Topics for Industrial Engineering ESP Modules: Stakeholders' Points of Views

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Abstract. The Reading and writing skills become vital devices for workforces to live in today's global community. This study addresses a need analysis of reading and writing materials for industrial engineering workforces especially in pulp and paper industry. The participants in this study were 1 department leader, 2 supervisors, and 1 HRD. The data were gathered through in-deep interviews with the respondents. The data were later codified and juxtaposed in order to reveal the need of reading and writing materials in the industry. The data mentioned that the workforces need topics about making report, presentation, coordination, discussion, instruction, prediction, production, calculation, and visualization.

Keywords: Need Analysis · Manufacturing Industry · Reading · Writing

1 Introduction

The Karawang is the largest industrial city in Indonesia and even the biggest in ASEAN. It is situated in West Java; 69 km from Jakarta, the capital city of Indonesia. It has an area of 1,737.30 Km2 and a population of about 2.88 million people. The total industrial area is approximately 14,000 hectare or 7,9% of the total area of the city. Based on the data from local government website, the total industry in Karawang is about 9,979 industries including automotive, electronics, manufactures, pharmacy, etc. More than 50% of them are foreign investments. There are more than 500,000 industrial employees; 2,300 of them are expatriates. It is predicted that the numbers of foreign employees would increase significantly as a response of ASEAN Economic Community (AEC).

However, the required level of English proficiency would be varied depending on the sort of factory. Securing the industries' business entails acquiring the necessary set of abilities for the present characters of industries, as well as English skills. Different English skills may be required for a specific industry career.

English skills are respected by employers in industries and becomes one of the imperative requirements [1]. Workers with excellent English skills are likely to have a better position in their career. The job applicants with good English skills also seem now to be prioritized. English skill is one of the main qualifications to find a new worker [2]. It is in line with Garner and Kasim and Ali affirming that English turn into principal in numerous fields as well as industry [3, 4].

English skills become an effective communication tool as well as a vehicle to get professional development that should become one of the concerns of education practitioners [5]. One of the efforts to respond the situation is by properly preparing suitable ESP materials in the form of module that are in accordance with the trends of the workers' needs in their workplaces. This study investigated the trends of reading-writing texts used in production section in a manufacture factory.

First, English for specific purposes (ESP) denotes to the English as a second language learning in which the aim of the learners is to use English in a specific area. A key element of an ESP course is that the substance and points of the course are arranged to the specific needs of the students. ESP courses center around the language, abilities, and classes fitting to the specific purposes the students need to complete in English. Generally, ESP understudies are grown-up students. They commonly are adults and a homogeneous gathering with the similar learning objectives, in spite of the fact that sometimes they have different levels of language proficiency. Furthermore, the main issues in teaching English for specific purpose are acknowledging the needs of the learners; finding the suitable way to deliver the materials in order to make the students learn effectively; and scaffolding them in the most suitable way [6–8].

Print mentioned that when selecting content for teaching, developers are faced with fundamental problem [9]. First, they have to think what content to include what content to exclude. In fact, society also has demands upon the content of the school curriculum. Such learning would make the students to be better learners or reduce the possibility of something unfortunate occurring. Pressures for additional content have also come from industry, peace group, parliaments, organizations, and other groups. To handle this, there are two most important principles of the architectonics of content. The first is scope of curriculum content. There are five concepts which are helpful in determining the scope of content. The first is time. The second is core content. There is a body of content that all students should acquire, commonly, it covers 50% of the total content. Third, schools should offer content to meet the special needs of students, for example the ESP for industry require to have need analysis in the manufacture industries. Fourth, integration of content. Fifth, a final point: reconsidering the scope of the content.

The concept of ESP in curriculum is referred to an associated with the materials or subjects that are taught by teachers to students [8]. It is a plan for achieving goals as dealing with a learner's needs and interest [10]. By this definition they mean that anything planned in or outside of the ESP course is part of curriculum since curriculum is all the experiences children have under the guidance of teachers.

In addition to teaching as a set of learning materials in ESP, curriculum is also the planning of learning in the form of a set of plan and rules that encompasses the objectives, content, and teaching material and strategies as a guideline for the teaching and learning process to achieve the ESP course goals. In short, it includes teaching materials, experiences, and goals and serves as a plan or set of goals that can accommodate learners' specific needs.

