

# AN INVESTIGATION OF NEEDS FOR THE ESP COURSE OF MECHATRONIC MAJORS AT HAI PHONG UNIVERSITY

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**ABSTRACT:** The study is conducted to investigate students' needs for an ESP course of Mechatronic majors of the Faculty of Electrical and Mechanical engineering at Hai Phong university. Understanding students' needs for the ESP course partly helps teachers to implement a practical and effective ESP syllabus design to meet the students' researching and learning demands. To achieve this purpose, the author uses questionnaires to collect and analyze data from 39 third year Mechatronic majors of the faculty of Electrical and Mechanical engineering at Hai Phong university. The finding of the study shows that the current ESP course should have some changes relating to the content of ESP syllabus to meet the students' demands suitably

**Key word:** needs analysis; ESP course; Mechatronic majors

## KHẢO SÁT NHU CẦU HỌC TIẾNG ANH CHUYÊN NGÀNH CỦA SINH VIÊN NGÀNH CƠ ĐIỆN TỬ TẠI TRƯỜNG ĐẠI HỌC HẢI PHÒNG

**TÓM TẮT:** Nghiên cứu được thực hiện để tìm hiểu về nhu cầu của sinh viên với khóa học tiếng Anh chuyên ngành cho sinh viên ngành Cơ điện tử tại Khoa Điện – Cơ, Trường Đại học Hải Phòng. Việc tìm hiểu nhu cầu của sinh viên góp phần giúp giáo viên thiết kế một chương trình học Tiếng Anh chuyên ngành thiết thực và hiệu quả đáp ứng nhu cầu nghiên cứu, học tập của sinh viên. Để thực hiện nghiên cứu này, tác giả đã sử dụng câu hỏi trắc nghiệm để thu thập và đánh giá phân tích nhu cầu học tập từ 39 sinh viên năm ba chuyên ngành Cơ điện tử tại Khoa Điện – Cơ, Trường Đại học Hải Phòng. Kết quả của nghiên cứu chỉ ra rằng khóa học Tiếng Anh chuyên ngành hiện tại cần điều chỉnh một vài nội dung để đáp ứng nhu cầu của sinh viên một cách phù hợp hơn.

**Từ khóa:** phân tích nhu cầu; khóa học Tiếng Anh chuyên ngành; chuyên ngành Cơ điện tử

### I. Introduction

English for Specific Purpose (ESP) increasingly plays an important role in language learning and in the development of the world. ESP helps lay a firm foundation for students to have access to the professional knowledge and the subject has the main purpose to meet the students' demands in learning English. Therefore, to design an effective course, needs analysis is considered as an important step

because it will help the teachers or syllabus designers to decide objectives, teaching methods and materials, skills or other components which can cater for meeting students' learning. Kusni (2013) mentions that needs analysis is the key to creating a suitable learning system and process to achieve the learning goals. This instrument also allows teachers to adjust the change in curriculum which is suitable to students' needs and interests.

At Hai Phong University, ESP course for Mechatronic majors is a new course. In this course, students are compulsory to complete two General English subjects in the first year and complete an ESP subject to accumulate enough credits in the third year. While General English focuses on providing the common knowledge, ESP gives out the academic and professional knowledge to apply in practical working environment. The ESP course of Mechatronic majors brings the academic terms, sentence structures and reading comprehension skills which aim at familiarizing students to professional documents in practice. Students are mainly developed reading skills on content-based basis with the purpose of improving students' ability in reading and comprehending the relevant materials of their field. However, only following a read-only approach and lacking variety in exercises or tasks to develop other skills, ignoring learners' interests or purposes may cause the quality of ESP course is under students' expectation. Moreover, realizing the important role of English for their future job, Mechatronic students spend a lot of time as well as make a lot of effort in learning ESP process. Therefore, the author carried out doing a needs analysis to perceive students' ESP demands more and provide them the useful and efficient learning methods. There are two following questions used to clarify the main target of the study:

1. What are the Mechatronic students' needs for ESP?
2. What are the factors prioritized by the students as their real needs?

