

INQUIRY AND EXPOSITORY APPROACH IN QUADRATIC EQUATION AT PUBLIC HIGH SCHOOL OF SMAN 7 MEDAN

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ABSTRACT

Quadratic equation is one of math lesson that presents logarithmic equations, calculus and economic mathematics. Students are also trained to think critically, logically and rationally by learning quadratic equation. However, many students are failed in learning quadratic equation. So it is needed the approach to overcome the problems. This paper aims to know if the result of student learning in quadratic equation with approach of inquiry is better than result of student learning with expository approach in SMA Negeri 7 Medan. This study is to compare the students' learning outcomes in quadratic equations between the inquiry approach and expository approach in SMA Negeri 7 Medan. To compare the results of study referred to the researcher must change the characteristics of research subjects by implementing quadratic equation learning in two groups of students. One group used the inquiry approach and another group using the expository approach. This study is essentially experimental, it is not a purely experimental, but quasi experiment, which means that experimental results may be influenced by factors outside the control of the researcher. Through the test the difference in the average calculated values obtained $t = 0.0529$. From the list of percentile values for the Student's distribution with a significant level of $\alpha = 0.05$ which means 95% confidence level and degrees of freedom $(df) = (32 + 32) - 2 = 62$ critical price was obtained $t_{(0,95;62)} = 1,67$; it turns out that $t_{count} < t_{(0,95;62)}$, then enough reason for the researcher to declare no difference of average count of student grade X grade of academic year 2016-2017 SMA Negeri 7 Medan in quadratic equation between the learning using inquiry approach and expository approach. Learning with both inquiry and expository approaches is supported by the provision of training and homework. Precisely it may be more to provide the strengthening of student skills in answering final test questions. So, the paper concluded that there is no difference of learning result of SMA Negeri 7 Medan students in quadratic equation between the learning using inquiry approach inquiry and expository approach.

Keywords: Inquiry Approach, Expository Approach, Quadratic Equation

INTRODUCTION

Quadratic equation is one of mathematics lesson material which, although already presented in Junior High School, but restated in Senior High School. Much is the subject matter of mathematics concerning the quadratic equation so the mastery of the matter of quadratic equations is considered important for the students. Studying analytic geometry will be hampered if students do not master quadratic equations similarly with logarithmic equations, calculus and economic mathematics. Precisely that quadratic equation is presented earlier in high school / vocational school, in hopes of assisting students in learning math next. Thus, the

mastery of quadratic equations in the skillful sense determines the settlement and can use them in mathematical problems furthermore is a hope in the learning of mathematics. In fact, however, many students fail to determine the solution of quadratic equations, moreover in applying them in other matters.

Studying quadratic equations is not just about solving, but many aspects of education can be learned from the presentation of quadratic equations. Increased reasoning and problem-solving abilities include. By studying mathematics in general, quadratic equations in particular, students are also trained to think critically, logically and rationally. In fact, the failure of students in learning the quadratic equation should not be left alone, but there must be a special thought to overcome the failure.

According to Setiawan (2014), the location of students' difficulties in solving problems related to quadratic equations is as follows: First, understanding the root / square of quadratic equations, the student's difficulty lies in the students' inability to connect between variables and roots. Second, determining the root / square of the quadratic equation, in determining the root / completion of quadratic equations students are more likely to use the way of factoring and quadratic formulas. In using the way of factoring they mostly use *trial and error*. In understanding the factoring the majority of students do not understand the concept of “*if and only if*” or Third, determining the quadratic equation if known to its roots, the student's difficulty lies in the inability of the student to relate between the concept of determining the roots if the quadratic equation is known and determining the square equation if known to the root. So these two things are considered not interconnected.

The author's experience when presenting quadratic equations in lectures at the Muslim University of Nusantara Al-Washliyah, the difficulty of studying mathematics including quadratic equations arise from the misperceptions of students on mathematics. Learning mathematics means wrestling with numbers. Learn mechanically instead of sharpening reasoning. As a result, students tend to a pattern of work according to the teacher's example, not on the basis of understanding. When the question is raised after intermittent with another topic, the student's question arises: how to do it?

To realize a more meaningful mathematics learning process with high student learning outcomes, teachers must be creative and innovative in choosing and developing strategies and learning methods. In mathematics learning in schools, most teachers still tend to apply the expository method, although in a written plan a scientific approach is written.

