

## English for Specific Purposes: A Need Analysis at The Second Semester of Physics Education Students of IAIN Raden Intan Lampung in The Academic Year of 2015/2016

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**Abstract.** *The objectives of this study are: (1) to explore the problems faced by physics students in ESP class, and (2) to reveal the needs of physics students in ESP class. The study was conducted in IAIN Raden Intan Lampung from April to June 2016. The participants of the study were 50 students at the second semester of physics education students of IAIN Raden Intan Lampung, and 4 ESP lecturers who taught ESP for physic students in the academic year of 2015/2016. The data were in the form of qualitative data which are taken from the interview and the questionnaire. The data were about the problems which are usually faced by physics students during learning English and the students' needs and wants towards the ESP course in IAIN Raden Intan Lampung. The findings describe the students' need of ESP for physics students, the lecturers' view points on the practice of ESP instructions, and descriptions of problems commonly faced by ESP students in Physics Education of IAIN Raden Intan Lampung.*

**Keywords:** *ESP, Need Analysis, Physics Students*

### A. INTRODUCTION

In facing global competition, every individual should possess English skills which is considered as one of important skills in this globalization era. Based on higher education curriculum, English is regarded as one of general subjects which should be taught in every major. It means, English subject is given to all students in all study program in university level.

The question which then arise is “Are the materials given in English subject the same in every study program since it is considered that the students have different background and need of English?”. However, English subject which is taught in university level is expected to be more concerned on the students’ field of study, so that it can support the students’s own knowledge and abilities.

In some cases, the materials given in English subject in university level, especially in non-English study program, is sometimes irrelevant with the students’ background and need. This happened because of some reasons, such as the lacks of English teaching materials which is specified for certain purposes, and many available teaching materials are published by foreign country in which the level of difficulties is not really suitable with the students’ need in Indonesia.

From the phenomenon above, English for Specific Purposes (ESP) then becomes such an important part of English language teaching since it gives more specific features of English to certain learners. There are three main common reasons to the emergence of ESP according to Hutchinson. Those three reasons are (1) the expansion in scientific, technical, and economic activity on an international scale after world war II, (2) the revolution in linguistics which states that the language varies considerably, and in a number of different ways, from one context to another, (3) learners were seen to have different needs and interests, which would have an important influence on their motivation to learn and therefore on the effectiveness of their learning (Hutchinson and Waters, 1987:6-8). In other words, it is crucial to design a language teaching for certain learners with relevant contexts in order to gain effective and beneficial teaching and learning process. So it can be stated that the English course design for science students will somehow different with the economic students because they have different needs for learning English.

Since all decisions as to content and method in ESP should be based on the learners’ reason for learning (Hutchinson and Water, 1987), an ESP teacher or course

designer should gain the information about the condition of the learners by conducting need analysis. Need analysis will reveal the target need (what the learner needs to do in the target situation) and learning need (what the learner needs to do in order to learn). The materials designed for ESP class should be based on the need analysis, so that the objectives of the learning will be more specific and suitable with the students' background.

Based on the background of the problems above, the writer conducted the study entitled "English For Specific Purposes: A Language Need Analysis at the Physics Education Students of IAIN Raden Intan Lampung in the Academic Year of 2015/2016".

This study aims: (1) to explore the problems faced by physics students in ESP class, and (2) to reveal the needs of physics students in ESP class. However, the limitation of the problem in this study is the language need analysis at the physics education students of IAIN Raden Intan Lampung in the academic year of 2015/2016.

## **B. LITERATURE REVIEW**

### **1. Teaching English for Specific Purposes**

English for Specific Purposes is an ELT approach which is specified in certain purpose. According to Hutchinson and Waters (1987), ESP is an approach to language teaching in which all decisions as to content and method are based on the learners' reason for learning. The focus of ESP is to meet the students' need. ESP course are narrower in focus than ELT courses because they centre on analysis of learner's need (Basturkmen, 2010:3). Further, Basturkmen states that ESP views learners in terms of their work or study roles and that ESP courses focus on work- or study-related needs, not personal needs or general interest.

Teaching ESP then means facilitating the students to learn specific English in which the course is designed based on the students' need.

