Improve High Order Thinking Students through Contextual Teaching Learning Based on Cognitive Distance

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Abstract

This article describes the efforts of teachers in increasing High Order Thinking (HOT) Learners through Contextual Teaching Learning (CTL) based on Cognitive Distance. In the current learning process there are several gaps related to students' thinking assumptions. The majority of teachers understand their role as disseminators and not student centres; so that the focus of education in schools is more on factual knowledge. This then has an impact on the student achievement assessment system which is based more on tests that are tested for low-level cognitive abilities only. The existence of the Contextual Teaching Learning (CTL) learning model is expected to be a bridge to build High Order Thinking (HOT) learners who can ultimately make learners able to achieve High Order Thinking (HOT). CTL has five elements that must be considered, namely, activating existing knowledge (activating learning). Acquisition of existing knowledge (acquiring knowledge) by studying the whole first, then paying attention to the details. The next element is in the form of understanding knowledge, by compiling hypotheses, sharing with others in order to get responses (validation) then from that response, the concept is revised and developed, practicing the knowledge and experience (applying knowledge), reflecting (reflecting knowledge) on the knowledge strategy. Based on the development process at the Analysis, Design, Development, Implementation and Evaluation stages, it can be concluded that CTL (Contextual Teaching and Learning) is quite effective and efficient for developing history and culture learning programs for grade 5 elementary schools. This has been proven to save the number of lesson hours by 49.45% of the total number of normal lesson hours provided for studying the field of History and Culture in grade 5 elementary school. Likewise, HOTS can increase students' learning achievement, the average is 7,516. Implementation of CTL can also increase students' learning motivation and self-regulation of learning. This is proven by the level of achievement of student learning motivation is 88.01% and student learning self-regulation reaches 86.6%.

Keywords: *High Order Thinking, Peserta Didik, Contextual Teaching Learning and Cognitive Distance.*

INTRODUCTION

Education has always been the center of attention of various parties. Therefore, humans as objects of education are required to be able to anticipate, formulate values, and set priorities in an uncertain atmosphere with the aim that generations of youth who will hold the relay milestones do not fall prey to increasingly uncontrolled processes in the world. their future (Joesoef, 2001). Through education, students will gain knowledge that can be used to sort out good and bad values, and create various cultures that serve to simplify and beautify their lives. Education is a process of growing and developing the existence of students who are social and cultured in a system of life that has local, national and global dimensions. (Tilaar, 1999).

Humans can know the value of truth, determine ways of thinking, express themselves in all aspects of life in a social unit, and at the same time develop their nature, both physical and psychological nature optimally (Nizar, 2008). Education is an important vehicle for developing students, in turn, the human beings resulting from education become development resources. Education is something universal that continues unbroken from generation to generation anywhere in the world. Efforts to humanize humans are carried out in accordance with the outlook on life and within the socio-cultural background of each particular society. Therefore, even though education is universal, there are certain differences according to the outlook on life and the socio-cultural background. Meaning, an education is held based on a philosophy of life and based on the socio-cultural aspects of every society, including the Indonesian nation (Tirtaraharja, 2005).

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In Indonesia, learning thinking skills has several obstacles. One of them is the too dominant role of the teacher in schools as a disseminator of knowledge or a source of knowledge, so that students are only seen as a vessel to be filled with knowledge by the teacher. In addition to these obstacles there are still several obstacles which are actually quite classic but difficult to solve, namely the student achievement assessment system, the majority of which are still based on tests that test low-level cognitive abilities. Students who are labeled as smart or successful students are students who pass the exam. This is an old problem that is still a quite exciting polemic for the world of education in Indonesia. The Competency-Based Curriculum that has begun to be implemented in Indonesia is actually quite conducive for the development of teaching thinking skills, because it requires students to be centers of learning. (Eka Sastrawati, 2011).

In the era of globalization and the demands of the Asean Economic Community (AEC), it requires quality human resources (HR). One of the factors that influence the quality of human resources is education. The quality of education starts from improving the quality of learning. Improving the quality of learning can be started by setting appropriate learning objectives. Quality human resources have critical, systematic, logical, creative thinking, and a willingness to work together effectively. Human resources who have thoughts as mentioned, are produced from school education institutions. The quality of education is determined by the quality of graduates from an educational institution. The quality of graduates is determined by how much knowledge and skills are obtained at educational institutions that are useful for them to face life and win the competition in the globalization era (Dian Kurniati, 2016).