Many teachers are impatiently waiting for students to find something from the investigation of the material being studied, so the shortcut is taken, the teacher tells something, such as boundaries, object characteristics, object properties and how to solve the problem, because it is considered more practical. In this way also the students quickly find out, but what is known to the student does not last long, because it is not obtained through experience, but notification. After all, often students already know, but are unable to express it in spoken and written language, so that students are considered not yet know.

To overcome the problems above, it is necessary to improve the learning system implemented by the teacher. If the learning of mathematics is done with appropriate strategies and methods, then the learning of mathematics will be the main attraction and easy to understand by the students.

The approach has a considerable share in the learning process of mathematics. The learning approach can be used to define the learning steps or strategies for achieving the learning objectives. Each applied approach will involve the ability of the subject of learning / student and teacher, with their respective levels. Teaching method is a way of delivering teaching

materials conducted by teachers to their students in the classroom, which in its function is a tool to achieve a goal.

The approach that teachers often use in learning mathematics is the expository approach. The expository approach emphasizes teacher activity, and the subjects of learning are passive, receiving only from the teacher. This approach is generally dominated by lecture methods. With an expository approach, teacher-centered learning (teacher oriented). Based on the author's thinking, the approach that teachers should use in mathematics learning, especially in the presentation of quadratic equations is the inquiry approach. According to Piaget (in Mulyasa, 2008), the inquiry approach prepares students in situations to conduct their own experiments extensively to see what happens, to do something, to ask questions, and to seek their own answers, and to link one discovery to the invention others, comparing what they find to other learners. Inquiry emphasizes the activity of study subjects, while the teacher plays more as facilitator and manager who gives the introduction with a brief demonstration, which subsequently the subject learns actively seek and find for themselves what is being studied (student oriented). Precisely, this research will try to see comparison of student learning result in quadratic equation between approach of inquiry and expository in SMA.

Limitations of the authors have an impact on limiting the problem of this study only for students of class X SMA Negeri 7 Medan. The material of quadratic equations which is the subject of discussion is the sense of quadratic equations, solving quadratic equations, the properties of the roots of quadratic equations, and forming quadratic equations known by their roots.

FORMULATION OF THE PROBLEM

The formulation of the problem in this research is: whether the result of student learning in quadratic equation with inquiry approach is better than result of student learning with expository approach in SMA Negeri 7 Medan?

REVIEW OF LITERATURE

Mathematics Learning

The tendency that occurs in the learning of mathematics in schools is that students are treated as objects. The teacher is seen as the most knowledgeable person and can act as a judge who decides whether the student's work is right or wrong. Learning process generally begins with teacher explanation. When the teacher explains, the student must be silent, listen and should not respond or discuss what he or she is listening to. Teacher explanations are also often focused on how a mathematical formula is obtained, which in the next stage is given a sample of usage and then given the opportunity to students to work on a problem like the example the teacher has given. "Such educational orientation causes our educational practices to isolate ourselves from real life outside the school, less relevant between what is taught and needs in work, too concentrated on intellectual development that does not work with individual development as a whole and personality" (Zamroni, 2000).

The illustration above shows that in traditional mathematics learning, teachers play a more role as subject of learning or learning centered on teachers and students as objects, and learning does not relate the subject matter to the daily life of the students. As a result many students are able to present a good level of memorization of the teaching materials it receives, but in reality they do not understand it. Students are able to work on math problems as soon as the teacher explains, but are unable to answer the questions at the time of the exam.

The ability that students gain through this traditional learning process is the procedural ability that tends to be memorized, not as the reasoning ability. Most students are unable to relate what they have learned and how the knowledge will be used or utilized.

One of the terms stuck out of Government Regulation No. 19 of 2005 is the process standard. Process standard is the national standard of education related to the implementation of learning in educational units to achieve graduate competence. Process standards include the planning of the learning process, the implementation of the learning process, the assessment of learning outcomes, and the supervision of the learning process for the implementation of an effective and efficient learning process.

Implementation of the learning process is the core of learning and is the key to the achievement of learning objectives. Minister of National Education Decree Number 41 of 2007 states: "In the process required teachers who provide exemplary, build a will, and develop the potential and creativity of learners. The implication of this principle is the paradigm shift in the educational process, from the teaching paradigm to the learning paradigm".

