

**DEVELOPING ENGLISH READING MATERIAL BASED ON PROBLEM BASED
LEARNING FOR GRADE XII STUDENTS OF LIGHT VEHICLE TECHNIQUE
AT SMK SWASTA DWIWARNA MEDAN**

*Desi Matondang

**Masitowarni Siregar

**Rafikan Dewi Nasution

ABSTRACT

This study aims to develop English reading materials needed by students of Vocational School and develop English reading materials for students of Light Vehicle Technique based on Problem Based Learning. The research was conducted by Research and Development (R and D) design through six phases; gathering information and data, analyzing data, designing new materials, validating by experts, revising and final product. It was conducted in SMK Swasta Dwiwarna Medan, especially grade XII. The data were gathered by administering interview and distributing questionnaire results prove that the students need English reading materials which contain English lecturer and the second from English teacher. It means that the developing reading materials categorized as suitable or appropriate for grade XII of Light Vehicle Technique.

Key Words: Research and development (R and D), reading materials, Light Vehicle Technique

INTRODUCTION

Background of Study

English is a compulsory subject in vocational high school base on BSNP (2006), English in vocational high school is aim to improve knowledge, attitude, and skills of the students in order to equip them to live autonomously and to continue their education base on their skill programs. It also mentions that the graduates shall be able to maintain communication base on their workplace condition.

There are four skills in learning English. They are listening, speaking, reading and writing. In this case, the learners are require to comprehend (listening and reading), the language produce (speaking and writing) the language. Its skill has different meaning but has the same purpose, which is increasing the creativity of language. They are needed by the students as the good skill in improving their knowledge in English, especially reading.

Teaching materials are the resources which a teacher uses to deliver instructions. Teaching materials help a teaching and learning process. They can influence the interest of learners to study the subject. In many cases, teacher and students rely heavily on textbook which determines the components and methods of learning. Students learn what is presented in the textbook, and the way the textbook presents the materials is the way students learn it. Thus, materials become the centre of in the classroom.

Materials are absolutely related to skill of language, including in teaching English as a foreign language. As one of the four major skills, reading is an essential need to learn some genre of text, one of them is procedure text. Procedure text plays important role in reading. This genre is suitable for vocational high school goal since procedure is a type of written text which functions to direct the steps of how to accomplish a task or job. And also students of vocational

high school have to learn English for Specific Purpose (ESP) that is relate to their future target job. English for specific purpose is a part of English Language Teaching with implication to design syllabus and material as well as its present and evaluate. ESP is center on the language appropriate to the activities of give discipline. According to Huntchinson and Waters (1987: 19),

In accordance with the law of National Education System article 3 and 15 about the goal of National Education said that vocational high school is a high school preparing students competencies especially to work in a certain field. Since vocational school students are prepared to be ready in the workplace later, so it is really needed to develop the relevant reading materials which contain the real life problem so that the students can learn from the problem and have the knowledge of how to solve the problem in the workplace later. Therefore Problem Based Learning approach is suitable to be used in developing the reading materials for light vehicle technique students” of SMK Swasta Dwiwarna Medan. Because Problem Based Learning (PBL) approach is a concept used to enhance multidisciplinary skills using planned problem scenarios. It is an active way of learning that teaches students problem solving skills, while at the same time allowing them to acquire basic knowledge.

REVIEW OF RELATED LITERATURE

Theoretical Framework

Reading is one amongst those skill, is undeniably said to be a primordial key to success in the different endeavors in and out of the content of school, and almost the unique ingredient that provides the students with strong basis for the language development and vocabulary expansion (Haica and Abdat, 2013). Reading can simply be defined as the ability to interpret or decode the printed or written words, and gain meaning out of them. It does not just involve the

ability to understand and respond positively to the information gained from a text (Ereke & Agwu, 2015).

Reading comprehension is the heart and goal of reading, since the purpose of all reading is to gather meaning from the printed page. If a student's says words in a passage without gathering their meaning, people will hesitate to call that reading; it means that reading is worthless without comprehension. According to Chastain reading goal is to read for meaning or to recreate the writer's meaning. Reading to improve pronunciation, practice grammatical forms, and study vocabulary do not constitute reading at all because, by definition reading involves comprehension. When readers do not comprehend, they are not reading (Rahimpour et al, 2013).