High Order Thinking (HOT)

Thinking is a process of mental activity which then involves the work function of the brain. Even so, actually a person's mind is more than just the work function of one of the body's tissues. This is due to the relationship between the overall personality traits of a person with his feelings and will to determine his importance in thinking (Purbaningrum, 2017). Thinking is the most important competitive power. The thought process is also a mental activity that is realized and directed for a specific purpose. The possible goals of thinking are not only to build and acquire knowledge, but also to make decisions, make plans, solve problems, and evaluate actions (Sumampouw, 2011).

Based on the process level, thinking is divided into 2 levels, namely lower-order thinking and higher-order thinking. Basically the two levels of thinking refer to the bloom taxonomy which consists of 6 aspects. The first three aspects, namely remembering, understanding, and applying are low level thinking skills (LOT). The next three aspects, namely analyzing, evaluating and creating are high-level thinking skills (HOT) (Anderson, 2001).

Which includes higher order thinking skills are problem solving skills, decision making, creative thinking, and critical thinking. Each type of thinking can be distinguished based on its purpose. All of the higher order thinking skills described above can be developed through learning (Sumampouw, 2011).

Higher Order Thinking means dealing with situations that we have never faced before and are commonly known as a combination of the above characteristics. This is the thinking that goes into analyzing, synthesizing and evaluating Bloom's taxonomy levels and analyzing, evaluating and creating Anderson's revised levels of Bloom's taxonomy. In contrast, low-level thinking is simple, transparent and certain. In the taxonomy, Bloom's knowledge, understanding, and application and remembering, understanding, and applying his determination are low-level thinking (Mainali, 2012).

High-level thinking (HOT), which includes: first analyzing (analyzing), in the process of analyzing is related to breaking down the material into the main parts of the material by determining how these parts can relate to one another and to the overall structure. The categories of this cognitive process include differentiating, organizing and attributing. The first category of cognitive processes determines the relevant or important part of the material presented. While the second category, learn how the material is arranged. And the third category, studying the goals that underlie the material (Purbaningrum, 2017).

The second Differentiating Category is concerned with distinguishing parts of the whole structure in terms of the importance and appropriateness of those parts. Discriminating occurs when someone distinguishes information that is relevant from what is not, or important from what is not, and then focuses on that information that is relevant or important. This category is different from the comparing category, because differentiating will determine how the structure of the relevant or important parts is, whereas comparing will determine what parts can be compared from the whole structure. (Purbaningrum, 2017). Third Organizing, This category is related to identifying the elements/elements of a given communication or situation and knowing how these elements/elements become a logical structure. In organizing, one establishes orderly and logical relationships among the pieces of information presented. Organizing is usually accompanied by differentiating first. So initially determine several elements / elements that are important or relevant then build an orderly and logical relationship. For example, after determining the inside of the fruit to be the most important part, then building relationships from the elements on that inside (Purbaningrum, 2017).

Fourth, Attributing, this category occurs when a person is able to ascertain the elements of the image, assumption, value, or purpose that underlies a relationship. This category is related to a process of determining the purpose of the author on the material presented. In the category of interpreting the cognitive process of understanding, a person is asked to understand the intent of the material presented. Meanwhile, in completing, one is asked to expand the basic understanding to predict the purpose or point of the description that underlies the material/element. For example, determining the motivation for a series of actions from a character in a story (Purbaningrum, 2017).

Fifth, Evaluating, this cognitive process emphasizes making an opinion on criteria and standards. The criteria that are often used are quality, effectiveness, and consistency. Meanwhile, the standard used is quantitative (amount) and qualitative (quality). The category in evaluating is checking, this category occurs when someone tests whether a conclusion follows the existing rationale or not, and critiquing, in this category, someone is able to write down the positive and negative aspects of a product and make an assessment based on just a few parts. from that point of view (Hanoum, 2014).

Sixth Creating is a cognitive process related to presenting several elements simultaneously in an overall logical or reasonable form. In this process, someone is able to make a new product that comes from rearranging several elements or parts into a pattern or structure that was not clearly presented before. This process can be divided into three categories, namely problem delineation – trying to understand the task and generating a possible solution, planning a solution, examining various possibilities and finding a workable plan, and executing the solution, carrying out the plan successfully. Thus, this process begins by fulfilling what is expected with alternative hypotheses based on criteria (generating), then followed by planning a procedure to fulfill several tasks (planning), and ending with finding a new product (producing). (Hanoum, 2014).