Implementation of the learning process is generally called learning activities include the preliminary, main and closing. Preliminary activity is an early activity in a learning meeting aimed at generating motivation and focusing the attention of learners to actively participate in the learning process. The main activity is the learning process to achieve basic competence. Learning activities are interactive, inspirational, fun, challenging, motivate learners to participate actively, and provide sufficient space for initiative, creativity, and independence according to the talents, interests, and physical and psychological development of learners. This activity is done systematically and systemically through the process of exploration, elaboration, and confirmation. Closing activity is an activity undertaken to end learning activities that can be done in the form of summaries or conclusions, assessment and reflection, feedback, and follow-up.

In the preliminary stage teachers need to improve students' readiness in learning, either by providing motivation, or revision of the possible misconceptions of materials they have learned as apperception for new concepts or principles to be studied. To generate student motivation can begin with a teacher's story regarding the material to be learned. Teachers should ask questions at the end of the story with the aim of focusing students' attention.

Development stage is the main stage in which students learn new material. In accordance with the principle of active learning, then this stage needs to be developed through the optimization of the learning process, for example by asking techniques, the use of worksheets, discussions and so forth. With the paradigm shift in the process of education, the students in learning should no longer have to sit still and listen to it. Interactive and inspirational are some of the learning characteristics expected in Regulation of National Education Minister Number 41 of 2007. Teachers should be heartened if any student raised their hand to ask or respond to his explanation. The teacher should be proud if a student asks that he (the student) be allowed to continue a work on the board.

Learning process is the interaction or reciprocal relationship between students with teachers and among fellow students in the learning process. The understandings of interaction contain elements of mutual give and receive. In the interaction of teaching and learning are characterized by a number of elements: (a) Objectives to be achieved, (b) students, teachers and other learning resources, (c) learning materials or materials; and (d) methods used to create teaching and learning situations. The essence of learning is a process of changing attitudes, behaviors, and values after interaction with learning resources. Learning resources other than the teacher can be a book, environment, information technology and

communication or fellow learners (fellow students). Thus, the task of teachers in the process of learning in the classroom is to create situations that can stimulate students to learn. Learning does not have to be a process of transforming knowledge from teachers to students.

In the process of teaching, teachers are in charge of creating a fun and conducive learning atmosphere. With certain techniques the teacher must be able to condition the students in an active situation to construct their own knowledge, providing sufficient space for initiative, creativity, and independence according to the talents, interests, and physical and psychological development of learners.

Another teacher's job is to uncover what the student has and with his reasoning can ask precisely at the right time so that students are able to build their knowledge through reasoning based on the initial knowledge that the student has. Even the right answer is not always the ultimate goal. The main thing is how students can reinforce reasoning and believe in the truth of the thought process that will certainly lead to the right answer. This is consistent with a thoroughly principled assessment, an assessment that includes learning processes and outcomes, which gradually reflect behavioral changes.

Teachers also need to give the opportunity to some students to model, ie to show in front of the class what students have mastered after going through the learning process to teachers and classmates.

If the concept of the material studied is considered adequate, then in the process of continuing the students should be given the opportunity to apply the things previously learned in the form of exercise questions as well as the use and development of further reasoning.

According to As'ari (2000), the expected behavior of mathematics learning should be as follows: (a) the giving of information, instructions and questions by teachers should be only about 10 to 30% and the rest coming from students, (b) students seeking information, (c) students take more initiative, (d) students ask questions, (e) students participate in the process of planning, implementation and evaluation of learning, and (f) there is self-assessment and peer assessment. The application of the things learned in the second stage, the training phase as well as the use and development of further reasoning. Thus qualified mathematics learning will occur if the learning process experienced by the students and the teaching process by the teacher is effective.

