CHAPTER I
INTRODUCTION

1.1. Background

Bilingual teaching is a way of teaching where teaching process is held in two languages (Yasa and Suarcaya, 2009). Bilingual teaching has implemented in many countries in the world and one of them is Indonesia. In Indonesia, Bilingual teaching means as an approach that is used in a model class which became a prerequisite of Rintisan Sekolah Bertaraf Internasional (RSBI) or Sekolah Bertaraf Internasional (SBI). Sofa in Astika (2011) said the essential missions of SBI are to produce (a) the graduate of SBI that can continue their education at international level (b) can get the job opportunity in International institute or abroad and (c) can get the international medal International competition of science, mathematics, technology, art and sport. For reaching those missions, several subjects like mathematics, physics, chemistry, biology and economic are taught bilingually.

According to Depdiknas in Aryana *et. al* (2009) until the end of 2007, In Indonesia had been developed 299 RSBI. State University of Medan as a university of education also develop bilingual class which is aimed to prepare teacher for RSBI/SBI schools. There are seven RSBI schools that became training school of bilingual students of State University of Medan in 2011. One the seven schools above is SMA Negeri 1 Sidikalang. Researcher do closed-interview with teachers there and found that most of bilingual teacher still dareless to use English as the instructional language because they assumed that students will not understand the concept of the subject. However, the bilingual teaching in RSBI school can be done with transitional step. Darma in Astika (2011) state model of bilingual teaching that is suitable to be implemented in Indonesia is bilingual in gradual, where the use of English as the second language in learning and teaching language should be implemented gradually. In a first year the comparison of using Indonesian and English as the teaching and learning language is 25:75, and become 50:50 in the second year, and last become 75:25. So, the teacher can introduce new words in English to students gradually.

Biology is a typical of concept-understanding science. It is prooved with all the standard competencies that are stated in standard of content in Rule of Indonesian Ministry of Education number 22 in 2006. In eleventh grade especially, there are three standard competencies that should be mastery by students. One of the concepts which are found in those is cell. Hamidah (2012: 61) in her research about the analysis of difficult concept in biology found that cell is the one of the difficult concept to be taught instead of genetic and metabolism. Cell concept is described into three points of basic competences while another concept that is taught in 11^{th} grade only described in one basic competency.

Biology teacher in SMA Negeri 1 Sidikalang commonly only use test as assessment for getting data of students' concept mastery. Wulan (2007) state that test as an assessment only concern about data from students result but it can not explained the process of how students get the scores. While, there are so many alternative assessment in biology teaching that can express the dimension of process of how students get the scores. One of those assessments are Self-Assessment.

Depdiknas (2007) states that self-assessment is an assessment for students to assess themselves about how the process they understand the topic and the level of achievement competencies learned. Self-assessment not only expresses what students feel when taught by teacher but also shows the students assumption about their understanding of biology. Westlake and Zitko (2010), in their research, also found that teacher who has implemented self-assessment in their class stated that the using of self assessment is one of the best ways to engage students thinking deeply about the subject.

Ningrum (2010) did the research about the using of self assessment to express students' concept mastery of cell in regular school, and found that there is 58,12% students stated themselves understand in self assessment sheet and they get average point 67 that is categorized as good. It means that the using of self assessment give the positive response to express students concept mastery. The main key that makes this study different with the previous research is this research

is held in RSBI School that will be taught bilingually. Self-assessment that is used in this research not only use to express students' concept mastery of cell, but also how if the cells concept taught in bilingual teaching.

1.2. Problem Identification

From the background that described above, the problem that is identified are:

a. Biology teachers in RSBI school have not used English in teaching learning process
b. Teacher assumes that teaching students with English will make students did not get the concept
c. Cell concept is one of the difficult concept
d. Biology teacher in SMA Negeri 1 Sidikalang have not used self-assessment as students assessment yet.

1.3. Research Scope

The scope of this research is cell concept mastery of students from class XI science plus 1 of SMA Negeri 1 Sidikalang which is expressed by students self assessment. The concept mastery of cell in this research refers to students' mastery only in cognitive side.

1.4. Research Questions

From the problem that is identified, researcher formulates research questions as mentioned below:

a. Does the using of self assessment express the students' concept mastery of cell in bilingual learning?
b. Is it right the using of English as instructional language make the students did not get the concept of cell?

1.5. Objectives

The objectives of this study are:

a. To express the students' mastery concept of cell this is taught bilingually by using students' self assessment.
b. To examine the assumption about the using of English in biology learning of Biology teacher in SMA Negeri Sidikalang that the using of English as Instructional language will make students did not get the concept of cell.

1.6. Significant

a. Theoretical Significant:
   This study will add the repertoire of science of education and can be a referrence for study about the using of self assessment in bilingual teaching.
b. Practical Significant:
   - For school : this research will give an insight to school to develop and implement the bilingual teaching.
   - For teacher : this research can be a guide for students formative assessment in biology bilingual teaching to express how far students get the concept as they though and also can be a guide for teacher to get the difficulty of students to get the concept in order to increase students achievement in learning biology.
   - For student : Motivate learner to able to read and interpret knowledge that has been gained from bilingual learning and can confirm their mastery concepts themselves through self-assessment.

1.7. Operational Definition

a. *Self-assessment* is an assessment for students to assess themselves that related into process and the level of achievement competencies learned. Self assessment will be given to students at the end of the class to express the student' mastery concept of cell. It composed by filling table and essay for

students. The instrument is compiled by teacher and develops it from Standar Isi from Depdiknas.

b. *Bilingual Teaching* is a prerequisite of a RSBI where the teaching of biology subject is held by two languages they are mother tongue and English as a second language. Bilingual teaching that will be implemented in this study is a transitional bilingual method where English as the second language is used gradually. There will be four meetings. The first meeting will be held with 25% English as the instructional language and the 75% is in Indonesian. The second meeting, the using of English will increase become 50% and for the third and the last the using of English as instructional language will be 75%.
c. *Student's Concept Mastery* which in this research means the mastery of cell concepts about the main points that describe the whole cell topic. There are 15 concept points that represent the cell topics. The test of students' concept mastery will be given as a comparison to students' comprehension which is stated in self assessment sheet.