Thinking skills can be developed through a conditioning to think. Therefore it takes a process of thinking practice through answering questions that are oriented to thinking skills (Lissa, 2012). The next step is to carry out a knowledge assessment which aims to measure factual, conceptual, procedural, and metacognitive knowledge abilities, as well as low to high level thinking abilities. (Pi'i, 2016). Assessment is the process of measuring learning outcomes and monitoring learning activities in class. Achieving actual biology learning objectives requires the use of assessment instruments that do not only include memorization and understanding but also require an assessment that trains higher-order thinking skills so that students get an assessment that trains competent, creative and independent skills when faced with a problem. (Rustaman, 2005).

Summarizes the knowledge to teach thinking into "knowledge of elements of thinking" together with the four sub-categories, namely: (1) Knowledge of individual thinking strategies, (2) Making comparisons, formulating justified arguments, drawing valid conclusions, (3) Knowledge of genre of thinking, argumentation, inquiry learning, problem solving, critical thinking, scientific thinking, creative thinking, (4) Knowledge of metacognition, thinking about own thinking, (5) Knowledge of additional issues, thinking dispositions (habits of mind), culture of thinking (Tan Shin Yen, 2015). With HOT students will learn more deeply, knowledge is

thick, students will understand concepts better. This is in accordance with the substantive character of a lesson when students are able to demonstrate good and deep understanding (Tri Widodo, 2013).

Contextual Teaching Learning (CTL)

CTL is a comprehensive system that mimics the way nature works. Instead of maintaining the dualism between thought and action that has paralyzed American education since the method was used, CTL wants to unify concepts and practices.(Setiawan, 2010).

The Washington State Concortium for Contextual Teaching and Learning has developed CTL which at that time involved 11 colleges and 20 schools as well as institutions currently engaged in the world of education in the United States. The contextual approach (Contextual Teaching & Learning) is a learning concept that helps teachers relate the material being taught to students' real-world situations and encourages students to make connections between the knowledge they have and its application in their lives as members of the family and society.(Nurhadi, 2004).

The contextual learning model (contextual teaching and learning) is a holistic learning process and aims to help students understand the meaning of teaching materials and relate it to the context of their daily lives both in the form of personal, social and cultural matters, so that students have the knowledge and skills that dynamic and flexible to actively construct their own understanding(Hasibuan, 2014).

Contextual Learning is a learning concept that helps teachers relate the material they teach to students' real-world situations and encourages students to make connections between the knowledge they have and its application in their daily lives, by involving the seven main components of effective learning, namely: constructivism. , asking (questioning), finding (inquiry), community learning (learning community), modeling (modeling), reflection (reflection) and actual research (authentic assessment)(Ministry of National Education, 2003).

Contextual teaching is teaching that enables learning in wich students apply their academic understanding and abilities in a variety of in- and out of school contexts to solve simulated or real world problems, both alone and with othersCTL is learning that enables a learning process in which students use their understanding and academic abilities in various contexts inside and outside of school to solve simulative or real problems, both individually and together.(Rusman, 2011).

CTL associating lesson content with the surrounding environment will make learning more meaningful (meaningful learning), because students know the lessons learned in class will be useful in their daily lives. The CTL approach with its various activities makes learning more interesting and fun for students, so it can increase students' motivation to learn(Murtiani, 2012).

The components of the contextual learning model are: first constructivism (Constructivism), the process of developing students' thinking will learn more meaningfully by working alone, finding themselves, and constructing their own new knowledge and skills. This flow is the basis of thinking for the contextual approach (CTL). Real knowledge for students is something built or discovered by the students themselves. So knowledge is not a set of facts, concepts or rules that students remember, but students must reconstruct that knowledge then give meaning through real experience(Sardman, 2009).

Second, find (Inquiry), find or inquiry is a learning process based on the process of seeking discovery through a process of thinking systematically, namely the process of transferring from observation to understanding so that students learn to use critical thinking skills. Teachers must plan situations in such a way, so that students work using procedures for identifying problems, answering questions, using research/investigation procedures, and preparing frameworks, hypotheses, and explanations that are relevant to real-world experiences(Hakiim, 2009).

The third is asking (questioning), developing students' curiosity through interactive dialogue through debriefing by all elements involved in the learning community. With the application of asking questions, learning will be more lively, will encourage broader and deeper learning processes and outcomes. By asking questions, it encourages students to always not accept an opinion, idea or theory raw. This can encourage an attitude of always wanting to know and explore (curiosity) various theories, and can encourage further learning(Hasibuan, 2014).