Results of Mathematics Learning

Learning outcomes are a common word for the expression of the outcomes of teaching and learning in schools. According to Arifin (2011) "learning outcomes are an indicator of changes that occur in individuals after experiencing the process of teaching and learning, which to express it using an assessment tool developed by teachers, such as evaluation tests. Although someone has learned to drive and then be able to drive a car, but his ability it is not usually called learning results. The success of a teaching and learning process is always measured by how much student learning achievement. This is in accordance with the opinion of Djamarah and Zain (2010) "the indication that a teaching-learning process is considered successful is: (a) the absorptive capacity of teaching materials to achieve high achievement, either individually or in groups, (b) The behaviors outlined in the objectives of special instructional instruction have been achieved by students. "

Learning outcomes can also be seen as a measure of how far the learning objectives have been achieved. Learning outcomes are identical to the acquisition of learning outcomes that refer to the mastery of learners or learning objectives that have been established. Harahap (1982) states that in general the results of learning can be interpreted as a result of work that

has been achieved with effort or obtained by the way of work ductility that can be measured by a measuring instrument called a test. According to Sudjana (2000) the learning outcomes are reflecting the objectives at a certain level achieved by the students expressed by numbers or letters. Both of these opinions give the conclusion that to obtain student learning outcomes required a measuring device called the test, while the measurement results can be expressed in letters or numbers. Thus, the result of student learning is none other than the value of students' ability after evaluation is given as the embodiment of the effort that has been done during the learning process takes place.

Learning outcomes is obtained by learners in the learning process appear in the form of behavioral changes. The greater the effort to create learning conditions, the higher the results of the learning process. Learning outcomes are not only something of a quality or quantity that learners have to have in a certain period of time, but can also be a process or way that should be controlled learners throughout the learning activities. Thus it can be said that the results of learning can be shaped a product such as knowledge, attitude, score (value), and can also form the ability that must be possessed learners in managing the product.

According Dimyati and Mudjiono (2006), learning outcomes are things that can be viewed from two sides of the student side and from the teacher side. From the student side, learning outcomes are a better level of mental development when compared to before learning. The level of mental development is manifested in the types of cognitive, affective, and psychomotor domains. While from the side of teachers, learning outcomes is an indicator of achievement of learning objectives when the completion of the learning process for a particular topic. Based on Bloom's taxonomic theory (Bloom, 1982) learning outcomes in the framework of learning is achieved through three categories of domains, namely: cognitive, affective, and psychomotor. The details are as follows:

- a. Cognitive domain: regarding intellectual learning outcomes consisting of six aspects: memory, understanding, application, analysis, evaluation, creation.
- b. Affective sphere: with respect to attitudes and values. Affective domain includes five levels of ability to accept, answer or react, assess organization and characterize with a value or value complex.
- c. Psychomotor domains: include motor skills, manipulation of objects, neuromuscular coordination (linking, observing).

In the article on <http://gurupembaharu.com/home/?p=186> (Downloaded at March, 31st 2011) is stated that each category in the Bloom's Taxonomy Revision consists of subcategories that have keywords in the form of words associated with that category. The key words are as unraveled below

- a. Remember: sorting, explaining, identifying, naming, placing, repeating, rediscovering etc.
- b. Understand: interpreting, summarizing, classifying, comparing, explaining, disclosing etc.
- c. Implement: executing, using, running, performing, practicing, selecting, composing, starting, finishing, detecting etc.
- d. Analyze: describing, comparing, organizing, reordering, changing structure, making up, composing outline, integrating, differentiating, equating, etc.
- e. Evaluate: composing hypotheses, criticizing, predicting, judging, testing, justifying, blaming, etc.
- f. Creative: designing, constructing, planning, producing, finding, updating, refining, strengthening, beautifying, composing, etc.

In the practice of educational evaluation, these categories may also be called measured and respectively measured areas with C1, C2, C3, C4, C5, and C6. In various aspects and after going through revisions, Bloom's taxonomy still describes a process of learning, the way students scrutinize information so that it can be utilized in everyday life. Some of the principles in it are:

- a. Before understanding a concept you must remember it first
- b. Before applying you must first understand it
- c. Before evaluating its impact you must be measured or assessed
- d. Before creating, you must remember, understand, apply, analyze and evaluate, and update.

The phasing out of thinking like that can get a rebuttal from some people. The reason is that, in some types of activities, not all such stages are required. For example, in creating something does not have to go through it. It goes back to individual creativity. The learning process can be started from any stage. However, the phasing model is actually attached to each learning process in an integrated manner.

Some people also refute the division of such thinking because in reality students should think holistically. When the ability is separated then the student can lose his ability to reunite the components that have been separated. The model of creating a new product or completing a particular project is better at providing an integrated challenge that encourages students to think critically.

