

## PRESENT SITUATION ANALYSIS FOR ESP COURSE OF MECHANICAL ENGINEERING STUDENTS OF TRIDINANTI UNIVERSITY

**Farnia Sari<sup>1)</sup>, Heru Setiawan<sup>2)</sup>, Gaya Tridinanti<sup>3)</sup>**

<sup>1)2)3)</sup>English Education Study Program, Faculty of Teacher Training and Education,  
Universitas Tridinanti Palembang

<sup>1)</sup>farnia\_sari@univ-tridinanti.ac.id, <sup>2)</sup>herusetiawan@univ-tridinanti.ac.id

<sup>3)</sup>gaya@univ-tridinanti.ac.id

### Abstract

This paper presents and examines the students' present situation analysis of mechanical engineering. In order to investigate present situation analysis, the data is collected through questionnaires of present situation analysis are distributed to the students of mechanical engineering study program with the total 111 students. A qualitative with descriptive research method is adopted for this evaluation study. The results generated by PSA questionnaire is shown that the students learning input including listening input, speaking input, reading input, and writing input. Based on the findings, most of the students' proficiency levels at beginner category. Regarding listening input, the students' preferences input for listening used authentic materials and the topic preferences of students were about daily routines. Speaking input, most of the students' input for speaking preferred monologue and dialogue with new vocabularies list and phonetic transcription with the desired topic for speaking input that was mechanical engineering field. Reading input, students' preferences for reading input were authentic materials closely related to daily life with the topics desired for reading input was daily routines. Writing input, the students preferred to the explanation of the structures of the text related to the topics with the length of words was 100 – 150 words.

**Keywords:** *Present Situation Analysis, mechanical engineering, ESP, course*

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### Introduction

Nowadays, English has been considered as the medium for interaction in the modern world technology. It is essential for communication in various professions, such as law, medicine, business, technology, science, and engineering. English is being used in most countries as a tool of communication for exchanging the information of studies related to science, business, education medicine, and technology. English is one of languages mostly used for international meetings, conferences, research journals, discussions. By these reasons, it is inevitable for the professional to be expert in English language.

English had gained indubitable in Indonesia occupational and professional setting for every field. As the need of English has been increased,

ESP courses are being introduced in a number of fields. Many educational institutions offer the program of ESP courses. This is in accordance with the Government policy on Education that emphasizes the goal of teaching English at tertiary school level requires to improve the students' competence of English for academic and professional purposes. English for specific purposes (ESP) is one of obligatory courses in some universities and all undergraduate students are required to pass the courses. The main aim of these courses is to enhance students' knowledge to satisfy their academic and to meet students' future career need in the global trend.

In the field work, especially the mechanical engineers have been required to perform their professional activities and communication in written or spoken form with the professional

trainers or engineering linkers from overseas. As English might be obtained for supporting their career in engineering field, it is necessary that mechanical engineering learners must be competent in use of English for their professional activities.

In response to the great demand from the engineering companies, learners have strong needs to learn English for increasing their English language competence for numerous occupational activities. Presently, there are no English courses which provide the materials of ESP course is accorded to their specific language needs, in academic and in professional activities. Some ESP developer and curriculum writers have ignored what learners' need and what the target needs, especially the work context.

In regarding with these problems, needs analysis would help the implementation of educational policies. By analyzing needs analysis as a tool to understand students needs, the producer of teaching material could develop their material, define the learning objectives that cover proficiency, knowledge, affective, and transfer (Stern, 1992), select the methods and use the result as basis to construct or modify existing system in order to match with the learners better (Oyzel, M., Ozdemir, C., & Kalajahi, 2012, p. 265-266). Furthermore, Alsamadani (2017, p. 58) states that needs analysis could help to determine the learners' weaknesses and strengths of skills that they may use in academic contexts. He adds that needs analysis could be used to identify the best methods of teaching that are appropriate with their learners in Saudi Arabia. In line with it, Salazar (2017, p. 198) claims that the results of the needs analysis will aid the ESP instructor identify valuable information about the students. The teacher will know about their prospective

professional needs, their needs in terms of language skills and their deficiencies in language skills. With this information, the instructor can determine the objectives of the language course and select material that meets those requirements.