## 2. Need Analysis

Hutchinson and Water state the meaning of need in relation to language teaching as 'the ability to comprehend and/or produce the linguistic features of the target situation' (1987:54). According to Basturkmen (2010:17), need analysis is identifying the specific language and skills the group of language learners will need. Meanwhile, Hyland in Paltridge and Starfield (2013) state his definition of need analysis as follows:

Needs analysis refers to the techniques for collecting and assessing information relevant to course design: it is the means of establishing the how and what of a course. It is a continuous process, since we modify our teaching as we come to learn more about our students, and in this way it actually shades into evaluation – the means of establishing the effectiveness of a course. Needs is actually an umbrella term that embraces many aspects, incorporating learners' goals and backgrounds, their language proficiencies, their reasons for taking the course, their teaching and learning preferences, and the situations they will need to communicate in. Needs can involve what learners know, don't know or want to know, and can be collected and analyzed in a variety of ways.

There are two basic distinctions in need analysis, they are: target need (what the learner needs to do in the target situation) and learning need (what the learner needs to do in order to learn).

### a. Target Need

There are three components in target need, those are: necessities, lacks, and wants.

- 1) Necessities: what the learner has to know in order to function effectively in the target situation.
- 2) Lacks : what the learner haven't known.
- 3) Wants : the learner's view of the necessities of the target situation.

The analysis of target situation needs is in essence a matter of asking questions about the target situation and the attitudes towards that situation of the various participants in the learning process.

#### b. Learning Need

The knowledge and ability that the learner require in order to be able to perform to the required degree of competence in target situation. This information may be recorded in terms of language items, skills, strategies, subject knowledge, etc.

From the statements above, it can be concluded that need analysis is the techniques in identifying specific language feature and skills that the language learners need then it will be the base in designing a course. In this study, the writer conducted need analysis to know the students strengths and weaknesses of English proficiency, the students' attitude towards English, the language item, skills, and subject knowledge which the students need most for their present and future activities as a physicists.

### **3. Students' Problems in Learning English**

There are some common problems faced by the students in learning English proposed by Wilson. The problems are as follows:

#### 1. Grammar

English Grammar is complex, making it difficult to remember, master and use logically. Grammar is extremely important. Incorrect use of grammar can confuse the person someone is speaking to and even change the meaning of what he/she is communicating.

#### 2. Vocabulary

Vocabulary is often a challenge, particularly when it comes to verb variations and understanding which tense should be used in various situations. English has one of the biggest vocabularies of all languages, and it can be very confusing

for non-English speakers to master. Using vocabulary inaccurately is incredibly noticeable to anyone whose first language is English, though it doesn't often change the meaning of your text, it does weaken it.

### 3. Slang and colloquialism

With the English language having such an extensive vocabulary and complicated grammar, there is enough to teach students wanting to learn English, rarely are students exposed to the slang words used by English speakers in every day conversation. Sentences can be predominantly filled with slang words, so maintaining a conversation can be difficult for anyone who doesn't understand what they mean.

### 4. Pronunciation

Knowing how to pronounce words in English can be very difficult as it isn't always obvious. English speakers have been taught these from an early age, which is how they know not to pronounce the 'k' on 'knight', they are taught the subtleties in how to pronounce something to communicate the right message. Furthermore, depending on the first language of the English student, it can often be difficult to pronounce certain words properly, having not ever had to create that phonetic sound before

### 5. Variations in English

The variations in the different forms of English can often be difficult to understand. For example, the difference between using formal and informal language or the differences between spoken and written language. This leads to students writing words phonetically, i.e. how they would say it rather than how it's actually spelt, and using informal language, maybe even slang that they have picked up, in formal situations which may perhaps be viewed negatively.

## **C. METHOD**

This study used qualitative approach. It had two research questions, such as : (1) what are the problems faced by physics students in ESP class? and (2) What are the needs of physics students in ESP class?

### **1. The Participants**

The participants of this study were 40 students at the second semester of physics education of IAIN Raden Intan Lampung in the academic year of 2015/2016, and 4 ESP lecturers (1 female, and 3 males). The sample of the study were chosen randomly.

### **2. Instrument and Procedure**

The instruments used in this study were questionnaires and interview. Questionnaires and interviews are two commonly used instruments for needs analysis.

