

## CHAPTER I

### INTRODUCTION

#### 1.1 Research Background

Polytechnic is one form of higher Education that runs vocational Education in various disciplines and technologies, preparing the students for jobs with certainly applied expertise up to those with undergraduate programs (Kemdikbud, 2014). Politeknik Negeri Bali (here and after, PNB) is one of the vocational Education institutions in Bali. It offers 60% to 70% practices and 40 % to 30% theories of various vocations. Learnings are centered on practical industrial demands for national, regional, and international markets. In its operations, PNB has a vision and mission. The current vision is to become a leading vocational higher Education institution that produces professional graduates with international competitiveness in 2025, while one of its missions is to produce reliable personnel oriented to market needs in the field of Engineering and Commerce, with Tourism as superior. As well as Establish sustainable collaboration with educational institutions, institutions, government, businesses, professional associations, and the public both nationally and internationally (Sukra, 2014).

According to Law No. 12 of 2012 on Higher Education, clause 59 subsection (5), a Polytechnic is a college that organizes vocational Education in various groups of science and Technology. If it meets the requirements, polytechnics can hold professional Education. The third part of paragraph 2 of clause 16 subsection (1) states that vocational Education is a Higher Education diploma program that prepares students for work with specific applied skills to an applied undergraduate program (Kisworo, 2012). PNB graduates' profiles are shaped as applied practitioners who have control of

automatic Technology, having techno-partnerships on 1) automatic electrical systems in tourism, 2) maintenance and repair of electrical industrial apparatus, 3) supervisors on building automatic systems, 4) consultancy in planning automatic industrial control, and 5) techno-preneurships in automatic control systems (Homepage PNB, 2020). To prepare students for the world of work, PNB uses a package system. This learning method requires students to study all courses scheduled during each period of the school year by the subjects in each department's curriculum. The following are the characteristics of the Education package system: 1) Students must complete all program courses and must graduate each semester by applicable regulations; 2) academic achievement and attendance at lectures determine student success; and 3) the number of hours per week for each subject is determined based on the target abilities and skills to be achieved (Gunung and Darma, 2018).

English is one of the subjects designed in the PNB curriculum to envisage PNB's graduate competency. Prior analysis of PNB's curriculum identified a gap between existing and targeted English learning materials. The existing English syllabus and general course outline had not been designed and developed to integrate the English language skills with the respective vocations in the areas of the automatic electrical system in tourism, maintenance and repair of electrical industrial apparatus, supervision of building automatic systems, consultancy in planning automatic industrial control, or techno-preneurships in automatic control system. English for Occupational Purposes (here and after, EOP) is so designed that students have sufficient English skills according to the needs of their world of jobs. Kim (2008: 2) clearly explains that EOP is focused on improving English language skills related to the world of work. Moreover, Far (2008:3) added that EOP learning activities are designed within the framework of

professionalism in the world of work. Therefore, the syllabus and teaching materials must refer to the needs of the students.

The PNB English curriculum has been reviewed locally by the PNB academic researchers. One study aimed to design and develop (D&D) English instruction based on learning needs (Mudhina, 2007). This study assumed that students were the ones who decided what English job-related learning materials were for ESP at PNB. A question of the relevance of English for industrial demands triggered this study. The research findings showed that English was still relevantly taught to yield a professional and competent workforce. It was recommended that the students not learn about the English language but rather about language literacy. Referring to the vision of the Politeknik Negeri Bali as an institution that produces professional staff with an international perspective and is supported by a mission to produce reliable workers who are oriented to market needs in the fields of engineering and commerce with tourism as the foundation and direction of development, a curriculum that refers to industrial needs is an absolute necessity. Therefore, the curriculum implementation must always be monitored and adapted to the development of the need for English in the industry, which absorbs Politeknik Negeri Bali graduates for all majors and study programs.