## **II. Literature review**

### **1.1 English for specific purpose (ESP)**

English for specific purpose (ESP) is a common term in English learning because this term comes from the need for designing courses to meet the learner's demands (Hutchinson & Waters, 1987). The definitions are also given by different authors to clarify the concept. For example, Robinson (1991) says that ESP is "normally goal-directed and ESP courses develop from a needs analysis, which aims to specify as closely as possible what it is exactly that students have to go through the medium of English". Dudley-Evans and St John (1998) mention that ESP is a particular kind of language which is used to cater for learners' demand about a certain field. Besides, Hutchinson (1987) also gives out the explanation for the origin of ESP including three factors: the demand of brave new world, a linguistic revolution and focus on learners. In general, ESP is a specific type of language which has the main purpose to cater for the particular need of a certain group. The role of ESP also has some difference from General English. If General English focuses on providing students with the common language knowledge, ESP concentrates on meeting the specific demands of a certain group for terms, academic and professional knowledge through context-based materials. Therefore, selecting useful and accurate materials as well as a well-designed syllabus is one of the most important factors to achieve learning targets.

According to Dudley-Evans and St John (1998), ESP has been divided into two main types including English for Academic purposes (EAP) and English

for Occupational purposes (EOP). The first includes English for Science and Technology, English for Medical purposes, English for Legal purposes and English for Professional purposes. The second includes English for Professional purposes and English for Vocational purpose. These groups are divided into sub-branches English for Medical Purposes and Business Purposes while the others are English for vocational purposes and pre-vocational English and vocational English. The mechatronic subject belongs to EAP types because EAP refers to teaching of English with the specific aim of assisting learners to study or to conduct research or even to teach in English language which is an international practice of extensive scope (Flowerdew & Peacock, 2001). This major focuses on providing students the knowledge about the Mechatronic field with terms, definitions or professional knowledge. According to Dudley Evan and John (1998), the objective of EAP is to improve their English proficiency in the context of their academic knowledge. Shing and Sim (2011) state that the layout and practice of any EAP course curriculum should take various language needs of the learners into account.

Teaching ESP for Mechatronic majors is necessary because students will apply a lot of professional knowledge in their working process in the future. English for Mechatronic is a new ESP subject at HPU, therefore, identifying student' needs is significant to design the course, select suitable materials as well as suitable teaching methods. Moreover, most of Mechatronic majors are not really good at English, the knowledge they study during

their learning process is General English, which does not relate to the professional knowledge. Thus, the demand for an ESP course which can provide the professional and academic knowledge to cater for the future job is essential not only for students but also for teachers.

## **1.2 Needs analysis**

Needs analysis is considered as the first step before we begin a teaching activity, it has increasingly become important in determining goal, material and organizing the course content. Accordingly, content selection is done based on learners' communicative needs (Carter & Nunan, 2001). Hawkey (1980) says that needs analysis is a tool for course designer. Nunan (1988) thinks that "needs analysis refers to a family of procedure for gathering information about learners and about communication tasks for use in syllabus designed". Besides, Jordan (1997) also mentions that needs analysis is preliminary stage of designing courses, syllabuses, materials and the sort of educational activities that take place. Analyzing the students' demand plays a key role in identifying the professional needs in terms of language skills and professional skills. In additions, needs analysis also supports teachers to get students' information about the mastered skills which they want to improve or to show the skills which students are deficient.

According to Lee (2016), the procedures to do a needs analysis include data collection on the perspective of students' desires, needs, hopes, beliefs and viewpoints. All are done with the purpose of getting the specific information such as materials, methods, and class environment

which help teachers to clarify the learning goals and target (Boroujeni & Fard, 2013). Two tools which are considered to be useful in needs analysis including survey and interview. There are a lot of researches about needs analysis such as the study about the needs analysis of Thai and Doan (2018) about “an evaluation of general English course from non-English major students’ learning needs analysis” or Nhat and Dung (2019) “analyzing undergraduates’ needs for an improvement in translation training curriculum in Vietnam”. The study of Nhung (2011) about “needs analysis in ESP context: A case study of People’s Police University Students”. All the researches show that needs analysis contributes to clarifying student’s demands for ESP to design an effective syllabus. Therefore, to find out the real needs for Mechatronic ESP course, the author carried out this study to partly understand more about students’ demands.

