

## CHAPTER I

### INTRODUCTION

#### A. Research Background

English has been taught in many countries whether it is in EFL or ESL context to support living globally. As a global language, English uses to communicate in many specific terms among people around the world<sup>1</sup>. Preparing the condition, many English teachers teach English for specific purposes (ESP). ESP teaching is introduced since the second world war on 1945<sup>2</sup>.

Nowadays, ESP is developed intensively as the most prominent area in EFL context<sup>3</sup>. Indonesia is one of a country that implements ESP for EFL context. ESP is developed because it brings advantages for many sub-branches such as law, technology, economy, mathematics, etc. Some of the advantages of teaching ESP are: as a way to increase student's actualization in society knowledge<sup>4</sup> and to facilitate students to access scientific and technical literature

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<sup>1</sup> David Nunan, "The Impact Of English As A Global Language On Educational Policies And Practices In The Asia-Pacific Region", *TESOL Quarterly*, vol.37, no.4, 2003, 601, accessed: <http://www.finchpark.com>, on: 02-05-2014

<sup>2</sup> Tom Hutchinson – Alan Waters, *English for specific Purposes: A learner centered approach* (New York: Cambridge, Cambridge university press, 1998), 6, accessed: [www.tu-chemnitz.edu](http://www.tu-chemnitz.edu) , 28-2-2014.

<sup>3</sup> Yassamina HAICHA, "Teaching Reading for Specific Economic Purposes: Identifying Criteria for Text Selection", *English for Specific Purposes World*. Vol. 14, No.39, 2, 2013, accessed: [www.esp-world.info/Articles](http://www.esp-world.info/Articles) , on: 01-04-2014.

<sup>4</sup> Solzica Popovska and Danica Piršl, "The Role Of ESP In The Society's Value System", vol.1, no.1, 2013, 43 accessed: <http://espeap.junis.ni.ac.rs> , on: 24-03-2014

in a specific term<sup>5</sup>. Commonly, ESP is taught in vocational high school<sup>6</sup> and university<sup>7</sup> where students prepare to face a certain work field. Because English is an important aspect in work fields, so paying much attention to the development of teaching ESP is important.

Among the sub-branches of ESP, English for Mathematics is urgent to be developed. Nowadays, mathematics is more critical to school success than ever before<sup>8</sup>. Mathematics as basic knowledge needs to be considered before considering the other knowledge such as for science, social, and technology<sup>9</sup>. In 21<sup>st</sup> century, people need mathematics as fundamental key in every education level in order to prepare them in increasing productivity<sup>10</sup>. Knowing the importance of mathematics for many people around the world, many mathematics books are published in English. To Support students to access mathematics books which are published in English is one of the important function of teaching English for mathematics.

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<sup>5</sup> Mike Brunton, "an account of ESP-with possible future directions", English for academic purposes, vol.8, issue 3 (24), 2009, 2, accessed: [www.espworld.info](http://www.espworld.info), on: 04-06-2014

<sup>6</sup> Yi-Hsuan Gloria Lo, "ESP versus EGP: A case study of an ESP program for vocational high school students of Tourism", *Taiwan International ESP Journal*, vol.3, no.2, 71, 2012, accessed: <http://www.wto.org>, on: 04-03-2014.

<sup>7</sup> Vijay Bhatia, et.al, "ESP in the 21<sup>st</sup> Century: ESP Theory and Application Today", *Proceedings of the JACET 50th Commemorative International Convention*, 143, accessed: <http://www.antlab.sci.waseda.ac.jp>, on: 04-04-2014

<sup>8</sup> Sonoma County Office of Education, Helping Your Children to Learn and Enjoy Mathematics, 1, accessed: <http://www.scoe.org/files/math-at-home-english.pdf>, on: 24-04-2014.

<sup>9</sup> Sudrajat. "The Power of Mathematics for all Applications" *Peranan Matematika Dalam Perkembangan Ilmu Pengetahuan Dan Teknologi*. Januari 2008. (Accessed: [www.pustaka.upda.ac.id](http://www.pustaka.upda.ac.id) on: 17-04-2014)

<sup>10</sup> The Ministry of Education, Singapore, Primary Mathematics Teaching and Learning Syllabus, 2013, 1, accessed: <http://www.moe.edu.sg>, on: 02-05-2014

Whereas, learning mathematics through English is not easy to do. There are some problems faced by students when they learn mathematics through English. The first problem is mathematics` technical terms including homonyms and synonyms<sup>11</sup>. For example, the word to express “tambah” in Bahasa, has some similar meaning to add, plus, sum, etc. It needs deep understanding to decide the correct word for a certain context. The second problem is when translating words literally, without regarding to language context, the semantics sometimes lost<sup>12</sup>. Problems which are happened around the importance of learning mathematics through English is something important to be solved. Solving the problem can be as solution to maximize the teaching process.