Process of Reading Comprehension

The important point to be made about reading processes is reading comprehension. Comprehension involves understanding the vocabulary, seeing the relationship among words and concepts, organizing idea, recognizing the author's purposes, making judgement and evaluating (Mikulecky and Jeffries, 2004;22). Here are some processes of reading comprehension:

a. Bottom-Up Process

According to Brown (2001:229) in bottom-up processing, readers must first recognize a multiplicity of linguistic signals (letters, morphemes, syllables, words, phrases, grammatical cues, discourse some sort of order on these signals).

b. Top-Down Process

According to Brown (2001:299) this is also has known as conceptually driven, processing in which we draw on our own intelligence and experience to understand a text. Top-down process means 'Read for Gist or Reading for Main Ideas', this process refers to the activity of

trying to understand a big picture of what the reader is reading from a few clues, so the reader's mind can make inferences to help he or she fill in any gaps in reader's understanding

English for Specific Purpose (ESP)

Based on Hutchinson' and water's theories, English for Specific Purposes (ESP) is a way of teaching and learning English for specialized subject with some specific vocational or educational purpose in mind. There are different needs for different purposes (and learners) of English language e.g: English Business, English for Technicians and others.

The development of English for Specific Purposes has five phases, they are:

1. Register analysis: refer to grammatical and lexical features.
2. Discourse analysis: focus on how sentences are combined in the text to produce meaning.
3. Target situation analysis: refers to the situation in which learners will use the language that they are learning, further ESP course design carries out an analysis of the linguistic features of that situation.
4. Skills and strategies: see an attempt to look below the surface (register and discourse analysis) and to consider not the language itself but the thinking process. The focus should rather be on the underlying interpretative strategies, which enable the learners to cope with the surface forms, for example guessing the meaning of word from context.
5. Learning-centered approach: mean each phase of designing ESP course must consider learning needs (Hutchinson and Water, 1987).

Certainly a basic knowledge of General English language competence will be required too and development further "English for Vocational Purposes" is an application of ESP according to students' language needs for different major in Vocational School. English for

Specific Purposes (ESP) must be seen as an “approach to language learning (not as a product) which is based on learners’ needs and directed by specific and apparent reason for learning.

The term curriculum can refer to a variety of things, including the course taught in a school or a program, the document that list the course taught, a set of teaching materials that are organized in some sequences of framework, or a framework for selecting and organizing learning experiences.

According to Robert Gagn (in Portela, 2014) curriculum is a sequence of content units arranged in such a way that the learning of each unit may be accomplished as a single act provided the capabilities described by specific prior unites (in the sequence) have already been mastered by the learner. Furthermore, Phenix defined the curriculum as what is studied, the “content”or “subject matter”of instruction. The content includes that whole range of matters in which the students is expected to gain some knowledge and competence.

Course Design

Course design is a very extensive subject and has large literature going back many years (Mason and Rennie, 2010). In practical term this entails the use of the theoretical and empirical information available to produce a syllabus, to select, adapt or write materials in accordance with the syllabus.

Therefore, Feez susan (2003) stated that in designing a course of the study, the teacher would be involved in three main idea of decision making:

- a. Analyzing learner needs and monitoring learner progress.
- b. Selecting what needs to be learned.

c. Sequencing the elements of the course to make learning as effective as possible.

An ESP course design is usually based on the specific needs of learners of a particular discipline. There are main types of course design (Hutchinson and Water in Mc. Grath, 2013).

1. Language-Centered Course Design

The language-centered design process aims to draw as direct a connection as possible between the target situation and the content of the course. In this case the learners is simply used a means of identifying the target situation. In this model the learning needs of the students are not accounted for at all.

2. Skill-Centered Course Design

This is help learners to develop skills and strategies which will continue to develop after the course itself. It will present its learning objectives in term both of performances and competence. It aimed to make the learners into better processors of information.