### **III. Methodology**

#### **1.1. Participants**

To conduct this study, the author selects thirty-nine third year students of Mechatronic major at Hai Phong University to attend. The participants include thirty-eight males and only one female. The students are all announced about the purpose of the research and voluntarily take part in the survey. Mechatronic students studied two General English subjects in the first year, they are taught the basic knowledge about English. However, General English only provides the common knowledge which does not relate to their major too much. Therefore, in the third year, the students

of Mechatronic major at Hai Phong University are taught an ESP subject which helps provide some professional knowledge for their future job.

#### **1.2 Instrument**

This study uses a common tool for studying – questionnaires - to find out students’ learning needs and language experiences after completing the course. The findings of the study can partly reveal students’ attitude, skill and their expectation to the ESP course. The students need to provide their name and class before answering the questions. There are eight questions which are designed in the form of multichoice options. The students are required to tick their answers on the available columns to select as well as provide additional reasons to clarify the answers in some sentences.

#### **1.3 Research design**

The results of the study were collected after finishing the course and thirty-nine students were delivered the questionnaires at the same time. They were allowed to spend 30 minutes to answer the questions. Before the students completed the survey, the teacher had explained these questions carefully to make sure that they understood the questions and gave reliable answers. After that all sheets were collected and the data were calculated to identify the percentage rate of the answers.

#### **1.4 Results**

The following results were summarized from the findings of the given questionnaires to the students to understand more about their need for ESP course.

The first question asked about the difficulty in studying ESP “what are your

difficulties in ESP learning?”, there are six options for the students including pronunciation, grammatical knowledge,

technical term, comprehension skill, writing skill, translation skill and others. The following table illustrates the answers.

| <i>Selection</i>  | A     | B     | C     | D     | E     | F     | G  |
|-------------------|-------|-------|-------|-------|-------|-------|----|
| <i>Percentage</i> | 79.4% | 58.9% | 94.8% | 25.6% | 82.1% | 23.1% | 0% |

*Table 1: The difficulty of Mechatronic majors in ESP learning.*

**(Legends:** *A = pronunciation; B = grammatical knowledge; C = technical term; D = comprehension skill; E= writing skill; F =translation skill; G= others)*

From the table, we can see that nearly all students (94.8%) confessed that the number of technical terms cause them a lot of troubles in learning process while 82.1% students thought that they have the troubles in writing skills and 79.4% students get troubles with pronunciation. The rest relates to grammatical knowledge (58.9%), comprehension skill (25.6%) and translation skill (23.1%).

In the second question “what are your real needs when learning the ESP course?”, the students are asked about the real needs

for the ESP course. There are five options for students to select. The collected answers reveal that the highest demand for the ESP course is passing the final exam which accounted for 100%, the second position was expanding student’s ESP vocabulary ability (89.7%). There are 82.1 % students who need to understand technical documents in the future’s job, 71.7% students would like to improve their reading comprehension skills, 33.3% students expect to form correct sentences in language skills and there are no other options.

| <i>Selection</i>  | A    | B     | C     | D     | E     | F   |
|-------------------|------|-------|-------|-------|-------|-----|
| <i>Percentage</i> | 100% | 89.7% | 82.1% | 71.7% | 33.3% | 0 % |

*Table 2: The need for ESP learning of Mechatronic majors.*

**(Legends:** *A = pass the exam; B = expand student’s vocabulary ability; C = understand technical documents in the future’s job; D = improve reading comprehension skills; E= form correct sentences in language skills; F =others;)*

In the third question “what are your favorite activities in ESP learning?”, students are asked about learning activities they are interested in learning process. The answers of the students help teachers to designing the ESP lessons better. The findings show that most of students (89.7%) say that the vocabulary training

activities in textbooks, on Liveworksheet, Padlet, Google form are their most interest. Translation activities are also student’ favorite activities (76.9%) while reading comprehension, guided writing and discussion activities is 74.3%, 66.7% and 64.1% respectively.



In the fourth question “what are the skills you wish to develop more in ESP learning?”, the students are asked about the skills they wish to develop more which can help teachers to identify the suitable ESP teaching methods. All students select vocabulary learning and 92.3 % students would like to practice writing skill more. There are 79.5 % students who wish to improve their pronunciation ability while more than 61% students hope to practice reading comprehension ability and 51% others expect to improve their listening skill. There are no other options.