Putra and Sitawati (2012) studied the curriculum relevance of English in the Business Administration Study Program at PNB. The research objects were focused on general English I and II for business correspondence and secretary. Data were collected by distributing questionnaires to the sixth-semester students and leaders who conducted field training. The obtained data were analyzed descriptively and qualitatively. The findings showed that 1) English was still relevant to be included in the curriculum, 2) language skills should be developed as English for specific purposes (ESP), and 3)

specific topics like dealing with guests, company facilities, and paraphrasing should exist in the curriculum. The results of this study also show that the current English curriculum is still appropriate and very much needed by the industry. A curriculum that refers to industrial needs is an absolute necessity. It is envisaged that the Politeknik Negeri Bali is an institution that produces professional staff with an external context and is supported by a mission to produce dependable workers who are oriented to market needs in the fields of engineering and commerce, with tourism as the foundation and direction of development. Since the industry, which employs polytechnic graduates for all majors and study programs, has a growing need for English, implementing the curriculum must continuously be monitored and adjusted. Implementing a curriculum that is relevant and responsive to industry needs is critical, particularly in the teaching of ESP for polytechnic graduates. The design of ESP caters to the English communication requirements in specific professional contexts. ESP teaching has evolved significantly, particularly towards English for Occupational Purposes teaching, where EOP focuses on teaching English needed in the workplace, with an emphasis on everyday communication, job tasks, and professional interactions. This transformation reflects the increasingly complex and diverse demands of the world of work. Industries today require a workforce that not only masters general English but also specialized terminologies and situations relevant to their field of work. With EOP, polytechnic graduates can immediately adapt and work effectively in their professional environment.

Astawa, et al. (2015) conducted a study that aimed to know the implementation of the 2010 curriculum at the Department of Tourism, the supporting factors and obstacles, and the implications of the implementation. The analysis results show that

context, input, process, and product variables are included in the "good" category. The supporting factors are the suitability of the curriculum content with the vision, mission, and objectives of the study program; the demands and conditions of the tourism industry and society; the advancement of tourism science and Technology; student progress; the level of mastery of student learning; the achievement of student competencies; and the willingness of students to learn. The inhibiting factors are educational facilities, correspondence administration services, certification of students, and the absence of foreign native-speaking lecturers. The compatibility of the curriculum's content with the PNB Study Program's vision, mission, and objectives and the needs and conditions of the tourism sector and society are supporting elements in implementing the 2010 Curriculum at the Department of Tourism. The tourism industry is expanding quickly, so the curriculum's suitability to changes in science and Technology, particularly in the field of tourism, as well as to student development conditions, student learning materials' levels of mastery, student competencies' levels of achievement, and students' openness to learning. Curriculum evaluation is required, particularly when explaining systematically and in detail the extent to which an educational program has been running.

The curriculum applied at The Politeknik Negeri Bali is the KKNi curriculum by Presidential Regulation No. 8 of 2012 concerning the Indonesian National Qualifications Framework and competency-based curriculum (KBK) and a small part of the national-functional syllabus is also a reference that is referred to in compiling textbook, module, and teaching materials. English learning at the Bali State Polytechnic has so far been packaged in the form of textbooks or modules. Learning English in Electrical Engineering includes four language skills: listening, speaking, reading, and

writing. These four skills are integrated into the process of learning English and are language skills that must be mastered in learning English. The teaching that takes place in the classroom directly implements and supports the structure of the syllabus that has been designed, ensuring that each language skill is developed in an integrated and effective manner. The current revised syllabus (implementing the MBKM curriculum) is still being compiled and adjusted according to the needs of the study program. While communication in English related to the content of the syllabus is still general and not targeted at certain disciplines. The existing English syllabus and general course outline had not been designed and developed to integrate the English language skills with the respective vocations in the areas of the automatic electrical system in tourism, maintenance and repair of electrical and industrial apparatus, supervision of building automatic systems, consultancy in planning automatic industrial control, or technopreneurships in automatic control system (PNB Education Guided book, 2021). Due to the implementation of the new curriculum, which required updated learning materials and contents, the English teaching and learning activities in Politeknik Negeri Bali's Electrical Engineering department had to be changed. As a result, the development of the teaching materials was relevant to current situations, and the output can support the teaching and learning process in the study program.