The fourth learning community (learning community), learning outcomes obtained from collaboration with others. Teachers in contextual learning (CTL) always carry out learning in groups whose members are heterogeneous. Students who are good at teaching the weak, those who already know tell those who don't know, and so on. In practice the "learning community" is manifested in the formation of small groups, large groups, bringing experts to class, working with parallel classes, working in groups with classes above them, working with the community(Suprijono, 2013).

The six models (Modelling), the teacher becomes a model and provides examples to be seen and imitated. Whatever the teacher does, the teacher will act as a model for students. When the teacher is able to do something, the students will think the same that he can do it too(Hasibuan, 2014).

Seventh reflection, efforts to see, organize, analyze, clarify, and evaluate the things that have been learned. The realization of classroom practice is designed at the end of each lesson, namely by means of the teacher leaving time to provide opportunities for students to reflect in the form of: direct student statements about what is obtained after learning, notes or journals in student books, student impressions and suggestions about the day's learning, discussions, and results of the work(Hasibuan, 2014).

The eighth authentic assessment, student achievement is not enough to be measured by tests alone, learning outcomes should be measured by authentic assessments that can provide true and accurate information about what students really know and can do or about the quality of educational programs(Nora, 2011). The characteristics of CTL are: (1) Establishing a meaningful relationship, (2) Performing significant activities, (3) Self-study, (4) Mutual cooperation, (5) Critical and referential thinking, (6) Nurturing student's personality, (7)) Achieving a high standard, (8) Using authentic assessment(Muchtar, 2017).

With the use of the CTL learning model students will be able to be careful and precise, then apply the resulting concepts to solve problems in various real things/statements/situations. The learning outcomes achieved by students are indicated by changes in knowledge/understanding, skills, analysis, synthesis, evaluation, as well as values and attitudes. Changes resulting from learning can be in the form of changes in perception and understanding, which are not always seen as behavior(Sunandar, 2009).

The objectives of this CTL model are: (1) To motivate students to understand the meaning of the subject matter they are studying by associating the material with the context experienced in everyday life, (2) So that in the learning process it is not just learning but needs to present the the name is understanding, (3) Emphasizing on developing students' interest in experience, (4) Training students to be able to think critically and be skilled in processing knowledge with the aim of being able to find and create something useful for themselves and others, (5) To make learning more productive and meaningful, (6) Invite students to be active and then connect academic material with the context of everyday life,(7) So that individual students can find and transfer complex information and students can make the information their own.

The steps for its implementation are described as follows: (1) Developing students' thinking to carry out more meaningful learning activities, whether by working alone, discovering themselves, and constructing their own new knowledge and skills. (2) Carry out an activity called inquiry and apply to all topics being taught. (3) Raising questions. (4) Creating a learning community. (5) Presenting a model that will be used as an example of learning, can be through illustrations, models, even actual media. (6) Familiarize students to reflect on each learning activity that has been carried out. (7) Conduct an objective assessment.

METHODOLOGY

This research is research and development or Research *and Development*(R&D) with qualitative approach regarding development of learning models CTL in increasing HOTS. This research is done at Elementary School in Lubuk Pakam Indonesia. Main data source are primary sources, that is is the data obtained directly through Focus Group Discussion (FGD), observation, direct interview of informants and research subjects namely history teacher. In order to increase the validity of the data, This research will also make use of students as an additional data source. The data analysis technique uses a research and development approach as stated by Borg and Gall (1989).
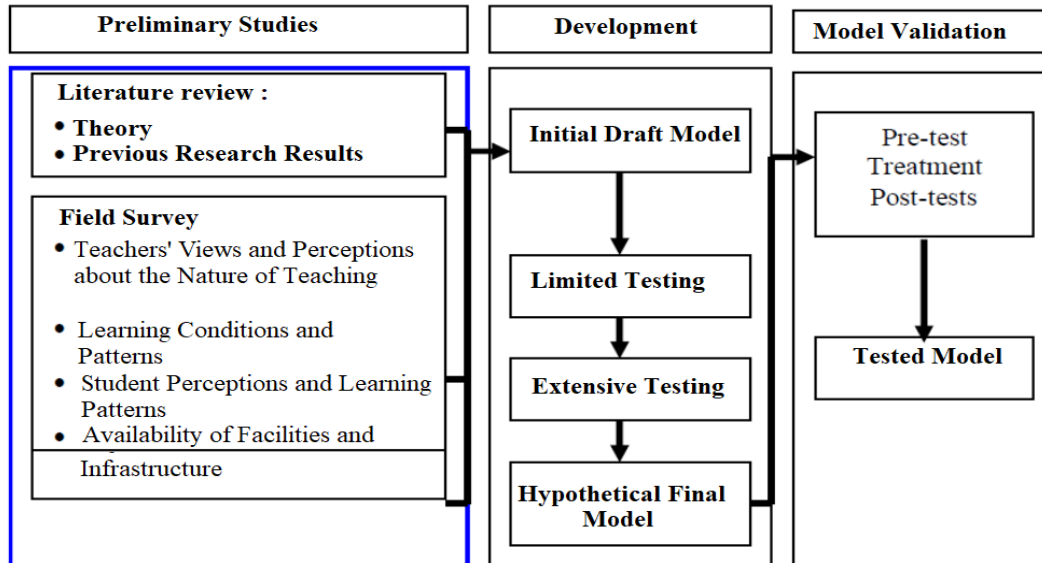
Figure 1. Research and Development Procedures

