DEVELOPING ENGLISH READING MATERIALS FOR GRADE X STUDENTS OF INDUSTRIAL ELECTRONICS ENGINEERING STUDY PROGRAM AT SMKS NASIONAL SIDIKALANG

Abstract

The objectives of this research is to develop appropriate reading materials for grade X by using scientific approach as learning material referring to Curriculum 2013. The method used in this research is research and development (R&D). This study is adapted the R&D model proposed by Jolly & Bolitho in Tomlinson (1998). The steps of this study were conducting needs analysis, developing the course grid, developing the first draft of the materials, validating materials, and revising the materials. The subjects of this research were the students of Industrial Electronics Engineering department grade X of SMKS Nasional Sidikalang and workers of PT. Alam Daya Makmur. Three types of questionnaires were used to collect the data. The first questionnaire was made to obtain the data for the target situation and necessities, the second questionnaire was made to obtain the data for lacks and wants, and the third questionnaire was used to obtain the data about the appropriateness of the materials. The data of all questionnaires were analyzed quantitatively through descriptive statistics. The average score of the products is 3.58 which is in the range of $3.50<x<4.00$ and can be categorized as Very Good.

Keywords: *reading materials, industrial electronics engineering, teaching, reading*

INTRODUCTION

Language is an important part of human existence and social process that has many functions to perform the life of human beings and English is the language that is used in international scale, that covers almost of aspects in people's life, such as in education and proffesional working. In education, we could see that many levels of education in Indonesia require English as one of the subjects examined in national examination. In working field, many people learn English to compete in international scale or to fulfill competence demanded by companies or some certain jobs.

Industrial Electronics engineering as one of the majors of vocational high schools in Indonesia prepares the students to face this kind of global competition. Once the students graduate, they can continue to the higher education or apply for job. English plays the role to make the students get qualified when they apply for job in Indonesia or overseas companies that require the workers to be good in English. To reach the objective, there are some factors which have to be considered, such as teachers, media, and materials.

Based on the researcher's analysis of syllabus, the existing teaching materials, and students experience during learning English in SMKSwasta Nasional Sidikalang , it was found that the teaching materials were not specified for any certain vocations. The book that they used is *Bahasa Inggris Revisi 2017* that published by Ministry of Culture and Education. The content of the text did not tell about industrial electronics engineering but the text just cover about general topics, such as this text, An Email from Hannah.

The text above aimed to tell someone biodata but there is no sentences or even word that has correlation with industrial electronics engineering. From the interview that the researcher got, there is no follow-up from school about text book material that appropriate with the major which students learning.

O'Neill (2003) emphasizes that teaching materials help teaching and learning process; the teaching materials must be suitable for students' needs, even they are not designed specifically for them, the teaching materials should make it possible for student to preview and prepare their lessons, and the teaching materials should allow for adaptation and improvisation.

Based on Hutchinson and Waters (1987:19) ESP is an approach to language teaching in which all decisions as to content and method are based on the learner's reason for learning. ESP has characteristics in which the teaching and larning concern on how

students can meet the specific needs they want to learn (Anthony, 1997:1). This is in line with Graves (2000) who proposes that ESP is ilustrated as an umbrella of teaching and learning process for specific purpose. In addition, Nunan (2004:7) in Basturkmen (2006:17) declares that ESP is the subcomponent of language teaching, with its own approaches to curriculum development, materials design, pedagogy, testing and research. Therefore, in developing materials for Industrial electronnics engineering, the aspects above are noted in order to make suitable form of materials that applies Curriculum 2013.

Hutchinson & Waters (1987:107) describe some principles to take into account in ESP materials; materials provide a stimulus to learning, materials help to organize the teaching-learning process, by providing a path through the complex mass of the language to be learnt, materials embody a view of the nature of language and learning, materials reflect the nature of learning task, materials can have a very useful function in broadening the basis of teacher training, by introducing teachers to new techniques, materials provide models of correct and appropriate language use.

While Tomlinson (1998:7) states the criteria of good materials as follows; materials should achieve impact, materials should help learners to feel at ease, materials should help learners to develop confidence, learners should perceive what is being taught as relevant and useful, materials should require and facilitate learners' self-investment, learners must be ready to acquire the points being taught, materials should expose the learners to language in authentic use, the learner's attention should be drawn to linguistic features of the input, materials should provide the learners with opportunities to use the target language to achieve communicative purpose, materials should take into account that the positive effects of instruction are usually delayed, materials should take into account that the learners are different in learning styles and affective attitude, materials should permit a silent period at the beginning of instruction, materials should maximize learning potentials by encouraging intellectual aesthetic, and emotional involvement, which stimulates both right and left brain activities, materials should not be relied too much on controlled practice, materials should provide opportunities for outcome feedback. According to the theories above, the researcher can develop reading materials for the students.

METHODOLOGY

The design of this study was based Research and Development (R&D) since the main objective is to design Reading materials for Indutrial Electronics Engineering students. According to Borg & Gall (1989),the tenthsteps in the R & D cycle included; (1) research analysis, needs assessment questionnaire, and proof of concept; (2) product planning and design; (3) preliminary product development; (4) preliminary field testing; (5) main product revision; (6) main field testing; (7) operatinal product revision; (8) operasional field testing; (9) inal product revision; (10) disemination and implementasi.

The general setting of this study was Vocational High School in Sidikalang, since the research was conducted to grade X students and workers in a acompany related to the major as the target situation. The needs analysis was conducted on April 15th, 2019 by distributing questionnaires to 10 workers at PT Alam Daya Makmur in order to get neccesities, and shared 22 sheets of questionnaire to the students, in order to find out the lacks and the wants in line with the necessities. This analysis was conducted in order to get information about the target needs and the learning needs of students in relation to develop appropriate reading materials for them.