3. A Learning-Centered Approach

This is based on the principle that learning is totally determined by the learner. The course design that the students of light vehicle technique study program at vocational school needs absolutely different with other major. They need to master some Vehicle subjects based on their major. Thus, the researcher needs to make the appropriate course design. While, the process in preparing course design starts from producing a syllabus derived from theoretical and empirical information available, selecting and adapting or designing materials in accordance with the syllabus, then developing a methodology for teaching those materials and eventually establishing evaluation procedures to test acquisition of syllabus items.

Research and Development

Borg & Gall (1983) stated educational research and development, R & D, is a process used to develop and validate educational products". Richey & Klien (2007) said that research and development is the systematic study, development and evaluation processes with the aim of establishing an empirical basis for the creation of instructional products". According to Gay, Mills & Airasian (2009) research and development is the process of researching consumer needs and then developing products to fulfill those needs. The purpose of R&D efforts in education is not to formulate or test theory but to develop effective products for use in schools". These products can be in the form of specific curriculum for certain educational purposes, teaching methods, educational media, textbooks, competence of education staff, evaluation systems, competency test models, classroom arrangement for certain learning models, management models, employee employment systems, and others. Physical form, system processes and procedures.

RESEARCH METHOD

The research will be conducted by using developmental research which is adapted in fulfilling the students' need in reading comprehension material. The data served in the form of descriptive sentence; not form of number. The data of this research will be existing reading materials for grade twelve students in SMK Swasta Dwiwarna Medan which is going to take from the textbook used by the grade twelve students and the textbook is going to analyzed based on the syllabus and the curriculum which used in SMK Swasta Dwiwarna Medan. The second data are the results of the need analysis which are taken from the questionnaire and the results of interview which are taken from the teacher and the students.

This research will be conducted by following six phases of R & D, they are:

1. Gathering information and data by having an interview session Right after that the writer checked the syllabus and the existing materials (text book)
2. Analyzing the students' needs based on the data and information.
3. Designing the English reading materials based on the students' needs.
4. Evaluating or validating the draft of development. This stage would avoid the misleading in the text and would make sure the text completed to cover the students' needs.
5. Revising the reading materials based on the expert's suggestions.
6. After getting expert's revision, it is called recommended reading materials that will be Final Product.

This model of development is going to choose because it has some stages which are clear and appropriate with procedure. Qualitative data are going to collected to get the research objectives. The sources of qualitative data are syllabus, lesson plan, and existing teaching materials. Besides that, there are teacher's interview and also students' questionnaires. The data collections are analyze descriptively.

Technique of Collecting the data

The data will be collected as following:

1. The researcher interview the English teacher for knowing the average score of the students, the students' problems in learning English and researcher check the syllabus and existing materials. The writer gives the questionnaires to the students. In this part there are some questions that used to know the students' interest and students' problem in learning English.
2. The researcher observes the syllabus and existing materials. In this part the researcher see the basic competence and the students' textbooks in order to analyze students' needs.

The Steps of Developing Materials

Borg and Gall (in Anggraini 2017) points out six steps for developing of the materials are:

1. Gathering information and data by having an interview session (she ask the teacher some questions relate to the material, obstacles in the classroom and students' interest) then the writer give the questionnaire to the students to know about students' need in learning English. Right after that the writer checks the syllabus and the existing materials (text book).
2. Analyzing the students' needs base on the data and information. Analyzing students' need as data of study which will be take from interview and questionnaire. From the data, the appropriate reading materials to students of Light Vehicle Technique will find in order to enhance their reading comprehension skill. Matching the existing materials to core competence and basic competence of curriculum and analyzing the appropriateness to the students' needs.
3. Designing the English reading materials base on the students' needs.
4. Evaluating or validating the draft of development. The writer will give it to the experts, in this case there will be 2 experts, the first is the English teacher and the second is the lecturer. This stage will avoid the misleading in the text and will make sure the text completes to cover the students' needs.
5. Revising the reading materials based on the expert's suggestions.

After giving expert's revising, it is called recommend reading materials that will be Final Product.

RESEARCH FINDING AND DISCUSSION

The result of data analysis are presented. The data was collected and processed in answering the problems in the chapter 1 of this study. The fundamental goal achieved in this study are the students need the appropriate reading materials and developing the reading materials particularly procedure text for Grade XII students of Light Vehicle Technique. The reading materials were developed through 6 phases; 1) Gathering information and data, 2) analyzing data, 3) Designing materials, 4) Validating new materials by experts, 5) Revising materials on experts' suggestion, 6) Revising-developing reading materials (final product).