2 Research Method

Styles The research conducted at one of manufacture factory in Karawang. There are two main reasons why this factory was chosen. The first reason to choose the factory was

because it is placed at Karawang, the biggest Industrial City in ASEAN. Secondly, this factory is the biggest manufacture factory in the city which has relatively big numbers of Indonesian workforces and expatriates.

To identify the needs of English competencies of manufacture industry, the participants of this study were employees of the manufacture industry. The participants in this study were 1 department leader, 2 supervisors, and 1 Human Resource Development.

Interview data was used to get the data about the need of reading and writing text used in the manufacture Industry. The study used both semi –structured interview and stimulated recall interview. The purpose of the interview was to have a better understanding on the topic. Whereas the stimulated recall interview was used because it is suitable for examining processes about the reading and writing materials used in the workplace. The data then was transcribed and categorized through codification and interpreted to answer the research question about the needs of reading and writing texts used in the manufacture industry.

3   Results and Discussions

3.1   Customer Complains

Based on the deep interview with the respondents, it is found that reading and replying to customer complaints are often handled by the production section. Complaints usually exist when the goods sent to the customer do not match the agreed commitment or do not meet expectations. Since in business customer satisfaction is the main key to the business, therefore, the production department must provide the best service by responding to the complaints. The first thing first the production department workforces should do is to carefully read the complaints since clients' feedback usually has details that can be used by the production section to prevent errors and to have innovations. Secondly, it is stated by the respondents that categorization of feedbacks is needed. Sorting feedback into categories provides a larger picture of how customers view the services and can help to highlight the less noticeable elements of the business operations. It is specified in the interview that the production department also needs to categorize feedback from customers, for example, whether the problem is fixed on the human error, or the production machine that is not functioning perfectly, or is related to finishing. The thing to be highlighted is that every division has specific lexical words to be learnt. The third thing that is usually managed by the production division is to analyze the source of the problem. To analyze the source of the problem, they need to try to collect a lot of data. After finding the source of the problem and its solution, they will coordinate with each other to prepare the right answer for the customer in English. It needs skills to read the data written in English and it also need writing skill to give the right feedback via email.

From the data, the production department can see which parts or performance should be done or improved and maybe even procedures that must be changed or improved (Fig. 1).

It is shown that the respondent used descriptive writing in the reply. Descriptive text is frequently used to describe objects using a mental process, since a description is a technique of envisioning things and arranging them in some types of associational
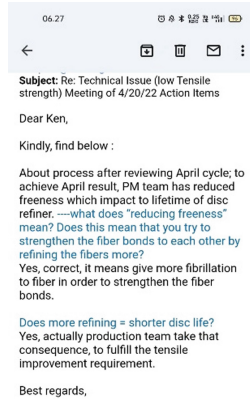
Fig. 1. Customer Complaint Reply

pattern that allows the writer to preserve sensory data to reflect on an experience. There are sensory terms in a descriptive text that assist readers to visualize what the writers are describing and link to the senses of sight, hearing, touch, smell, and taste to identify the phenomena and explain portions of attributes and features. People may feel or believe as though the items being described are right in front of them when reading this type of content. In addition, a descriptive text has additional features. Descriptive writing may be objective or subjective, offering the author a lot of flexibility in terms of tone, diction, and attitude [11]. An objective description of a machine, for example, might include information like height and weight. The foregoing information, as well as the author's feelings toward the object, as well as their experience towards the thing, would be included in a subjective description. Third, the goal of a descriptive text is to elicit participation from the reader so that he or she can imagine the items being described [12–14]. The students of ESP class which intend to learn about ESP in manufacture industry must have this kind of reading and writing skills and possess knowledge about how to describe something especially machines and how it is working.

3.2 Reports

The next text that must be made is the production report. Most of them are written in English because they are read by leaders and also clients. Data is usually displayed with tables or graphs. These tables and graphs will make it easier for readers and leaders to see the achievements and progress of projects, monthly achievements, and other trends issues. Those reports must be written well because it is a reflection of the professionalism of the workers (Fig. 2).