Needs analysis has four components to assess language needs of learners (Momtazour, 2015, p. 26-27): (1) Target Situation Analysis (TSA) refers to task and activities learners that will be used for target situation in the occupational and academic setting, (2) Learning Situation Analysis (LSA) clarify what and why learners want to learn. LSA is to identify the effective ways related to cognitive and affective factors of learners which focus on the process-oriented needs, (3) Means Analysis directs the environment in which will be run by giving information of the local situation (e.g. teachers, teaching methods, management, students facilities to ensure the process of language course be implemented, and (4) Present Situation Analysis (PSA) estimates strengths and weaknesses in language skills and learning experiences. By perceiving student's requirement, curriculum designer will be easier in choosing the suitable learning materials and techniques to be applied in the learning process. In the area of English for specific purposes, present situation analysis should be done together with target and learning context analysis (Yundayani, 2018, p. 124).

Based on the preliminary research at Mechanical Engineering Study Programs of Tridinanti University, Palembang, it was found the teacher designed the materials without considering the students needs, especially Present Situation Analysis (PSA). The teachers have implemented the ready textbook without considering the students' current

proficiencies that causes the students had diversity in English competence, the learners' requirement, and the demands from the institution and the stakeholders or users. Eventhought, the textbook was not appropriate with the leaners needs, the ready textbook adapted from outside which was was still used as references to teach and learn English for ESP course. Therefore, this study focused on Present Situation Analysis (PSA) which identifies the students' proficiencies, goals, skills, and perceptions about their specialist subject and demands, and genres. Furthermore, PSA as a tool to identify the learners' lacks in learning process which identify the gap between necessity, their knowledge, skills and performance (Yundayani, 2018). By finding exact the data concerning the students perception, it could help the teachers to design and decide the materials concerning on the students expectations to increase the students motivation and English competences.

### **Methodology**

The population is selected to investigate the perspectives of the needs for ESP course among the students, teachers of ESP, and professional engineers. Thus, participants f selected using intact sampling technique to collect the relevant information. The sample of study was the students of Mechanical Engineering Study Program at Tridinanti University. To accurate the data, the students are taken all as samples of this study with the total 111 students that are represented to administer PSA questionnaires. This descriptive research intended to identify students' present situation in English class.

Needs analysis questionnaire were distributed to the students in the classroom to find out the target needs and learning needs. The questionnaire format was adapted from Petrus (2012) and the questions were adopted from Nurrefendhi (2013) which had been developed referred to the theory of needs assessment proposed by Hutchinson and Waters (1987) and Nunan (2004). The questions consist of 20 items for the Present Situation Analysis (PSA). The questions were in Indonesia language in order to ease the students to answer the question.

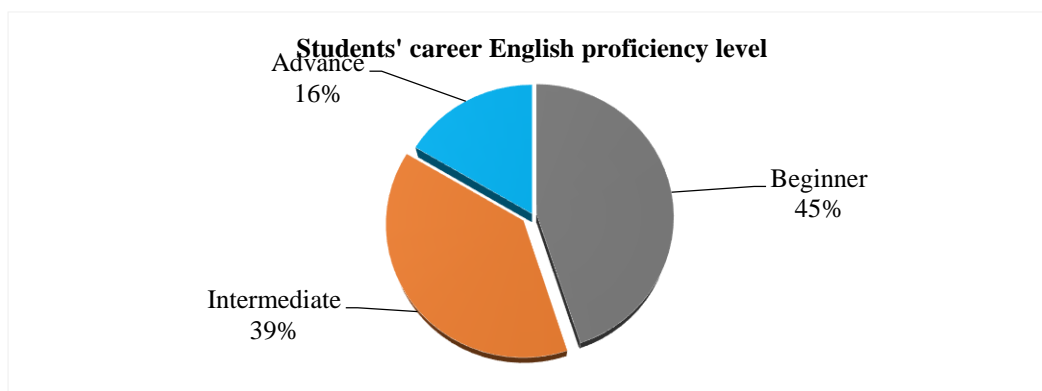
In data collection process, the researcher used questionnaire results as the primary data. To determine the results of PSA questionnaire, the highest percentage of the answers of each question was considered representing students' needs. The tables used to display the data result. Then, the data were presented descriptively.