RESULT AND DISCUSSION

Results

Based on the results of the initial ability test in the History study field obtained from the daily tests of elementary school students for the 2021/2023 academic year before implementing the learning model*CTL*can be seen Table 1 and Figure 2.

Table 1. Initial Ability Test Results before Implementing the Learning Model*CTL*

Value (N)	Amount (F)	NF	Percentage
50	1	50	5.25%
55	2	110	10.53%
60	3	180	15.79%
65	5	325	26.32%
70	5	350	26.32%
75	2	150	10.53%
80	1	80	5.26%
Amount	19	1245	100%
Average		65,53	
Completeness		68.42%	

Source: 2023 Research Results

In the initial ability can be seen the average value of 65.53 History. Students who scored below 65.00 were 6 students or 31.58%. While students who have reached the complete limit, namely getting a score of 65.00 and above as many as 13 students or 68.42%. From this percentage, it means that classically it has not achieved satisfactory results because students only get at most 65.00 and 70.00 respectively 5 people.
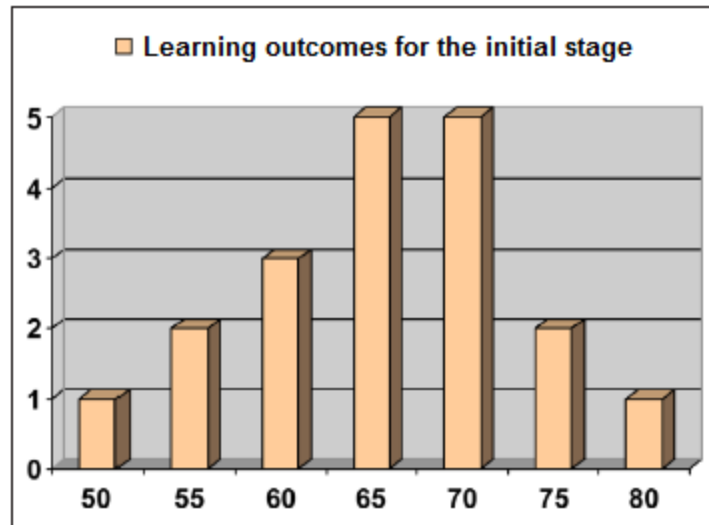
Figure 2. Initial Ability Test Results before Implementing the CTL Learning Model

Table 2. Comparison of Test Results in the Civics Study Field for Each Cycle after Going Through the Application of the Learning Model*CTL*

Score	Amount	Percentage	Amount	Percentage	Amount	Percentage
50	1	5.25%	-	-	-	-
55	2	10.53%	1	5.25%	-	-
60	3	15.79%	3	15.79%	2	5.27%
65	5	26.32%	4	21.05%	3	15.79%
70	5	26.32%	5	26.32%	4	21.05%
75	2	10.53%	3	15.79%	6	26.32%
80	-	5.26%	2	10.53%	4	15.79%
85	-	-	1	5.26%	3	10.53%
90	-	-	-	-	2	5.26%
Amount	19	100%	19	100%	24	100%
Average	65,53		69,21		74,21	
Completeness	68.42%		78.95		94.74	

Source: 2023 Research Results

Based on the test results in cycle II, it is known that the average value of Civics in identifying forms of state defense efforts is 74.21, there are 18 students who score 65.00 or more. This indicates a significant increase because the classical learning completeness has reached 94.74. %. Based on these data, classically they have achieved learning mastery even though there is still 1 student or 05.26% who have not completed it because their score is still below 65.00.