To solve the problems, English for mathematics course must be well designed. Designing syllabus is a part to make the course to be well designed. It causes of syllabus is the key element of teaching<sup>13</sup>. Syllabus guides the teacher to conduct a course for a period of time to achieve the learning goal(s). Based on the preliminary studies conducting at Wednesday, 16<sup>th</sup> April 2014, Fikri Yanda, the lecture of English for mathematics at mathematics education department, Sunan Ampel State Islamic University, states that creating syllabus

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<sup>11</sup> THE DIGEST, Language in the mathematics classroom, NSW Institute of Teachers, 2010, 6, accessed: <http://www.trb.tas.gov.au> , on: 17-04-2014.

<sup>12</sup> Bill Jasper, et.al, *Teachers Guide to Teaching Mathematics for English Language Learners*, SHSU MELL Group, 2005, 6, accessed: <http://txcc.sedl.org> , on: 16-04-2014

<sup>13</sup> Maryam Sherkatolabbasi, Evaluation of ESP Teachers in Different Contexts of Iranian Universities, *International Journal of Applied Linguistics & English Literature*, Vol. 1 No. 2, 2012, 200, accessed: <http://www.atiner.gr>, on: 18-02-2014.

for teaching English for mathematics is quite difficult. It is because English for mathematics is new course in mathematics education department, so there isn't any example of the syllabus before.

Additionally, Kitao, et al state that in designing the course, especially for designing syllabus, something to be considered first is student's need<sup>14</sup>. It is supported by Wahyu Sundayana that ideally, syllabus is designed based on need analysis<sup>15</sup>. By analyzing student's need, the course designer can understand what and how the course should be conducted. However, the syllabus for teaching English for mathematics does not create by finding out the student needs as the previous step. Therefore, it may indicate that the syllabus does not cover the student needs yet.

There are many researches about need analysis in developing syllabus for teaching ESP, but this study focuses on English for mathematic related to academic purposes which is conducted at mathematics education department of Sunan Ampel state Islamic University. It is because English for mathematic is a new course in mathematics education department which creates the syllabus without finding out the student needs just like stated on the previous paragraph.

The Islamic background can be also the special factor considered by the course

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<sup>14</sup> L. Iftihaturrahmah., Undergraduate Program: "A Survey Of The Need Analysis Of Kejar Paket C Learner'S In Learning English" (Surabaya: state Islamic university sunan ampel surabaya, 2012)

<sup>15</sup> Wahyu Sundayana, Syllabus Design For Teaching English In The Context Of School-Level Curriculum Development (competence-based syllabus design), 12, accessed: <http://file.upi.edu> ,on: 10-03-2014

designer which differs the course to the other English for mathematics in other universities.

### **B. Research Question**

This study attempts to answer the following research questions:

1. What are the student needs in learning English for specific purposes at mathematics education department of Sunan Ampel State Islamic University?
2. Does the English syllabus at mathematics education department accommodate students need?

### **C. Objective Of The Study**

The study is designed to analyze syllabus of ESP teaching, especially English for mathematics, based on students` need analysis approach. If the syllabus is designed appropriately based on the student`s need, it can be a good resource for English education department students to design a relevance syllabus to teach ESP especially in English for mathematics. However, if the syllabus does not accommodate to the student`s need, the analysis can be a good tool to develop the syllabus in order to create a better course that matches to student needs.

### **D. Significance Of The Study**

1. For mathematics education students : the study can bridge student`s want and student`s need in order to maximize their potential to be success in their education in mathematics education department.

2. For English education department students : it can give an understanding that in this era, an English teacher does not only need to prepare to be an EGP teacher, but also for ESP teacher. Moreover, it can be a new focus area of research to be conducted.
3. For the lecture : the study can give the clear indicators to make an effective syllabus which is based on student`s need in learning English for mathematics by gathering information from student perspective.

#### **E. Scope And Limits Of The Study**

Because the issue of teaching ESP is too broad, to avoid misunderstanding during the research, this study has to limit the issue. There are some key terms that uses in this study need to be limited. Those key terms are:

##### **1. ESP**

Jordan cited in Soo Ruey Shing & Tam Shu Sim that Teaching ESP is divided into two categories, they are: English for Occupational Purposes (EOP) and English for Academic Purposes (EAP)<sup>16</sup>. EOP refers to how people use English in their work field<sup>17</sup>. However, EAP is concerned with researching and teaching the English needed by those who use the language

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<sup>16</sup> Soo Ruey Shing & Tam Shu Sim, "EAP Need Analysis in higher education: significance and future direction", *English for specific world*, issue 33, vol.11, 2011, 2, accessed: <http://www.esp-world.info>, on: 04-04-2014.