1. Gathering information and Data

The first stage in developing appropriate procedure text materials for reading skill for the students of Light Vehicle Technique in Grade XII was gathering information and data. Gathering information had been done before starting the research. It was done to get the problem of the study. There was some information gathered, such as the syllabus, existing materials, teacher's interview, students' questionnaires, and learning activity. From the information gathered, there were two problems found. First, the reading materials in English textbook were not appropriate for their learning needs. Second, there should be materials development which fulfilled their needs. Furthermore, the detail information was needed to develop the materials based on students' needs. The questionnaires were distributed to 26 students or grade XII students of SMK Swasta Dwiwarna Medan in Light Vehicle Technique study program and interview session was administrated to English teacher.

From the questionnaires that had been administrated, the researcher can identify that generally students want English reading text which makes them able to understand and master

vocabularies and terms about Light Vehicle Technique. The students also need the reading materials with some pictures in the text to makes them understand the text clearly. Furthermore, the students of Light Vehicle Technique study program want the English reading text about Light Vehicle Technique which can help to increase and support their English learning based on their major. So, the English procedure text will be related to their major.

By analyzing the data taken both the existing materials and need analysis including the questionnaire and interview administrated to the students and English teacher of Light Vehicle Technique study program, the researcher can identify that the existing procedure text materials were not appropriate to the students of Light Vehicle Technique study program. It caused the students become less motivation to read the text. In order words, it was hard to the students in comprehending the materials because the reading material is related to culinary study program and another. Thus the result of the need analysis were use by the researcher as guidance in developing appropriate procedure text materials for reading skill.

Revised-Developing English Reading Materials (Final Product)

There were three new developed Reading materials that related to students of Light Vehicle Technique Study Program. Those three new reading materials are “How to remove a car brake pedal”, “How to Install Headlight Bulb”, “How to Put on Ring of Piston”. Each ext has the exercise; determining the generic structure of the text, determining the verb, the imperative sentences from the text, answering the questions from the text and make the meaning of the word in vocabulary exercise.

There are some criterions in developing reading materials and each criterion has score range 1 until 5. Score 1 means bad, score 2 means not enough, score 3 means enough, score 4 means good/relevant and score 5 means very good/very relevant.

The first validation was from English lecturer who validated the reading materials. There were four criterions which have to be considered whether the reading materials were valid or not, they are linguistic, process, product and content and layout as stated on validation instrument.

CONCLUSIONS AND SUGGESTIONS

A. Conclusions

After analyzing the data, the conclusions were drawn as the following.

1. The students of SMK Swasta Dwiwarna Medan particularly in Light Vehicle Technique study program needed the English procedure text which could support their learning activity and learning environment. Their learning activity was supposed to increase their knowledge about problem solving, technician duties and their learning environment to prepare themselves for looking a job later. The new reading materials in this research are directed to the students' competence as Light Vehicle Technique students, they are: How to remove a car brake pedal, How to Install Headlight Bulb, How to Change a Tire, and How to Put on Ring of Piston.
2. The reading materials on general English book did not match to their needs and they are supposed to develop. The English reading materials were developed through 6 phases, they were: (1) gathering information and data, (2) analyzing data, (3) designing materials based on Problem Based Learning, (a. meet the problem; b. Explore knows and

unknowns; c. Generate possible solutions; d. considering consequences and the most viable solution), 4) Validating the new reading materials by experts (English subject teacher and English lecturer), 5) Revising the new reading materials based on experts' suggestions, and 6) Revised- developing reading materials (final product).

B. Suggestions

In relation to the conclusions, the suggestions are presented as follows;

1. Institution

It is suggested that the institution should supervise the teacher and ensure them that the reading materials supported the teaching and learning process. The institution also should make the rule for the teacher to teach the students' based on their needs.

2. Teacher

It is suggested that the English teacher should be more selective in using textbook which is suitable with the students major and event the teacher should be able to design their own teaching materials based on students' needs.