Based on the results of observations, with improvement efforts made in Civics learning the material identifies forms of state defense efforts through the application of learning models*CTL*, the results achieved by students have increased. This increase can be seen from the increase in the percentage of test results obtained by students from the initial ability condition (pre-cycle) to cycle I and then cycle II.

Table 3. Initial Ability Test Results before Implementing the Learning Model*CTL*

Cycle	Average value	Enhancement
Early Ability	65,33	-
Cycle I	69,21	3.88%
Cycle II	74,21	5%

Source: 2023 Research Results

Based on predetermined performance indicators, complete history learning outcomes are determined when 80% of the total students score 65.00 and above. From the results of the action through the learning model*CTL*it can be seen that the number of students who scored 65.00 and above reached 94.74%, so it can

be said that most students have completed studying the field of History with a significant increase in achievement.

Discussion

Cognitive Distance-Based Contextual Teaching And Learning (CTL) Learning Development Process

The process of developing CTL (Contextual Teaching and Learning) learning based on Cognitive distance still has seven elements that must be considered, namely Constructivism is the process of building or compiling new knowledge in students' cognitive structures based on the distance of students' own knowledge. The basis of Cognitive distance in Constructivism is a learning style that encourages students to use their brains more effectively. This way of learning encourages students to be fully involved in the learning process so that learning, thinking and remembering becomes easier. According to constructivism, knowledge does come from outside but is constructed from within a person (Sanjaya, 2006:264). Cognitive distance-based constructivism is carried out through a learning process that emphasizes building one's own understanding actively, creatively and productively based on previous knowledge and from meaningful learning experiences so as to reduce the differentiating power of each student in understanding knowledge.

The second component in CTL is Cognitive distance-based inquiry, meaning that the learning process is based on discovery and discovery through a cognitive thinking process that explains how internal and external factors influence an individual's mental processes to complete learning. Delays and learning difficulties are seen when cognitive processes do not run regularly. In general, the inquiry process can be carried out through several steps, namely: formulating the problem, proposing a hypothesis, collecting data, testing the hypothesis, and making conclusions (Sanjaya, 2006:265). Finding (Inquiry) is a learning process based on search and discovery. This activity begins with observations of phenomena, followed by meaningful activities to produce findings obtained by the students themselves. The knowledge and skills that students gain are not the result of remembering a set of facts, but rather the result of discovering them themselves from the facts they encounter Muslich (2009:45).

The third component in CTL is Cognitive distance-based Questioning which is essentially asking and answering with the aim of encouraging discussion about what is being taught, helping students explore and understand how ideas are connected, asking students to justify and explain their thinking and using visualization to improve students' understanding and memory. Asking questions can be seen as a reflection of each individual's curiosity, while answering questions reflects a person's ability to think (Sanjaya, 2006:266). According to Mulyasa (2009:70), there are 6 asking skills in learning activities, namely clear and concise questions, giving references, focusing attention, giving turns and distributing questions, giving opportunities to think, and giving guidance. In learning through CTL the teacher does not just convey information, but rather provokes students to find it themselves.

The fourth component in CTL is a Cognitive Distance-based Learning Community. This strategy increases the learner's ability to process information more deeply, transfer and apply information to new situations, and results in learning that is enhanced and better retained. This is based on Vygotsky's opinion, that children's knowledge and understanding are largely shaped by communication with other people. Problems cannot be solved alone, but require the help of others. The concept of learning community (Learning Community) in CTL learning outcomes are obtained through collaboration with other people, friends, between groups, other sources and not just teachers (Sanjaya, 2006:267). Muslich (2009:46) put forward the concept of learning communities in CTL suggesting that learning outcomes are obtained through collaboration with people.

The fifth component in CTL is Cognitive distance-based Modeling. Humans progress through four stages of development: the sensorimotor stage, the preoperational stage, the concrete operational stage, and the formal operational stage. This modeling becomes a learning process by demonstrating something as an example that can be imitated by everyone. Modeling is a quite important principle in CTL learning, because through modeling students can avoid theoretical (abstract) learning which can allow verbalism to occur (Sanjaya, 2006:267) . The concept of modeling, in CTL, suggests that learning certain skills and knowledge is followed

by a model that students can imitate. This way of learning will be understood more quickly by students than just telling stories or giving explanations to students without showing models or examples (Muslich, 2009:46).