In a written test at school, the type of cognitive learning outcomes is more dominant than affective and psychomotor because it is more prominent, but psychomotor and affective learning outcomes should also be part of the assessment results in the learning process in school. The learning outcomes of the cognitive domain are generally obtained by the test technique, while the affective and psychomotor learning results are generally obtained through observation.

The Inquiry Approach

Gulo (2002) states that inquiry not only develops capabilities and intellectuals but all the potential that exists including emotional development and inquiry skills is a process that starts from formulating problems, hypotheses, collecting data, analyzing data and making conclusions. Further Sund (in *Suryosubroto, 2002*) argues that: "Inquiry is an extension of the discovery process that is used more deeply. This means that inquiry contains higher level mental processes such as formulating problems, collecting data, analyzing data, drawing conclusions and so on."

Learning with an inquiry approach focused on the problem process with the aim of training students to have sensitivity to a problem and to stimulate thinking power in order to seek and find a scientific knowledge.

Hamalik (2008) states: "Teaching based on inquiry is a student-centered strategy in which the student group is inquiry into an issue or seeking answers to the question content through a clearly defined and structurally outlined procedure".

So in general it can be concluded that the understanding of inquiry learning strategy is a series of teaching activities involves maximally all the students' ability to search and investigate in a systematic, critical, analysis so that it can formulate its own invention by using problem solving technique. Inquiry activity is a cycle. The cycle itself is from the steps as follows:

1. Observation
2. Questioning
3. Filing allegations (hypothesis)
4. Data collection
5. Conclusion

This inquiry gives students the opportunity to learn to develop their intellectual potential in the fabric of their own arrangement to find something. Students are encouraged to actively seek answers to the problems they face and draw their own conclusions through critical, logical and systematic thinking processes. Students are no longer passive, accepting and memorizing the teachings given by teachers or derived from textbooks alone.

To prepare for this approach, the role of teachers is crucial. Teachers no longer play the role of informers, even if they are indispensable. The role of teachers in creating inquiry conditions is as follows:

- a. Motivator, a member of the stimulus so that students are active and passionate in thinking.
- b. Facilitator, who shows the way out if there are obstacles in the process of thinking students.
- c. His role is to awaken the students from the mistakes they make and give confidence to themselves.
- d. Administrators, who are responsible for all activities in the classroom.
- e. Influence, which leads the way students thinking activities on the expected goals.
- f. Manager, who processes learning resources, time, class organization.
- g. Rewarder, who rewards the achievements achieved in order to increase the spirit of the students.

To stimulate students' thinking activities, it is necessary to note what is known and how students think. Only in this way can the students' thinking ability in the inquiry process be developed. In order for teachers to perform their roles effectively then the introduction of students' skills is necessary, especially the way of thinking, the way they respond, and so on. In this inquiry strategy, one of the most preferred techniques is questioning techniques can develop students' thinking skills and motivate them to achieve learning objectives.

There is no one good teaching approach for all the lessons and effective teaching and learning strategies of each element involved in the teaching process is factual. Every approach has its limitations. So also the approach of inquiry must have weakness and strength. The advantages of inquiry approach are as follows:

- a. Develop students' skills to be able to solve problems and make decisions objectively and independently.
- b. Fostering the development of curiosity (want to know more) and the way of objective thinking, independent, critical, logical, analytical, both individually and in groups.
- c. Can form and develop a "cell-concept" in students, so that students can understand the basic concepts and ideas better.
- d. Assist in using memories and transfers to situations in the new learning process.
- e. Situation of teaching and learning process becomes more merngsang.
- f. Can develop talents or inividu skills.
- g. Member freedom to students to learn by themselves.
- h. Can give students sufficient time so as to assimilate and accommodate information.

- i. In the learning process students need time to use their brain's ability to think and gain understanding of concepts, principles and techniques to investigate problems.

While the weaknesses of the method inquiry are as follows:

- a. This method is based on the assumption that there is a certain mind readiness to learn. For students who are less intelligent, will have difficulty doing abstraction or thinking reveal the relationship between written and oral concepts, so in turn cause frustration.
- b. Inefficient to teach a large number of students (large classes can cause commotion).
- c. It takes a long time to help them discover theories or break other problems (the course is a bit slow).
- d. The expectations contained in this method are discouraged if faced by students or teachers who have been accustomed to the old way.
- e. For skill and emotion as a whole this method is less attention.