According to Lowe (2009), there are some aspects of need analysis, such as, Target situation Analysis, Present Situation Analysis, Deficiency Analysis, Strategy Analysis, Constraint Analysis, Pedagogic Need Analysis, and Subjective Need Analysis. In this study, the questionnaire contained three of those aspects, such as Target situation Analysis, Present Situation Analysis, and Deficiency Analysis.

The interview were conducted to the ESP lecturers, and some students in order to reveal more information about the problems faced during learning ESP and the students need toward ESP class.

### **3. Data Collection**

Collecting the data is important thing in a research because the result of the study is based on what data reveal. In collecting the data of the study, the writer uses two kinds of data collection, those are primary data collection and secondary data collection. Primary data is the data which is obtained directly from the students and

the lecturers, by using questionnaire and interview, while secondary data is data obtained by literature study. The data of the study were obtained on April – June 2016.

#### **D. FINDINGS AND DISCUSSIONS**

The results of the questionnaire are divided into two parts. The first part is about the students' personal information, and the second part presents the data about the students' need and wants towards the ESP course.

##### **1. Students' Personal Information**

The age of physics students who join english class is in the range of 17 until 19 years old. The result of the questionnaire showed that 60% of the students have very high motivation and 40% students have high motivation in learning english. None of the students has low motivation. Most of the students said that English is important for their future job (72,5%), 17,5% students said very important, and and 10% said unimportant. From the data, it can be concluded that the second semester of physics students of IAIN Raden Intan Lampung in the academic year of 2015/2016 have high and very high motivation in learning English. Some of the students learn English out of class by taking English course. English has an important role for their future job.

The students' personal information and their English proficiency are summarized on table 1 and table 2 below.

Table 1. Students Attitude towards English

| <b>Concern</b>               | <b>Very Easy</b> | <b>Easy</b> | <b>Difficult</b> | <b>Very Difficult</b> |
|------------------------------|------------------|-------------|------------------|-----------------------|
| Mastering English vocabulary | 7,5%             | 47%         | 45%              | 0%                    |
| Reading numeric symbols      | 5%               | 57,5%       | 37,5%            | 0%                    |



|                                      |      |       |     |      |
|--------------------------------------|------|-------|-----|------|
| Pronouncing English Word             | 2,5% | 60%   | 35% | 2,5% |
| Writing Correct Sentences in English | 0%   | 47,5% | 50% | 2,5% |

The table above shows the students attitude toward English based on their own awareness. From the table, it can be seen that the most difficult aspect for physics students is writing correct sentences in English, in which 50% students said difficult and 2,5% students said very difficult.

Table 2. Students' Strengths and Weaknesses towards English proficiency

| Skills        | Very Weak | Weak   | Good   | Very Good |
|---------------|-----------|--------|--------|-----------|
| Grammar       | 18 %      | 60 %   | 23 %   | 0 %       |
| Vocabulary    | 2,5 %     | 50 %   | 40 %   | 7,5 %     |
| Pronunciation | 18 %      | 58 %   | 25 %   | 0 %       |
| Listening     | 20 %      | 47,5 % | 27,5 % | 5 %       |
| Speaking      | 5 %       | 45 %   | 50 %   | 0 %       |
| Reading       | 2,5 %     | 15 %   | 67,5 % | 15 %      |
| Writing       | 5 %       | 30 %   | 57,5 5 | 7,5 %     |

The table above describes the physics students ability in English. In the aspect of grammar, vocabulary, pronunciation, and listening skill, the highest percentage of students is in the category of "weak". Meanwhile, in the aspect of speaking, reading, and writing, most students are in the category of "good". From the table above, it can be seen that the most difficult skill/element of language is in grammar which is 60% and the easiest skill/element of language is in reading which is 67,5%.

## 2. Students' need and wants towards the ESP course.

The result of the research in the aspect of students' need and wants towards ESP course can be seen on table 3 until table 6 below.