<sup>17</sup> Meredith Marra, "English for Academic Purposes", Brian Paltridge and Sue Starfield (Ed.). *The Handbook of English for Specific Purposes*, (Wiley-Blackwel: English language–Study and teaching, 2013 ), 182

to perform academic tasks<sup>18</sup>. This study focuses on EAP because it is taught at a tertiary level institution not in a professional work situation. The importance of English in university level cannot be separated academically, such as test, presentation, reading many literatures, etc. In the other point of view, ESP has many sub-branches, such as engineering, economy, art, etc. English for mathematics is chosen among the other sub branches because of some consideration states in background of the study.

## 2. Students

Based on Cambridge dictionary, student is a person who is learning at a college or university, or sometimes at a school. In this study, students are only people who learn English for mathematics at second semester of Mathematics education department of Sunan Ampel State Islamic University.

## 3. Syllabus

In this study, the term of syllabus is SAP (Satuan Acara Perkuliahan) which is used to teach English for mathematics in academic year 2014-2015.

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<sup>18</sup> Maggie Charles, "English for Academic Purposes", Brian Paltridge and Sue Starfield (Ed.). *The Handbook of English for Specific Purposes*, (Wiley-Blackwel: English language–Study and teaching, 2013 ), 147

#### 4. Need analysis

This study only finds out the learner needs among the other types of need analysis. The types of need analysis are<sup>19</sup>:

- a. Learner`s need, it covers some aspects are: necessity, lack, and wants.
- b. Targeted need, it covers psychological, attitudinal, and motivation.

### F. Definition Of The Key Term

#### 1. English for specific purposes (ESP)

Dudley-Evans and St. John cited on LO, GY defines ESP is viewed student`s need as the priority<sup>20</sup>. Furthermore, ESP is the area of inquiry and practice in the development of language programs for people who need a language to meet a predictable range of communicative needs<sup>21</sup>. On the other word, ESP involves teaching and learning the specific skill and language needed by particular learners for a particular purpose<sup>22</sup>. As the

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<sup>19</sup> Tom Hutchinson – Alan Waters, *English for specific Purposes: A learner centered approach* (New York: Cambridge, Cambridge university press, 1998), 53-70. Accessed: [www.tu-chemnitz.edu](http://www.tu-chemnitz.edu) , on: 28-2-2014.

<sup>20</sup> Yi-Hsuan Gloria Lo, “ESP versus EGP: A case study of an ESP program for vocational high school students of tourism”, *Taiwan International ESP Journal*. Vol.3No.2, 2012,71-100, Accessed on : [www.tespi.ntcu.edu](http://www.tespi.ntcu.edu) , on: 28-2-2014.

<sup>21</sup> Kevin Knight, et.al., *English for Specific Purposes: An Overview for Practitioners and Clients (Academic & Corporate, 2010)*,3, Accessed on: [www.community.tesol.org](http://www.community.tesol.org) , on: 28-02-2014

<sup>22</sup> Jeremy Day- Mark Krzanowski, *Teaching English for Specific Purposes: An Introduction*, (Cambridge: Cambridge press university, 2011),5, accessed on: <http://www.thecambridgetoolbox.org> , on: 24-03-2014,



conclusion, the term of English for specific purposes (ESP) in this study is as a part of English teaching which accommodates student`s need in a certain sub-branch. The sub-branch here is English for mathematics.

## 2. Need Analysis

Lawson cited in Cuti Astika that need analysis defines as something that is recognized<sup>23</sup>. Graves explains needs analysis as a systematic process of “gathering information about students’ needs and preferences, interpreting the information, and then making course decisions based on the interpretation in order to meet the needs”<sup>24</sup>. Furthermore, Robinson cited in Misizu Miyake and Tremarco, J that need analysis is an analysis aims to specify what students need to do through English. As the conclusion, need analysis here refers to a process to find out some aspects of student`s basic need in the process of learning English for mathematics.

## 3. Syllabus

Syllabus is a set of planning course for reference guidance which answers students question about the course at the first day of class<sup>25</sup>. In this study, syllabus is a form to guide the learning and teaching process consists of goal(s) of learning, materials, and assessment.

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<sup>23</sup> Custi Astika, “The Role of Need Analysis in English for Specific Purposes”, 2009, 6, accessed on: [www.journal.teflin.org](http://www.journal.teflin.org) , on: 28-02-2014.

<sup>24</sup> Flora Debora Floris, “Developing English for General Academic Purposes (EGAP) Course in an Indonesian University”, *English Department, Faculty of Letters, Petra Christian University*, Vol.10 No.1, 2008, 54, accessed: [www.kata.petra.ac.id](http://www.kata.petra.ac.id) , on: 13-03-2014.

<sup>25</sup> Preparing syllabus, the teaching center, Washington University in St.Louis, accessed on: 11-04-2014.