The Expository Approach

Basically the expository approach is identified as lecture method. Where the learning process that takes place always sourced from teachers, and overall teaching and learning activities are driven by teachers. For example the teacher prepares the material to be taught from home in the form of a lesson plan and then submits it in its entirety in the classroom. Learners calmly listen and pay attention and try to understand all the information conveyed by the teacher, usually this method is not separated and run from the existing theories in textbooks or what is written by the teacher.

Sanjaya (2008) states: "Expository learning strategy is a strategy that emphasizes the process of verbal material delivery from a teacher to a group of students with the intention that students can master the subject matter optimally".

Gulo^[11] says: "In pure expository strategies, all stages are done by the teacher, formulating the problem of teacher, the hypothesizing of teacher and formulating the conclusion of teacher".

Outline, the steps taken on expository methods include:

- a. Prepare, teachers prepare complete teaching materials in a systematic rapid.
- b. Apperception, the teacher asks or gives a short description to mobilize students' attention to the material to be taught.
- c. The percentage, the teacher presents the teaching materials from the existing textbook or what has been written by the teacher himself.
- d. Resitation, the teacher asks and the student answers according to the taught material or the student is told to repeat back with his own words (recitation) about the subject matter that has been studied orally maupaun in writing.

As for the goodness of this expository method as follows:

- a. Information can be submitted as much as possible.
- b. Can be applied to students who number a lot or require a large space.
- c. Learning materials can be given sequentially.
- d. The contents of the curriculum can be completed according to schedule.
- e. Teachers can emphasize the things that are important to learn

RESEARCH METHOD

This study is to compare the students' learning outcomes in quadratic equations between the inquiry approach and expository approach in SMA Negeri 7 Medan. To compare the results of study referred to the researcher must change the characteristics of research subjects by implementing quadratic equation learning in two groups of students. One group used the inquiry approach and another group using the expository approach.

Generally, student learning outcomes do not depend solely on the learning process that teachers do in the classroom. Student learning outcomes may also be influenced by basic knowledge, intelligence, out-of-school activities and parental motivation. In this study, researchers are only able to control the student's ability before the implementation of learning and during the implementation of learning in the classroom. To control the equality of students' initial ability will be pretested. Furthermore, students who were included as data sources were just the same pair of pretest scores from both groups of students. Other things that affect student learning outcomes beyond the teacher / researcher's control may occur so for that it is assumed to be the same. Thus, although this study is essentially experimental, it is not a purely experimental, but quasi experiment, which means that experimental results may be influenced by factors outside the control of the researcher.

The procedures taken in this research are:

- a. Determining two groups of students of class X SMA Negeri 7 Medan as the object of treatment.
- b. Defining two classes as a learning subject.
- c. Conducting pretest in both classes of study subjects
- d. Implementing quadratic equation learning using inquiry approach in one class and carry out the learning of quadratic equation using expository approach in one other class.
- e. Carrying out the final test on both classes.
- f. Analyzing the final test results to obtain conclusions.

Information obtained from the Head of Administration, in the academic year 2016-2017, SMA Negeri 7 Medan cared for 297 students of class X scattered in seven parallel classes. Considering that there is no special treatment in the distribution of the students in these seven classes, the seven classes have the right to be a research sample. With the draw was obtained class X-5 into a class with the treatment of quadratic equation learning using inquiry approach, while class X-2 becomes a class with the treatment of quadratic equation learning using expository approach.

Research Instruments

The data needed in this study is the result of student learning in quadratic equation which learning using inquiry approach and student learning outcomes in quadratic equation learning using expository approach. The learning outcomes are characterized by the score of the students' acquisition on the final test after the presentation of the material of the quadratic equation is completed. Thus, the instrument in this study is a test. Considering that the matter of quadratic equations has a relatively large variety of questions, the test used is a multiple choice with five options. The subject matter is adapted to the learning objectives and the subject matter of the quadratic equation. The test question used refers to the teacher and student handbooks, the final exam of the semester as well as the national exam.

The number of items in this test is 15, according to the authors' estimates based on the answers to the questions, 4 items with easy difficulty, 7 items with moderate difficulty and 4 items with difficult difficulty. In an effort to quantify the student's answer, each item

answered correctly is given a score of 1, whereas the item item is answered incorrectly given a score of 0. Thus the ideal score of this test is 15. The estimated test time is 30 minutes, excluding the direction and collection of the sheet Answer.

