

## CHAPTER I INTRODUCTION

### 1.1. Background

In an ever-changing social situation, ideally oriented education is not only the past and present, but it should be a gradual process and try to anticipate the future and thinking about what the students will face in the future. Eggen and Kauchack (1993:1), that a good education is education that not only prepares students for a profession or occupation, but to solve problems encountered in everyday life.

Education is a system that is universal, occurring in the lives of people around the world that aims to enhance the dignity of both the man himself or his people. This is in line with the national education goals stated in the Law of the Republic of Indonesia Number 20 Year 2003 (2003:5) namely:

“Pendidikan Nasional berfungsi mengembangkan kemampuan dan membentuk watak serta peradaban bangsa yang bermartabat dalam rangka mencerdaskan kehidupan bangsa bertujuan untuk berkembangnya potensi peserta didik agar menjadi manusia yang beriman dan bertakwa kepada Tuhan Yang Maha Esa, berakhlak mulia, sehat, berilmu, cakap, kreatif, mandiri, dan menjadi warga negara yang demokratis serta bertanggung jawab”.

Mathematics as a knowledge base which is closely related to everyday life and has an important role in improving the quality of education is good. Despite many efforts of government and educational institutions to improve the quality of education but the results are far from expected.

According to Cornelius in (Abdurrahman, 2003:253) argues that:

“Lima alasan untuk belajar matematika kerana matematika adalah (1) sarana yang jelas dan logika, (2) sebuah cara untuk memecahkan masalah dalam kehidupan sehari-hari, (3) sebuah cara untuk mengetahui pola suatu hubungan dan pengalaman, (4) sebuah cara untuk mengembangkan kretaitivas, (5) sebuah cara untuk meningkatkan kesadaran dari perkembangan budaya.”

Mathematics is universal knowledge that underlies the development of modern technology, has an important role in various disciplines in developing

human brainpower. The rapid development in the field of information and communication technology today is based on the development of mathematics in the field of number theory, algebra, analysis, theory of chance, geometry, and discrete mathematics. To capture and create the future of technology required a strong command of mathematics since childhood.

Cockroft (2003:253) argues that mathematics should be taught to students because:

"(1) is always used in all facets of life; (2) all fields of study require appropriate mathematical skills; (3) a means of communication that is strong, clear and concise; (4) can be used to present information in a variety of ways; (5) improve the ability to think logically, accuracy, and spatial awareness; (6) gives satisfaction to attempt to solve challenging problems."

So important is the role of mathematics as described above, we should be able to make math a fun subject and favored by students. However, can't be denied that the subject is still the subject of mathematics is considered difficult, tedious, and often poses difficulties in learning. These condition results, the low performance of students in solving mathematical tasks and students have difficulty in understanding mathematical concepts. This would create a large enough gap between what is expected from the study of mathematics with the fact that occurs in the classroom. On one hand, mathematics has an important role in everyday life, enhancing regular, logical thinking, systematic and creative. Competence is needed to improve the performance of students in solving mathematical tasks and facilitate students to understand mathematical concepts fledged attention in the world of education. This is in accordance with the opinion of Ernest in (Trianto 2007:5) that we can see that mathematics has always been a concern and highlights from various parties at the end of the lesson. This is due to the low yields tending to learn mathematics students.

According Ornstein and Levine (1989:24) the results of student learning in math is the result of the activity of learning mathematics in the form of knowledge as a result of the treatment or the learning of the student. Or in other words, student achievement in mathematics is what students gained from learning math.

According Arends (1997:134)

"One of the main problems in learning in formal education (school) today is still low absorption of students in math. It seems the average student learning outcomes are always still very alarming. This achievement is certainly a result of the learning condition is still not touched the realm of conventional dimensions and the students themselves, namely how to actually learn it (learning to learn). In a sense that is more substantial, that the learning process so that today still gives dominance teachers and not provide access for students to develop independently through discovery and process of thinking".

