in accordance with the finding of the previous research who has been done by [27], [28], [29] they explain that CTL strategies are likewise fundamental in emphasizing critical thinking, recognizing the requirement of teaching and learning in the different context, motivating the students to study each other and employing authentic evaluation Additionally, some scholars found that Contextual Teaching and Learning (CTL) approach help students develop their achievement at school, also promote their critical and higher order thinking.

Therefore, learning model becomes one of the factors that influence learners' critical thinking ability since the process of teaching and learning determines the way of students thinking. CTL is one of the means that can assist critical thinking ability of the learners. The concept of this model helps the educators to stimulate learners in relating teaching materials with the context of real life as a result the learners are able to comprehend the meaning of what they learn, what it is about, what it is for, why it is so, and how it is acquired. The processes of thinking like this help the learners to develop thier higher cognitive level therefore thingking critically and creatively will be increased.

A study conducted by [30] dealt with critical thinking. The result of their research concluded that there are some activities that promote high order thinking skill in the process of teaching and learning, for instance coping with real problem, promoting discussions, and facilitates in-depth experiment. These activies will help develop students' critical thinking skills.

IV. CONCLUSION

Critical thinking skills are absolutely necessary for learners nowadays. Contextual learning model is one of the means that can improve the ability of learners. This learning model can deliver students into independent students, active and creative, and has good problem-solving skills. The results of the study of Public Administration students at STIA padang in the course of Organization and Management shows that this model of learning CTL can improve the critical thinking skills of learners. This is proofed by the percentage of questions posed by learners during the learning process.

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