According to respondents, production reports are usually completed daily, monthly, and yearly. Daily reports usually contain daily targets. The purpose of a daily report is usually to monitor the performance of employees. Operator-level employees and shift leaders will make daily reports on daily activities and targets achieved; they also convey problems that arise during the production process. While the monthly report contains a summary of activities, monthly achievement targets, problems occur in that month and

CONSULTANT'S MONTHLY PROGRESS REPORT: STANDARD FORMAT

SECTION	SUB-SECTION	DESCRIPTION
COVER SHEET		
1 EXECUTIVE SUMMARY		A one page summary, including progress over the reporting period, overall progress to date, work completed/ in progress and significant Contract events occurring or in progress over the reporting period
2 CONTRACT PARTICULARS:		- Employer Name - Consultant Name - Contractor Name - Commencement Date - Original Completion Date - Revised Completion Date - Contract Amount - Revised Contract Amount - Defects Liability Period - Financing Organisations - General Layout Plan
3 PROJECT DESCRIPTION	3.1 Location Plan	Location within Lebanon
	3.2 Site Plan	Showing names of villages, towns, major structures and intersections
	3.3 Description of the Works	- Road classification, name and number of lanes - Description of major structures - Number and type of other structures - Number of culverts - Other significant features
	3.4 Financial Status	A chart showing current and forecast cash flow. Include revisions arising from variations and extensions of time
4 WORKS PROGRESS	4.1 Progress During the Reporting Period	A narrative, including descriptions of delays and percentage completion over the reporting period
	4.2 Progress Status Since the Start of Works	A narrative, including descriptions of delays and percentage completion since the start of works
5 WORKS PROGRAMME	5.1 General	Details of the Contractor's programme submittals
	5.2 Works Progress vs Programme	One A3 page copy of the Contractor's outline programme of works in MS Project or Primavera Format, including progress to date
	5.3 Delays	Description of delays and estimate of time lost

Fig. 2. Monthly Report

the progress that has been made. This report can also serve to provide an overview of monthly achievements and an overview of problems that arise in the production process. Monthly reports are very important in the manufacturing industry. There are several benefits to monthly reports. The first is to provide a general overview of activities for one month, along with problems and planning for the next month. These reports can also be used to see the performance of employees and the number of bonuses they get each year. Even so, the data must be displayed honestly, transparently, concisely, and clearly. Monthly report data can also be used to inform ongoing projects to clients, both suppliers and customers or other stakeholders about schedules, field needs, budgets, and outputs, risks and other things. These monthly reports are an important key for communication between management and stakeholders. The format of the report is usually also distinguished between reports for internal and external parties. The content of the report usually begins with a brief review of last month's activities and achievements and things that have not been achieved in the last month. Then, it is continued with the current month report which contains a summary of activities for one-month, monthly target achievements, and maybe activities that have not been carried out or achievements that have not been achieved. It ends with a glimpse of the target activities in the next month.

Those reports text often used narration text. Narration text is a type of genre which is often used for report with a series of events over time and is spelled out in chronological order. The chronology is told in sequence and should not be jumping around. One type of narrative text that is often used is recount text which has the function of presenting reports on events that occurred based on facts (actually happened). Recount text has three main structures or generic structures. First is orientation that contains information about the

character, the scene, when the activity took place and so on. The information provided by the author is expected to provide the information needed by the reader in order to understand the storyline. Second is events, the events are in the form of experiences that the author wants to convey to readers. The third is reorientation, the third structure contains a conclusion or summary or repetition of information in the orientation structure [12–14]. This text can be designed with the mix of visual data like graphs, and visual aids.

3.3 Coordination

Based on the data interview, the text that which is also often used is the text used for coordination. This coordination can be in the form of between individuals and organizations or with the external organizations. According to the interview results, a memo is used for organizational coordination purposes. Memos can be sent horizontally or vertically. Horizontal memo will be sent to those in the same position. It is usually a personal memo which has been used as an unofficial record or claim among relatives, friends, or other people who have a close relationship. It is commonly used in Bahasa Indonesia. While the vertical memo is posted from subordinates to superior or vice versa, to remind and decide. Official memos have been used to show between a leader's official relationship with his subordinates or between personnel in the organization with the stakeholders. It is often written in English. Memo commonly has the name of the sender and the name of the recipient; information, and the full name of the person who made the memo. It is widely used to inform meetings.