### **Results and Discussion**

There are twenty data information that can be obtained from Present Situation Analysis (PSA). The information was about student's current proficiency level of English. Besides, the data obtained were also about students' preferences learning activities to learn listening, speaking, reading, writing, pronunciation, vocabulary and grammar. The questions are as follows:

#### **English Proficiency Level**

The first question in PSA was about the students' current proficiency level of English. The results are presented below on the figure below.



**Figure 1.** Students' current English proficiency level

From figure1, it can be seen that the highest of English proficiency level of the students of mechanical engineering study program was beginners. It can be seen that the students was low level for tertiary level.

**Students Learning Input**

The students learning input considers the four skills of languages that are listening, reading, speaking and writing. Furthermore, the sub skills of language as parts of PSA questionnaire identify the students' pronunciation,

grammar and vocabulary that could be considered in supporting and helping to increase their four language skills. The results of the four skills based on the students' PSA questionnaires as follows.

**Listening input**

The question from Present Situation Analysis (PSA) was about what the students' preferences input for listening. The students' input provided three items of question that is presented in table 1.

**Table 1.** The students responses on listening input

The questions	Students' responses	Number of response	Percentages
The students preferences for listening input	Monologue and dialogue with the pictures	30	27.02
	Monologue and dialogue with new vocabularies list	32	28.82
	Authentic materials such as news, information from radio, movies and songs	49	44.16
The length of the text preferences for listening input.	≤ 100 words	39	36.11
	100 – 150 words	47	43.52
	150 – 200 words	14	12.96
	≥ 200 words	6	5.56
Students' topic desired for listening input	Daily routine	45	40.54
	Education	26	23.42
	Mechanical Engineering field	35	31.53
	Issues /News	4	3.60

Table 1 show that the students prefer for listening input. They tend to

the authentic materials to develop their listening skills were effective to listen the information from radio, movies,

songs and etc. Regarding authentic materials, Sabet and Mahsefat study (2012) the students used authentic materials in listening activity performed much better and had positive effect on listening skills at university level. This is clearly apparent in the percentages of the answer chosen. They chose answer (c) mostly (44.16). Monologue and dialogue with new vocabularies list was their second choice (28.82). Their third choice was given to answer (a). They got 27.02 which mean that their listening input preferences by monologue and dialogue with the pictures. The items (a) and (b) are not significant distributions of the students' answers. It indicates that the students would be taught listening skill by using the vocabularies and pictures to ease the students comprehending the listening texts.

The length of listening texts mostly chosen by the students was 100 – 150 words. It indicates that the students were low proficiency level in listening skills. The second choice was (a)  $\leq$  100 words in listening text. It was proved mostly students had beginner's level in English based on the students responses on item (1). The items (c) and (d) were

the third and fourth choices. It means that 20 students preferred the more than 150 words in listening text.

The students' topic desired for listening input mostly chosen by the students was item (a) daily routines. The students are most likely the familiar words and used surrounded their life to increase their listening skills. The second chosen was (c) that students were interested in mechanical engineering field of their topic desired. It indicates some of students have already worked related to the mechanical engineering field. They are supposed to understand what the trainers and experts spoken when they had conferences and training from their work places. Education was the third choice. It indicates the institution expect their students could understand the given materials related to the education. The fourth choice was issues and the latest news chosen by students which means that issues and latest news was not interested in topic for listening input.

### Speaking input

The three items of question for speaking input is represented in table 2.

**Table 2.** The students' responses on speaking input

The questions	Students' responses	Number of response	Percentages
Students' desired input for speaking	Monologue and dialogue	27	24.32
	Monologue and dialogue with the pictures	31	28.93
	Monologue and dialogue with new vocabularies list and phonetic transcription	39	35.14
	Authentic materials	14	12.61
The length of students' speaking texts	$\leq$ 100 words	29	26.85
	100 – 150 words	48	44.44
	150 – 200 words	17	15.74
	$\geq$ 200 words	11	10.19
Students' topic desired for speaking input	Daily routine	45	40.54
	Education	20	18.02
	Mechanical Engineering field	37	33.33
	Issues /Latest news	7	6.31

Table 2 shows that the students need to increase their speaking skills. They tend to feel that speaking was learnt through monologue and dialogues with the new vocabulary lists and phonetic transcriptions. It is clearly mostly students (35.14) was used phonetic transcription and vocabularies list to help the students how they pronounce that these words well and increase the vocabularies that used in speaking context. Monologue and dialogue with the pictures was their second choice (28.93) and monologue and dialogue was the third choice. However, authentic materials that used for speaking input were minor students (14) to choose (d).