Table 3. The Language Skills that are needed most in their job

| Skills    | Very Needed | Needed | Unneeded | Very Unneeded |
|-----------|-------------|--------|----------|---------------|
| Listening | 60 %        | 32,5 % | 7,5 %    | 0 %           |
| Speaking  | 67,5 %      | 30 %   | 2,5 %    | 0 %           |
| Reading   | 40 %        | 55 %   | 5 %      | 0 %           |
| Writing   | 35 %        | 55 %   | 7,5 %    | 2,5 %         |

The table reveals the students need in learning English. The table shows that most of students need in learning ESP is speaking activities in which 67,5% students said very needed, 30% said needed and only 2,5% said unneeded. None of the students said very unneeded for all the skills except writing skill.

Table 4. The situations where physics students use English most

| Aspect                        | 4     | 3     | 2     | 1    |
|-------------------------------|-------|-------|-------|------|
| Reading Numerical Symbols     | 40%   | 60%   | 0%    | 0%   |
| Pronouncing Physical Terms    | 35%   | 62,5% | 2,5%  | 0%   |
| Communicating in Groups       | 32,5% | 40%   | 27,5% | 0%   |
| Explaining Scientific Process | 12,5% | 72,5% | 15%   | 0%   |
| Describing Things             | 22,5% | 50%   | 25%   | 2,5% |
| Problem Solving Skill         | 17,5% | 62,5% | 17,5% | 2,5% |
| Decision Making Skill         | 10%   | 70%   | 20%   | 0%   |

The table shows the situation where the physics students use English most. This data use range 4 until 1 in which number 4 shows that the aspect is used very often, while number 1 means the aspect is used very seldom. From the data it can be seen that the situation where the physics students use English most is reading numerical symbols in which 40% students said it is used very often, and 60% said often. None of the students said seldom or very seldom.

Table 5. The Physics Students Preferences Regarding Useful Activities for Learning English

| Learning Activity | 4     | 3   | 2     | 1  |
|-------------------|-------|-----|-------|----|
| Group work        | 27,5% | 55% | 17,5% | 0% |

|                 |       |       |       |       |
|-----------------|-------|-------|-------|-------|
| Individual work | 20%   | 57,5% | 20%   | 2,5%  |
| Whole class     | 12,5% | 45%   | 37,5% | 5%    |
| Pair work       | 7,5%  | 62,5% | 25%   | 5%    |
| Outdoor work    | 20%   | 45%   | 22,5% | 12,5% |

From the table it can be seen that most of the students prefer pair work learning activity (62,5%), then it followed by individual work (57,5%), and group work (55%).

Table 6. The Topics that Physics Students Want Most to Learn

| Topic                    | 4     | 3     | 2     | 1    |
|--------------------------|-------|-------|-------|------|
| Basic Mathematics        | 37,5% | 60%   | 0%    | 2,5% |
| Mechanics and Relativity | 25%   | 62,5% | 12,5% | 0%   |
| Quantum Physics          | 40%   | 47,5% | 12,5% | 0%   |
| Electromagnetism         | 47,5% | 50%   | 2,5%  | 0%   |
| Optics                   | 35%   | 47,5% | 17,5% | 0%   |
| Oscillations and Waves   | 35%   | 55%   | 10%   | 0%   |
| Thermodynamics           | 30%   | 55%   | 15%   | 0%   |

The table reveals that most of the students want to learn mechanics and relativity (62,5%), then followed by basic mathematics (60%). The topic of thermodynamics and oscillations & waves are in the third rank which have the same percentage (55%).

## E. CONCLUSION AND SUGGESTION

Need analysis is very crucial in English language teaching, especially in ESP. By conducting need analysis, the ESP lecturer or the course designer can get the detail information about students' need in which it plays an important role in designing the materials that will be given to the learners. Need analysis helps the lecturers or the course designer to do concept mapping in the ESP course with a clear focus.

In conclusion, there are some important aspects that has been revealed through need analysis which are very beneficial for designing the course, such as: (1) the skills

that physics students most needed is grammar, since most of the students thought that grammar is the most difficult element to be achieved, (2) the situation where the physics students use English most is reading numerical symbols, (3) the physics students preferences regarding useful activities for learning English is pair work, and (4) the topics the physics students want most to learn is mechanics and relativity.

In short, course designers or lecturers can design the ESP course, especially English for Physics Students in IAIN Raden Intan Lampung, by considering those information in order to achieve the most beneficial materials to the students.

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