3.4 Work Instruction and Standard Operational Procedures

According to the respondents, there are two types of instructions. First is work instruction, and the second one is Standard Operational Procedure. Work instructions are to assist a person in carrying out various kinds of work activities so that everything is done correctly. Work instruction texts commonly consist of (Fig. 3):

- Name of machine
- Description
- How to workflow with predefined instructions
- How to execute according to what kind of work rules
- Safety warning

Standard Operating Procedures or SOPs are guidelines made in writing for each worker in a business entity and are used as standards in their operational activities for effective and efficient work results. Based on the interview results, a SOP consists of:

- title depending on what is outlined.
- organization's information.
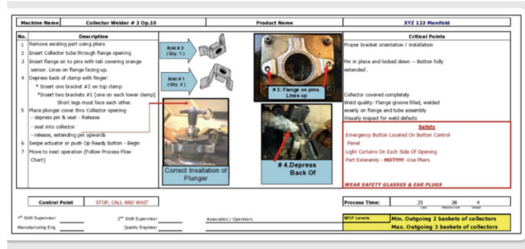- the objectives of the SOP

Fig. 3. Sample of Work Instruction

- the processes it covers and why it is important to follow the attached steps, such as compliance and/or safety. This section is where the procedures are broken down into step-by-step instructions with relevant information, such as special equipment used. For some these processes may be visual representations, such as flowcharts.
- identity to whom the document is intended for (a list of roles and responsibilities)
- contact information for coordination personnel.
- a glossary of terms

Commonly, according to the respondents, the SOP in their factory is in the form of detailed checklists.

The texts are using procedure text which can explain how to do certain activities or how to use tools. The purpose of the procedure text is to make the readers understand and know how, in making or operating something through sequential steps. The purpose of the procedure text will be shown from its title. Then it is carried out with the necessary tools. Besides the most important thing is the existence or stages in making, doing, or operating something. This section is usually written sequentially (chronologically), starting from the initial step to the last process until finally the purpose of the text of the procedure is achieved [12, 13].

4 Conclusions

English for ESP will be different from General English, because workers no longer need basic material that is not relevant to the field they are engaged in. The required English language usually relates to how to communicate with foreign clients and superiors, negotiate with them, write correspondence, make report materials, and make working instructions.

It is suggested that the material covered for ESP for industrial manufacture should be related to the topics that can expand the skills to communicate well in the business sphere. Teacher can give practices related to the topics suggested to make the students familiar with the communication trends needed in the workplace.

References

1. Council of Europe Portal, "Global scale - Table 1 (CEFR 3.3): Common Reference levels," *Common European Framework of Reference for Languages (CEFR)*, 2018. https://www.coe.

int/en/web/common-european-framework-reference-languages/table-1-cefr-3.3-common-reference-levels-global-scale.

2. D. DeCenzo and S. Robbins, *Fundamentals of Human Resource Management*. Hoboken NJ: John Wiley & Sons, Inc, 2010.

3. E. Garner, *Recruitment and Selection: Hiring the People You Want*. USA: Bookboon.com, 2012.

4. H. Kassim and F. Ali, "English Communicative Events and Skills Needed at the Workplace Feedback from Industry," *English Specif. Purp.*, vol. 29, no. 3, pp. 168–182, 2010, https://doi.org/10.1016/j.esp.2009.10.002.

5. H. Basturkmen, "Developing the Curriculum BT - Developing Courses in English for Specific Purposes," H. Basturkmen, Ed. London: Palgrave Macmillan UK, 2010, pp. 52–68.

6. K. Harding, *English for Specific Purposes*. New York: Oxford University Press, 2007.

7. S. Kies, D. Hall, and S. Moore, *Language for Specific Purposes*. Australia: Macquarie University Press, 2015.

8. B. Paltridge and S. Starfield, *The Handbook of English for Specific Purposes*. Oxford: Wiley-Blackwell, 2013.

9. M. Print, *Curriculum Development and Design*. Sydney: Allen & Unwin, 1993.

10. T. Hutchinson and A. Waters, *English for Specific Purposes*. Australia: Cambridge University Press, 1986.

11. J. D'angelo, *Process and thought in composition*. New York: Winthorp Publishers, Inc, 1977.

12. S. Feez and H. Joyce, *Writing Skills, Narrative and Non Fiction Text Types*. Australia: Alken Press, 1998.

13. L. Gerrot and P. Wignel, *Making sense of functional grammar*. Australia: Gerd Stabler Antipodean Educational Enterprises, 1995.

14. P. Knapp and W. Megan, *Genre, text, grammar: Technologies for teaching and assessing writing*. Sidney: UNSW Press, 2005.