In the fifth question “how do you wish to understand the meaning of terms in ESP learning?”, the author has the purpose of evaluating students’ need for understanding English terms when reading professional documents. The students are given out four options for this question. The answers show that 79.4% of the students need to know the meaning of most written words but not all while 5.1 % students need to understand all given words and 15.4% only understand general ideas.

In the sixth question “how do you evaluate the importance of grammatical knowledge in ESP learning?”, the author wishes to find out students’ awareness of practicing grammar in the ESP learning process. More than half of the students (74.3%) think that grammar is important in language skills and ESP learning process, 23.1% students believe that practicing is very important for their ESP learning process and 2,6 % others select that grammar is slightly important.

In the seventh question “how do you evaluate the importance of studying technical term when ESP learning?”,

students are asked about the effectiveness of the ESP course book in practicing and acquiring the technical terms. Most of the students agree that acquiring terms through the content of books is very important (61.5%) and 38. 5% others think that it is important and no one thought that it is slightly important and unimportant.

In the final question “what are your expectations for improving ESP learning?”, students are asked about their expectation to develop their ESP knowledge. Most of the students think that they should have more time for studying ESP course (89,7%), some students wish to have more exercises to practice (84,6%). Besides, 82,1% students hope to have more learning activities such as discussion, direct translation, pair-work. They also say that teachers can apply more applications of information technology into their learning process (76,9%), others expected teacher’s explanations and feedbacks for students in their learning process (41%).

### **1.5 Discussion**

Basing on the findings of the study, we can see that students of Mechatronic major have a lot of difficulty in learning ESP course. Firstly, the limitation of ESP vocabulary knowledge causes them a lot of barriers in learning process as well as the other English abilities such as writing, pronunciation, reading comprehension. Therefore, vocabulary is considered as the main factor which most of the students hope to improve when taking part in this subject. Because technical terms are the key factor for the students in understanding as well as doing other learning activities. Therefore, teachers can identify the suitable teaching methods for the students by concentrating

on the specific skills or activities the students are interested. The students wish to have more exercises to practice their vocabulary, writing skill on internet applications such as Liveworksheet, Padlet, Google form or the activities which have direct interactions on the class such as pair work, discussion, direct translation to improve their language skills. Because the time for ESP on the class is not much, the students also wish to have more extra activities to practice at home thanks to the development of technology applications. Besides, when being asked about the evaluating the role of language factors, the students also show the consideration in the role of grammatical knowledge and understanding the meaning of terms which contribute to their success in ESP learning. Secondly, passing this subject is also the important factor for students in learning process, the students wish to have good grades after the course. Having better understanding in ESP learning can partly support the students to study language skills better as well as promote their learning motivation in learning and applying the knowledge into their future professional jobs. From the above reasons, the students have more motivation and effort to improve their vocabulary and other language skills in ESP learning while teachers have obvious orientation in the teaching process, selecting materials and designing syllabus.

### **III. Conclusion**

In general, finding out students' needs plays a key role in the success of learning process because it can support teachers to have suitable teaching methods. The findings of the study show

that ESP vocabulary is the biggest barrier for learning process and developing other language skills. Besides, the limitation of grammatical knowledge and English language skills cause them a lot of troubles in expressing and understanding. Therefore, the demands of most Mechatronic students are to improve their vocabulary to pass the final exam with the highest marks as well as apply the knowledge in real situations. They also pay more attention to how to improve their vocabulary, reading and writing skills which are the main factors in learning process. Furthermore, the findings show that studying about the needs of students can bring to the benefits for both non-experienced teachers and students. For teachers, they can assess the quality of the ESP course, identify students' weaknesses and strengths as well as implement the appropriate teaching methods. Therefore, they could have suitable changes to perfect the syllabus, materials as well as focus on developing vocabulary for students more through technology applications. For students, they can get better learning strategies when understanding what are the needs for the course. The students also have more interests in lessons when teachers apply various and suitable teaching methods, they can have more chances to practice and experience learning not only in textbooks but also other professional materials. Finally, the researchers strongly recommend that this area of English language teaching methods should be explored more in the future to understand and find out more innovative teaching method to meet the students' needs.

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