The length of speaking texts 100 – 150 words was chosen by the students (44.44).  $\leq 100$  words of speaking texts was chosen by 29 students (26.85). the

other students chose (c) and (d) as their preferences towards the length of students speaking texts.

The students' desired topic for speaking input was mostly students' preferred topic which was related to daily routines life (40.54). As the second alternative was requested the topic for speaking input related to mechanical engineering field by students (33.33). The third (b) and the fourth (d) were chosen by students (24.33) as their alternatives topics for speaking input.

### Reading Input

The table below presents students' reading input chosen by the students. The items in terms of students' desired input for reading, the length of students' reading texts, and students' desired topic for reading input.

**Table 3.** The students' responses on reading input

The questions	Students' responses	Number of response	Percentages
Students' desired input for reading	Authentic material which is closely related to daily life	52	48.15
	Reading text related to mechanical engineering study	38	35.19
	Texts with the lists of related new vocabularies	13	12.04
	Text with pictures	3	2.78
The length of students' reading text	$\leq 100$ words	32	29.63
	100 – 150 words	39	36.11
	150 – 200 words	22	20.37
	$\geq 200$ words	14	12.96
Students' topic desired for reading input	Daily routines	42	38.18
	Education	28	25.45
	Mechanical engineering field	34	30.19
	Issues / Latest news	5	4.55

Table 3 shows that the students preferred (a) as mostly students' desired input for reading text which is related to authentic materials that used in their daily life, such as magazine, newspapers, television, and etc. The second choice was (b) the reading text related to mechanical engineering study (35.19). The third and the fourth choices are (c)

texts with the lists of related new vocabularies (12.04) and (d) texts with pictures (2.78).

For the length of reading text, the students (36.11) preferred to have 150 – 200 words for reading text. The students (29.63) chose (a)  $\leq 100$  words as the second alternative for the length of students' reading text. The choices of

(c) and (d) were their third and fourth choices of the length of reading text for reading input.

The students need to daily routines for topics desired for reading input. They chose answer (a) mostly (38.18). Authentic materials as students' topic desired for reading input was their second choice (30.19). Education was the third choice (25.45) and issues/latest news was the fourth choice (4.55). They

tend to feel that authentic materials that can help the students to be motivated in reading.

### Writing Input

The items of writing input includes students' desired for writing, the length of students' writing text, and students' topic desired for writing input that these items are presented in table 4.

**Table 4.** The students' responses on writing input

The questions	Students' responses	Number of response	Percentages
Students' desired for writing	Examples of texts which are going to be learnt	33	30.00
	Vocabulary list related to the topic	36	32.73
	The explanation of the structure of the text which are related to the topic	41	37.27
The length of students' writing text	≤ 100 words	19	17.43
	100 – 150 words	41	37.61
	150 – 200 words	29	26.61
	≥ 200 words	16	14.68
Students' topic desired for writing input	Daily life routines	37	33.33
	Education	31	27.93
	Mechanical Engineering field	41	36.94
	Issue / Latest news	2	1.80

Table 4 shows that almost students (37.27) tend to (c) explain the structure of the text. They would explore their grammar to write the sentences correctly and grammatically. The second and the third choice were to include the vocabulary to easily write and explore their ideas by gaining the new vocabulary and the model of writing to assist and guide them to write their task.

The most students chose (b) 100 -150 words of length of students' writing text. The second choice was (c) 150-200 words. It indicates that the students tend to write more than 100 words. However the students chose the length of words (a) ≤ 100 words and (d) ≥ 200 as their third choice and the fourth choice. It infers more than 200 words and less than 100 words of length writing text are not

significant contribution of student's choice.

There were students (36.94) who preferred mechanical engineering field as topics for their writing. For the second topic, daily life routines were preferred by the students (33.33). Then, the third choice was about education (27.93), while the fourth choice (1.80) was issues/latest news as a topic for their writing.

### Discussion

The results generated by PSA questionnaire that consists of students' English proficiency and the students learning input for the students of Mechanical Engineering Study Program. The proficiency of students in English had low level.