The sixth component in CTL is Cognitive distance-based Reflection which is centered on adapting to new stimuli and building methods to solve problems or meet needs. Creative activities rely on students to generate original ideas to answer questions, organize their thoughts, and devise their own avenues of discovery that will help them answer problems. This reflection is a process of deposition of experiences that have been learned by reordering the events or learning events that have been experienced. In the learning process with CTL, at the end of each learning process, the teacher gives students the opportunity to reflect or recall what they have learned (Sanjaya, 2006:268).

The seventh component in CTL is Real Assessment (Authentic Assessment) based on Cognitive distance. This real assessment is a process carried out by teachers to collect information about learning progress which is carried out by teaching students the skills they need to learn effectively. This helps students build problem-solving and learning skills that they can apply in any subject. Developing cognitive skills allows students to build on previous knowledge and ideas. This assessment is needed to find out whether students are really learning or not, whether the student's learning experience has a positive influence on the student's intellectual or mental development. CTL learning places more emphasis on the learning process, not just learning outcomes (Sanjaya, 2006:268). Muslich (2009:47) Authentic assessment is the process of collecting various data that can provide an overview or information about the development of students' learning experiences.

Feasibility of Developing Cognitive Distance-Based Contextual Teaching and Learning (CTL) Learning

The results of this research are able to show that Cognitive distance-based Contextual Teaching and Learning (CTL) is very feasible to implement. This feasibility can be seen in making media. The things that must be considered are learning objectives, media effectiveness, students' abilities, availability of facilities and infrastructure, media quality, cost, flexibility and ability to use it as well as available time allocation. There are three main things in assessing the feasibility of the cognitive distance-based CTL learning model, namely the appropriateness of the content, the appropriateness of the presentation and the appropriateness of the assessment. The appropriateness of the content is assessed from the material presented, including the material contained in the Competency Standards (SK), namely understanding the concept of the quadrangle and determining its size and Basic Competencies (KD). The material presented reflects the explanation that supports the achievement of all Basic Competencies (KD). The material presented starts from the introduction of concepts, definitions, procedures, output displays, examples, cases, exercises, to interactions between concepts according to the level of education in Junior High School and in accordance with what is mandated by Basic Competencies (KD). Feasibility of presentation is assessed from the systematic presentation of each learning activity according to the principles (having an introduction, content and conclusion). The presentation of concepts is presented sequentially from easy to difficult, from concrete to abstract and from simple to complex.

There are example questions that can help strengthen understanding of the concepts in the material. The questions given can train the ability to understand and apply concepts related to the material in learning activities. Contextual Assessment is assessed by the relationship between the material taught and students' real-world situations. Learning encourages students to make connections between the knowledge they have and its application in everyday life. The material in the module is about constructing knowledge and not a process of receiving knowledge. The material stimulates students to discover their own knowledge. There are questions that encourage, guide and measure students' thinking abilities. There are group assignments, and the material stimulates students to discuss (share) with their friends. There are examples of procedural questions and how to solve them. There is a summary of the material that has been studied.

The Practicality of Developing Cognitive Distance-Based Contextual Teaching and Learning (CTL) Learning

The results of this research show that the practicality of developing Cognitive Distance-based Contextual Teaching and Learning (CTL) learning can be achieved through learning product design. The practicality of using the Cognitive-based Contextual Teaching and Learning (CTL) learning model to improve student HOTS can be seen from the results of students in field trials using student response questionnaires that provide feedback that the learning process that applies the Cognitive-based Contextual Teaching and Learning (CTL) learning model is very well, so that the Cognitive-based Contextual Teaching and Learning (CTL) learning model is practical for improving HOTS.

Cognitive-based Contextual Teaching and Learning (CTL) is a very practical model in implementing learning that identifies gaps in student understanding. The practicality of learning provided to individuals with different levels and readiness in accordance with various aims and objectives by various institutions. This is defined as a teaching activity in which students have different levels of knowledge and understanding and education is provided simultaneously or at different times by narrowing this gap (Moore & Anderson, 2007). Educational opportunities that are limited due to geographic location, physical constraints, work, etc. become possible because students understand distances and can do so without knowing time and place. The distance education environment provides a flexible and efficient learning environment that makes it easier for students to form, investigate and study information so that students can begin to learn on their own (Alper & Deryakulu, 2008). Cognitive distance has an important role in society's lifelong learning expectations because it provides a flexible learning environment that allows students to learn independently in place and time, at their own pace and non-linearly (Lou, 2004).