Furthermore, berdasarkan hasil analisis dari rendahnya hasil belajar siswa, hal itu disebabkan oleh domonasi proses pembelajaran yang konvensional (Trianto, 2007:1). In this learning atmosphere tends to teacher-centered classroom so that students become passive. Methods that teachers had applied in the classroom received criticism from President Susilo Bambang Yudhoyono quoted in (Harahap, 2009:10) who said:

“coba lihat, sejak TK, SD, SMP, dan SMA, metodenya jangan hanya guru yang aktif, sementara siswanya pasif, dan sekedar mengejar nilai rapor. Kalau tujuannya cuma nilai rapor, anak-anak kita tidak akan kreatif. Seharusnya pendidikan kita bukan menghasilkan *job seeker* (pencari kerja), tetapi menghasilkan *job creator* (pencipta lapangan kerja)”.

This is supported by United State Agency International (USAID, 2009:1) who says learning in school should not be directed to just know, remember or understand knowledge and science. Correspondingly, according to Ornstein and Levine (1989:11) there is a tendency of most teachers only use the lecture method, so that the students become passive, not creative, and quickly saturated. Likewise in (Ekosiswoyo, 2006:1) disana adalah pengaruh proses penyampaian materi secara instruksi dari guru ke siswa secara satu arah siswa hanya sebagai objek pembelajaran. In the process of mathematics learning, teaching aids and other learning resources are very supportive teaching and learning process in class. This affects the achievement of students after the students get the material given by the teacher. Teachers act as informatory, organizer, motivator, director, initiator, transmitters, facilitators, mediators, and evaluators. Learning does not just get

from the teacher, but learning can also be found from the self and the environment. It should not be centered focus on teacher learning (teacher-centered), where students just accept anything the teacher without going through activity and meaningful student participation, but the focus of learning centered on student activities facilitated and assisted by the teacher. So that students get a good achievement as expected. To obtain good learning results, students are expected to complete your assignments and understand mathematical concepts to learn math. But the fact that the low performance of students in the resolution of the mathematical tasks and the students have difficulty in understanding the concepts. It is seen from the recapitulation of the study is the average percentage value of final exams before held remedial mathematics courses at SMP N 1 Tanjung Morawa below:

**Table 1.1 Recapitulation Student Achievement Subject Mathematics Class VIII SMP Negeri 1 Tanjung Morawa in Odd Semester 2011/2012 & Even Semester 2012/2013**

KKM	Odd Semester 2011/2012		Even Semester 2012/2013	
	Total	% Completed	Total	% Completed
$\geq 7.00$	31	40.78%	29	38.15%
$< 7.00$	45	59.22%	47	61.85%
Total	76	100%	76	100%

From Tabel.1 odd semester 2011/2012 academic year that the 76 students (2 classes) there are only 31 students who achieve consistency study 40.78% and the percentage of students who do not achieve the consistency study of 45 students with a percentage of 59.22%. Whereas in semester academic year came true 2012/2013 of 76 students there are 29 students who achieve consistency study 38.15% and the percentage of students who do not achieve the consistency study of 47 people with a percentage of 61.85%. Under such circumstances the teacher should find the right way to improvements in the learning process. One of the steps that can be reached by teachers in an effort to better understand the students on what they have learned thus enhancing students' learning results among others

by providing a variety of learning strategies and providing motivation for students to learn better.

To overcome the problem of low mathematics achievement, teachers need to know the achievement and the learning progress of students who have previously obtained, for example from another class, before entering the classroom now. The things you need to know it, is such as mastery learning, study skills, and work. The introduction in such matters is important for teachers, by teachers because in this introduction can (1) help/diagnose student learning difficulties, (2) can predict outcomes and further learning progress (in subsequent classes), (3) despite these results can be different and vary with respect to the state of motivation, maturity, and social adjustment.

By existence is expected by structural practice approach is improving student learning outcomes better, one of the subject at the straight-line equation. Student less attention to the materials that explained by the teacher and have not been able to understand the concepts of matter described by the teacher. It is also found in students on SMP Negeri 1 Tanjung Morawa. Then, the less students understand how to solve it. This statement by researcher also support direct result of interview with mathematics teacher in SMP Negeri 1 Tanjung Morawa (Mom Duena) 9 September 2014 in SMP Negeri 1 Tanjung Morawa stated that:

"siswa mendapatkan nilai yang rendah dalam penyelesaian tugas-tugas matematika, hal ini disebabkan oleh siswa mengalami kesulitan dalam memahami konsep-konsep. Selain itu guru belum memahami penguasaan dalam manajemen pembelajaran karena focus pembelajaran terpusat pada guru saja (teacher-centered), dan kurangnya saran dan media pembelajaran yang dibutuhkan siswa."