The research data were collected as follows:

- a. Disseminating the test to all students of each class.
- b. Checking at once gives a score of each sheet of student answers based on the weight that has been determined.
- c. Presenting the test scores of students who become samples in the form of frequency distribution tables without class intervals.

RESEARCH RESULT

After the subject, teachers implement the study of quadratic equations using inquiry approach and expository approaches in the classes that become the group of research samples in accordance with the guidance of the researcher, then as the last stage of learning as well as the effort to collect the data required in this study also carried out the final test.

In the learning class using inquiry approach, the implementation of the test was followed by 37 students while in the learning class using expository approach, the implementation of the test was followed by 39 students. Based on pre-test and post-test results, there were 32 pairs of the same score. This is the reason for stating that the size of each sample of this study was 32.

After applying the correction of answer sheet, thus it was obtained 2 groups of data, they were: (1) students' score in quadratic equation test which in the learning using inquiry approach is defined as X_1 , and (2) students' score in quadratic equation test which in the learning using expository approach is defined as X_2 .

Based on the calculation obtained the average count of student scores X class of academic year 2016-2017 SMA Negeri 7 Medan in quadratic equation which learning using inquiry approach is $(\bar{X}_1) = 10,41$; varians $(s_1^2) = 9,41$ and standard deviation $(s_1) = 3,068$, while the mean of class X student score of academic year 2016-2017 SMA Negeri 7 Medan in quadratic equation whose learning using expository approach is $(\bar{X}_2) = 9,78$; varians $(s_2^2) = 8,31$ and standard deviation $(s_2) = 2,882$.

The mathematical view states that there is a difference in the average class score of students in the class X of the academic year 2016-2017 of SMA Negeri 7 Medan in the quadratic equation between the learning using inquiry approach and expository approach $10,41 - 9,78 = 0,63$; Which in this case the learning results using inquiry methods are higher than those using the expository method. This difference is small, and whether this means according to statistics still to be examined by testing the hypothesis.

Lilliefors technique normality test showed that group of X grade student data score of school year 2016-2017 SMA Negeri 7 Medan in quadratic equation whose learning using inquiry approach and the learning using expository approach came from normal distributed population. This means both representative sample groups. The homogeneity test of variance also shows that the variance of both groups of data is equivalent. Thus the conclusions of this study can be generalized to the population.

Through the test the difference in the average calculated values obtained $t = 0,0529$. From the list of percentile values for the Student's distribution with a significant level of $\alpha = 0,05$ which means 95% confidence level and degrees of freedom $(df) = (32 + 32) - 2 = 62$ critical

price was obtained $t_{(0,95;62)} = 1,67$; it turns out that $t_{\text{count}} < t_{(0,95;62)}$, then enough reason for the researcher to declare no difference of average count of student grade X grade of academic year 2016-2017 SMA Negeri 7 Medan in quadratic equation between the learning using inquiry approach and whose learning uses an expository approach.

CONCLUSION

Although mathematically there is difference of mean score count student of class X year of academic year 2016-2017 SMA Negeri 7 Medan in quadratic equation between the learning using approach of inquiry and the learning using expository approach 0,67, but according to decision of statistic of difference is not mean. If the result of student study of SMA Negeri 7 Medan in quadratic equation is depicted by the test score, it can be concluded that *there is no difference of learning result of SMA Negeri 7 Medan students in quadratic equation between the learning using inquiry approach inquiry and expository approach.*

Theoretically, each approach of both inquiry and the expository approach have advantages and disadvantages. Viewed from the interaction between students and teachers in learning, then with inquiry approach is more likely to enable students when compared with expository approach. However, active students do not mean the direction of the learning process will reach the target, because the liveliness of the students is only as a reaction of the teacher often makes the question to the students. In learning with expository approach, although students are less active respond to teacher explanation, but the flexibility of teachers to explain the subject matter can actually provide a strong understanding in students. Learning with both inquiry and expository approaches is supported by the provision of training and homework. Precisely it may be more to provide the strengthening of student skills in answering final test questions.

Another thing that makes it impossible to see the difference between the two treatments is the timing of the execution of the test immediately after the learning process is completed. What will happen if the test is done one or two months later?

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