Regarding to students' learning input, the results of questionnaire is shown that the students tend to use authentic materials in listening activities by giving the topics related to their daily routines with estimated the length of text more around 150 words. The tasks of listening are to understand instruction and the PowerPoint presentation (Alsamadani, 2017)

The results of students speaking input, most of students used to monologues and dialogues with daily routines life topic by enclosing the new vocabulary list to gain their words and its phonetic transcription to pronounce words clearly. The text is at least 100 words.

Based on the related to students' reading input, most of the students chose authentic materials as their desired text with length of text around 200 words for reading related to their daily life. It indicates that the students need to understand what materials surrounded their activities.

The results of students writing input is shown that students would like to improve their structure of the text. Most of students were confused how they write sentences grammatically and correctly. They had the low grade in grammar when they were at senior high school and had little time to explore their grammar. It was exception for the students who had already taken English course that help and understand what the teacher's explanation. Therefore, they chose grammar as their need in learning English. In doing writing task, the length of words as their choice was the least of 100 words to stimulate them in practice writing could assist them to do the writing task by considering their writing proficiency level in writing. Their desired topic as the first choice was related to their study mechanical engineering field. They can describe the objects, give the manual instruction in

written form, write letters, memos, and report or manuscript that all regarding to mechanical engineering field.

The students prefer authentic materials for increasing their listening and reading skills. The students are more motivated in learning when the teachers deliver using the authentic objects to easier the students comprehend the text and understand what materials given. based on Yundayani study's (2018), it was found that authentic analysis of learners' present situation needs and target situation ones, aims to provide empirical data about the different needs of engineering students and the uses of English in the Engineering field which can be used as an input to feed the larger structure of the local ESP context in higher education. What transpired from the above results was that the targeted Students tend to develop the skills on which much emphasis is given in classroom. That is why, productive skills lagged behind receptive skills.

Based on the results of productive skills, the teacher has to explore their students to speak and write to give their opportunity to increase language competence for their future career. It is proven by Alsamadani (2017) the implication of this is that engineering students are likely to encounter communication problems in their potential workplace or when conducting research, for they lack much practice in and outside the classroom. These variations in students' English language skills proficiency could be accounted for by the teachers' perception of the importance of English skills to their students' studies or careers

Furthermore In practice, one is likely to seek and find information relating to both TSA and PSA simultaneously. Thus, needs analysis may be seen as a combination of TSA and PSA (Momtazour, 2015, p. 27) Therefore, the educational institutions



need to design ESP course regarding to the learners needs that can prepare them for future career.

### Conclusion and Suggestions

Regarding students' learning input, the results of questionnaire is shown that the students tend to use authentic materials in listening activities by giving the topics related to their daily routines with estimated the length of text more around 150 words. The tasks of listening are to understand instruction and the powerpoint presentation ( The results of students speaking input, most of students used to monologues and dialogues with daily routines life topic by enclosing the new vocabulary list to gain their words and its phonetic transcription to pronounce words clearly with the text are at least 100 words. Based on the related to students' reading input, most of the students chose authentic materials as their desired text with length of text around 200 words for reading related to their daily life. It indicates that the students need to understand what materials surrounded their activities. The results of students writing input was shown that students would like to improve their structure of the text. Most of students were confused how they write sentences grammatically and correctly. They had the low grade in grammar when they were at senior high school and had little time to explore their grammar. It was exception for the students who had already taken English course that help and understand what the teachers explanation. Therefore, they chose grammar as their need in learning English. In doing writing task, the length of words as their choice was the least of 100 words to stimulate them in practice writing could assist them to do the writing task by considering their writing proficiency level in writing. Their desired topic as the first choice was related to their study mechanical

engineering field. They can describe the objects, give the manual instruction in written form, write letters, memos, and report or manuscript that all regarding mechanical engineering field.

This study suggested that the English in University should emphasise more practice and speaking skills and listening to increase their communicative events for academic and professional purposes. Therefore, the teachers determine the students' weaknesses and strengths of their English competence for classifying the students' proficiency level as a results the students could follow the assigned task to assist them learn faster. The teachers also consider the goal or the objective of ESP course in designing ESP course. However, the facilities are taking into consideration to support the students in learning process and implementing the variety strategies and techniques for avoiding the students bored and inactive in the class and stimulating their motivation to practice their language skill in order to improve their communicative competences.

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