Teacher stated that the students have problems in learning the topic on a straight-line equation of which are already entered on a higher level items, namely its application in daily life. The material is a continuation of the material at the material they have learned about coordinate system and function. However, as Mentioned Earlier, caused the understanding of concepts coordinate system and function is still lack, so the student will into this topic is trouble. Mom Duena also teach mathematics in SMP Negeri 1 Tanjung Morawa express that about

learning outcomes of students is less, it is caused only the students with high-level thinking and active study using the achievement better .

From the interview above, the low student achievement in math, among others, caused by: (1) the poor performance of students in resolving academic tasks, (2) students have difficulty in understanding the concepts, (3) lack of control of the teacher in learning management, (4) focus centered on teacher learning (teacher-centered), where students just accept what is given teacher without going through activity and meaningful student participation, and (5) lack of advice and learning media.

To overcome these problems the teacher as a lecturer should be able to choose an effective learning approach to teaching and learning success. Teaching and approach contextual or Contextual Teaching and learning (CTL) is a concept which helps teachers to link the content of mathematics to real world situations and motivates students to make connections between knowledge and applicability in their lives as family members, citizens, and labor (Parnell, 2001:101). The contextual teaching and learning approach which learning in the school is related real situation. Then, the result of student's achievement is accepted and benefit if the students leave it the school. By Contextual teaching and learning is related in real situation as learning sources or material application. Contextual teaching and learning approach helps students gain a better achievement, also helps teachers improve student achievement.

Based on these descriptions, the authors are interested in doing research on:  
**“The Difference of Achievement Between the Students taught by Contextual Teaching and Learning (CTL) and Direct Instruction in Mathematics Grade VIII of SMP N 1 Tanjung Morawa Academic Year of 2013/2014”**

## **1.2. Problem Identification**

Based on the above background can be seen the problem: “How the Difference of Achievement between the students taught by Contextual Teaching and Learning (CTL) and Direct Instruction in Mathematics grade VIII of SMP N 1 Tanjung Morawa Academic year of 2013/2014”.

### **1.3. Problem Limitation**

The problem limitation in this research is The Difference of Achievement between the Students taught by Contextual Teaching and Learning (CTL) and Direct Instruction in Mathematics Grade VIII of SMPN 1 Tanjung Morawa Academic Year 2013/2014

### **1.4. Problem Formulation**

Problem formulation in this research is: "Is there the difference of Achievement between the Students taught by Contextual Teaching and Learning (CTL) and Direct Instruction in Mathematics Grade VIII of SMPN 1 Tanjung Morawa Academic Year 2013/2014?"

### **1.5. Research Objective**

Research objective in this research are: To know whether the Difference of Achievement between the Students taught by Contextual Teaching and Learning (CTL) and Direct Instruction in Mathematics Grade VIII SMPN 1 Tanjung Morawa Academic Year 2013/2014

### **1.6. Research Benefit**

The expected benefits of this research are:

1. As an input for to the teachers about the differences in students' achievement,
2. As an input to principals in guidance to teachers about the differences in students' achievement that are taught in a contextual approach to the direct instruction approach,
3. As an input for to the Department of Education, Youth, and Sports of Deli Serdang regency in coaching / training for teachers, and
4. As the development of the repertoire of teaching science in the field of mathematics, in particular the application of achievement of students in a contextual learning approach and direct instruction approaches.

### 1.7. Operational Definitions

To avoid differences of meaning clarity about important terms contained in this research, it will be noted of operational definition namely:

1. Achievement is the results that have been achieved by students in the learning process and satisfy maximally expressed with numbers or words.
2. Mathematics achievement is the level of student mastery of the material is achieved in following appropriate teaching and learning goals.
3. Contextual Teaching and Learning approach is a kind of instructional that helps students to understand the significance of the subject matter learned by relating the material to the context of their daily lives and help teachers relates instructional activities to subjects matter.
4. Direct Instruction is learning model that focuses on mastering concepts and also change the behavior of a deductive approach. Here the teacher plays an important role as a transmitter of information, so that a teacher should take advantage of existing facilities such as tape recorders, films, demonstrations, drawings and so on. The information presented can be knowledge of the nature of procedural and declarative knowledge to the shape of lectures, demonstrations, training or practice, and teamwork.