The Effectiveness of the Cognitive Distance-Based Contextual Teaching and Learning (CTL) Model Can Improve HOTS

The results of the research were able to show the effectiveness of implementing the Cognitive Distance-based Contextual Teaching and Learning (CTL) learning model in the History subject at Lubuk Pakam Elementary School, which is very effective and can increase students' HOTS. Based on the entire development process, it can be concluded that CTL is quite effective and efficient for developing History and Culture learning programs for grade 5 elementary schools. This has been proven to save the number of lesson hours by 49.45% of the total number of normal lesson hours provided for studying the field of History and Culture in grade 5 elementary school. Likewise, HOTS can improve student learning achievement, the average is 7.516. Implementing CTL can also increase student motivation and learning independence (self-regulation). This is proven by the level of achievement of student learning motivation is 88.01% and the level of student learning independence (self-regulation) reaches 86.6%. The results of this research prove that the effectiveness of the CTL model greatly influences students' HOTS achievements.

The findings above are also confirmed by supporting data consisting of subject responses about CTL principles reaching 89.93%, and development subject responses about teaching and learning techniques reaching 87.91%. The process of implementing learning through field trials has gone well. This is proven by data regarding the implementation of simulations (in preparation for practical trials of ulos cloth weaving) and the implementation of learning (real teaching) by development subjects. The subject's response questionnaire score regarding the implementation of teaching simulations reached 82.89% and the development subject's response questionnaire score regarding the implementation of learning reached 84.69%.

The application of the CTL (Contextual Teaching and Learning) learning model is expected to provide interesting new nuances in the learning process. Judging from the positive side contained in the contextual model, namely student-centered teaching, from this point of view it is hoped that it can make students more active, teachers can monitor and direct students, so that students receive more meaningful teaching (Dea Handini, 2016). With the CTL (Contextual Teaching and Learning) Learning Model, students can link the knowledge taught at school with its application in everyday life. This learning model provides enthusiasm and encouragement to students to discover something new in the learning that occurs and is linked to existing

conditions (Oktaviansa, 2013). The CTL (Contextual Teaching and Learning) model based on cognitive distance describes an individual's social distance due to regulatory norms in the teaching and learning process. Researchers examined how individuals' reluctance or willingness to distance themselves from others had a psychological impact on them. The point is that the cognitive appraisal of enforced social distance will be accepted willingly by individuals or complied with involuntarily, and will have some psychological impact that will be expressed in the intensity of technological media use.

CONLUSSION

The development of Cognitive distance-based Contextual Teaching and Learning (CTL) learning in social studies subjects, history and culture sub-material for elementary school students in Lubuk Pakam can be used to increase students' thinking power which can encourage an increase in HOTS (Higher Order Thinking Skill), with the following stages (a) define (definition) is carried out from needs analysis (b) design (design) is made through the CTL (Contextual Teaching and Learning) learning model in History and culture subjects which is implemented into the learning implementation plan (c) develop (development) model CTL (Contextual Teaching and Learning) learning in History and Culture subjects to improve HOTS (Higher Order Thinking Skill) in elementary schools in Lubuk Pakam was tested for feasibility through education expert validators with results of 83.3% and material experts with results of 83.3%. the product is considered suitable to be used as a learning model (d) dissemination (distribution) while the distribution of the Contextual Teaching and Learning (CTL) learning model is limited to elementary schools in Lubuk Pakam. To build students who have Higher Order Thinking with the characteristics of abilities that are high-level thinking skills, namely the ability to solve problems (problem solving), decision making (decision making), creative thinking (creative thinking), and critical thinking (critical thinking), learning models Contextual Teaching Learning can be one of the efforts that can be implemented by educators. CTL has five elements that must be considered, namely, activating existing knowledge (activating learning). Acquisition of existing knowledge (acquiring knowledge) by studying the whole first, then paying attention to the details. The next element is in the form of understanding knowledge (understanding knowledge), by way of compiling.

The application of the Contextual Teaching and Learning (CTL) learning model in the History subject at Lubuk Pakam Elementary School is very effective and can improve students' HOTS (Higher Order Thinking Skill). Based on the development process at the Analysis, Design, Development, Implementation and Evaluation stages, it can be concluded that CTL (Contextual Teaching and Learning) is quite effective and efficient for developing history and culture learning programs for grade 5 elementary schools.

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