REFERENCES

- Aliponga, J. (2013). Reading Journal: Its Benefits for Extensive Reading. *International Journal of Humanities and Social* Tanaka, H., & Stapleton, P. (2007). Increasing reading input in Japanese high school EFL classrooms: An empirical study exploring the efficacy of extensive reading. *The Reading Matrix*, 7(1), 115-131.
- Anggraini, D. (2017), *Developing English Reading Materials for Light Vehicle Technique Students of Grade XI at SMK Swasta Bandung 2*, Medan: State University of Medan.

Beyer, B. K. (1992). *Practical Strategies for the Teaching of Thinking*. London: Allyn and Bacon, Inc.

Borg, W.R. & Gall, M.D. (1983) *Educational Research: An Introduction*, New York: Longman.

Brown, H.D. 2003. *Teaching by Principles: An Interactive Approach to Language Pedagogy*. White Plains, New York: Pearson Education.

Carrell, P. L., & Carson, J. G. (1997). Extensive and intensive reading in an EAP setting. *English for Specific Purposes*, 16, 47-60. [https://doi.org/10.1016/S0889-4906\(96\)00031-2](https://doi.org/10.1016/S0889-4906(96)00031-2)

Chiu-Kuei C. C. (2015). Applying Extensive Reading to Improve Unmotivated Learners' Attitudes toward Reading in English. *International Journal of Learning, Teaching and Educational Research*, 13(2), 1-25.

Feez, S. 2003. *Text Based Syllabus Design*. Sydney: NSW.

Haica, Y and Abdat. (2013) Teaching Reading for Specific Purposes: Identifying Criteria for Text Selection. *English for Specific Purposes World*, XIV (39) 1-11

Hameed, R.A. 2009. The Effect of Interactive Approach Vs Cognitive Approach on Students;

Hutchinson, T and Waters, A. 1987. *English for Specific Purpose*. Cambridge: Cambridge Journal, 4(4)4-6.

June, Tse N.C. 2005. *Nature of Curriculum*. The Hongkong Institute of Education. www.ied.edu.hk/aclass/.

Kitao, K. 2007. *Selecting and Developing Teaching/Learning Materials*. *The InternetTESL*,

- Kulowani. (2015), *Developing English Reading Materials for Students of Islamic Boarding School*. Medan: Universitas Negeri Medan.
- Mason, R and Rennie, F. 2010. *Web Based Course Design*. In wiki.alt.ac.uk. Accessed on April 26, 2017
- Pardiyono. (2007). *Pasti Bisa! Teaching Genre-Based writing*. Yogyakarta: CV. ANDI OFFSET.
- Rahimpour, M., Hodaei, M., and Amini, D. 2013. Pre-Reading Activities and Iranian EFL Learner's Performance in Reading Comprehension. *Studies in English Language Teaching*, Volume 1 (1).
- Rahman. (2003), *Developing English Reading Materials for Students of SMAN 1 Kabanjahe*. Medan: Universitas Negeri Medan. *Reading Comprehension Journal of Missan Researches*, Volume 6(11)
- Richards, J. C., & Schmidt, R. (2002). *Longman Dictionary of Language Teaching and Applied Linguistics*. Malaysia: Pearson Education.
- Richey, R.C. & Klein (2007) *Design and Development Research*. London: Lawrence Erlbaum Associates. Inc. *Science*, 3(12), 73-80.
- Sari, I., Ulgu, S. and Unal. S. (2014). Materials Evaluation and Development: Syllabus, Setting and Learner Needs. *International Journal of Teaching*, 2 (2) 60-65.
- Setiawan. (2016), *Developing English Reading Materials for Students at SMK Panca Budi 2 Medan*. Medan: Universitas Negeri Medan

Tomlinson, B. (2013). *Developing Materials for Language Teaching Second Edition* . London: Bloomsbury.University Press.

Van den Broek, P., & Espin, C, A. (2012). Connecting cognitive theory and assessment: Measuring individual differences in reading comprehension. *School Psychology Review*, 41(3), 315-325

Walter, H. C. (2003). Reading in a second language. Retrieved from <http://www.llas.ac.uk/resources/gpg/1420>