The procedure used in this research was based on the procedure proposed by Borg&Gall (1983) and combined with material design by Jolly & Bolitho in Tomlinson(1998) with several adaptations. The procedure of this research is illustrated on the figure and the description below.

FINDING AND DISCUSSION

The study was conducted to find out neccessities, wants and lacks of the students. The researher shared questionnaire to the wrokers to find out the neccesities and questionnaire to students to find out their wants, whle in finding out the lacks, the researcher shared vocabulary and reading test.

Based on the result of the questionnaire all the workers (100%) stated that they need English in doing their job. And the kind of English they usually used is reading instructions or manuals and some transactional and interpersonal text in doing bussiness activity such as intoducing self and others, dealing with the client, making an appontment, and so on.

Then based on the analysing data above, the reaseacher developed the material which can fulfilled the needs of the students. The data about the quality of the reading materials developed can be seen in the following table.

Units	Expert 1	Expert 2	Average	Descriptive
Units 1	3.55	3.59	3.57	Very Good
Units 2	3.57	3.66	3.62	Very Good
Units 3	3.56	3.61	3.59	Very Good
Total	3.56	3.62	3.59	Very Good

Since the materials rely on ESP concept, the coverage of the materials concerns with the specific topics related to the needs of students" study program. The decided topics are also in line with the result of needs analysis in which most of the students want English Reading materials that are contextualized to industrial electronics engineering.

The developed materials consist of three units and each of them follows the main competence on curriculum 2013. Unit 1 was derived from main competence of 3.1. (Self Introduction) which focuses on how to introduce self and others. The text type on unit 1 dialogue and email, the language focus is pronoun. Unit 2 was derived from main competence of 3.2 (extending compliment and congratulation) which concerns with greeting cards and media social which is related to their daily life or working life. .The language focus is about expressions of giving and responds congratulating and complimenting. Unit 3 was derived from standard of competence of 3.6 (memos and active and passive voice). It focuses on memos that often create on daily life.

The unit organization is adapted from Nunan (2004) which covers sequencing, grading, and integrating units and tasks. The theory states that the easier topics should come first. It can be seen that since the target needs are students on grade X, the topics should be simple since they are still beginners so the topics also should be in line with their level of cognitive related to their major. The first topic is simply about self-introduction and others that they, then on the second topic it focuses on the congratulation and compliment related to daily and working life, and the last unit concerns with memo inline with industrial electronics engineering working area and daily lifewith the grammar focus the active and passive voice that they usually found in memo. Each of the units consists of three parts: introduction (specific knowledge and vocabulary builder), main lesson (reading practice and grammar focus) and reinforcement (reflection). Those parts are relevant with the steps proposed by Nunan (2004).

When the first draft of the materials is already finished, it was evaluated by the expert to know the quality of the materials. The evaluation is employed by distributing 31 questions based on BSNP. The questionnaire consists of four aspects to evaluate; they are content appropriateness, language appropriateness, presentation appropriateness, and

layout appropriateness. The expert gave feedbacks to the first draft that need to revise before getting the final draft of materials. The final scoress of the four aspects in the first draft are 3.56 and 3.62 which is in the range of $3.50 \leq x \leq 4$ It means that the developed materials entitled English Reading Materials for X year students of Industrial Electronics Engineering Study Program is considered as appropriate with the predicate of very good.

CONCLUSION

After doing research analysis of needs and target situation, the researcher designs a course grid of reading materials, which contains units, and activities that has provided in the materials. The draft was developed based on the course grid that has been designed. When the first draft finished, experts to get the feedbacks of aspects to evaluate should evaluate the materials. The average score of the material by the first expert is 3.56 and by the second expert is 3.62 which described as very good. The average score by expert 1 and 2 is 3.59 which is described as very good . The final result of this research is the final product of reading materials for the tenth grade students of Industrial Electronics Engineering students.

REFERENCES

Alyousef, H. S. (2006). *Teaching reading comprehension to ESL/EFL learners. Journal of Language and Learning Volume 5 Number 1 2006*.

Badan Standar Nasional Pendidikan. 2014. *Pedoman Penilaian Buku Teks Pelajaran*. Balitbang: Kemdiknas.

Basturkmen, Helen. (2006). *Ideas and options in English for specific purposes.* Mahwah: Lawrence Erlbaum Associate Publisher.

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

Graves, Kathleen. (2000). *Designing language courses: A guide for teachers.* Boston: Heinle&Henle Publishing.

Hutchinson, T. & Waters, A. (1987).*English for specific purposes*. Cambridge: Cambridge University Press.

Jolly, D. & Bolitho, R. (1998). *A framework of materials writing. In Tomlinson,Brian (Ed.), Materials development in language teaching (90-115)*Cambridge:Cambridge University Press.

Nunan, D. (1991). *Language teaching methodology: A text book for teachers.* Englewood Cliffs, New Jersey: Prentice Hall Inc.

Nunan, D. (2004). *Task-based language teaching.*Cambridge: Cambridge University Press.

O'Neill, R. (2003). *Why Use TextBooks in Language Teaching*. London:Oxford University Press.

Suharto, G. (2006). *Pengukuran dan penilaian hasil belajar bahasa inggris.*Yogyakarta: Pusat Pelayanan dan Pengembangan Bahasa.

Tomlinson, B. (1998). *Materials development in language teaching*. Cambridge:Cambridge University Press.

Tomlinson, B. (2012). *Developing materials for language learning and teaching.*Cambridge: Cambridge University Press.