Regarding the Electrical Engineering department graduates at PNB, the industry currently requires graduates with deep technical competence, English language proficiency, and strong project management and problem-solving skills. Deep technical competence includes an understanding of control systems, maintenance, and management of electrical systems, as well as the ability to develop and implement the latest technology (Suyitno, 2020). English language skills are crucial as they enable

graduates to communicate effectively internationally with colleagues, clients, and business partners from different countries. In addition, project management skills are needed to plan, organize, and supervise complex projects, ensuring they are completed on time and within budget. Strong problem-solving skills are also essential, enabling graduates to effectively analyze technical problems and find efficient solutions (Ahmadi & Ibda, 2021). The ability to continuously learn and adapt to new technological developments is also indispensable so that graduates remain relevant and competitive in an ever-changing industry. Professional ethics and a good work attitude are also key to a successful career (Mulianti & Mulyadi, 2018). By meeting these needs, PNB Electrical Engineering graduates will be better prepared to face challenges and take advantage of opportunities in the dynamic global world of work.

On the other hand, the English syllabus in PNB's Electrical Engineering department currently needs to be designed to integrate English skills with specific vocations such as tourism, maintenance, and control systems. This is a challenge for alumni in facing the demands of an increasingly competitive and globalized world of work. Based on the results of a student tracking study (tracer study.pnb.ac.id, 2020), it was revealed that 65% of alums felt underprepared to communicate in specific professional contexts, especially in the use of English relevant to the field of electrical engineering. In addition, 70% of them stated that better English language skills would give them a competitive advantage in the job market. Tracer studies also show that alums with good English skills tend to be more adaptable and get better positions in the industry, with 60% of the alums successfully finding jobs within three months of graduation (ika.pnb.ac.id/, 2020). Therefore, to adapt to the new curriculum and improve the relevance of education to current industry needs, English teaching materials

must be updated. Updating English teaching materials is expected to improve student's language skills and strengthen the integration between academic education and industry needs, making PNB Electrical Engineering department graduates more prepared and competent when entering the workforce. By updating the English syllabus integrating vocational electrical engineering, PNB can improve alumni readiness and competitiveness in the global job market. This will help students overcome professional communication challenges and maximize their career opportunities.

Appropriate teaching material is required to support the teaching and learning process (Purwati & Vania, 2021). The role of teaching material is key for helping teachers or lecturers provide teaching and learning effectively. According to class observations and confirmation from English lecturers, students often experience difficulties because the material they have to learn includes very specific terminology and concepts in electrical engineering, such as technical terms in electrical, electronic, and control systems. The assignments and lessons are also more specific and focused on practical applications in their field, requiring a higher level of English language competence and contextualization. One of the problems in the ESP class is the obstacle in providing lessons according to the competence and field of the course. This happens because ESP concerns the needs of students based on their work or specialization background (Basturkmen, 2010).

Regarding language learning materials, job-related learning material (henceforth JRLM) for EOP was designed and developed for giving and utilizing information and providing experience of using language, which is designed to promote language learning (Tomlinson, 2011; 2012). Tomlinson's six basic principles were adopted: (1)



learning materials should achieve impact. Impact is achieved when students are interested, curious, and attentive to the material. (2) Learning materials should help students feel at ease. Sometimes, students feel uninterested, anxious, and bored during the teaching and learning. However, students are comfortable and relaxed when producing language when they are at ease. (3) Learning materials should help students develop confidence. When students are at ease, they can develop confidence in producing the language during teaching and learning. (4) students should perceive learning materials as relevant and useful. The learning material being taught should be related to students' needs and students' interests. They should be able to practice it by using the target language in real life and the classroom; (5) learning materials should require and facilitate students' self-investment. The material, even media, should allow students to carry out many activities in student-centered classrooms. The media should also facilitate students when they do the activities; (6) students must be ready to acquire the point being taught. Teachers can use the learning material that is familiar to student's life. The learning material should be related to students' interests and needs. Regarding English aspects and skills, the JRLM for EOP was designed and developed to include teaching grammar, teaching materials for developing reading, listening, and speaking skills, and teaching vocabulary.

The JRLM EOP has a close tie to the students' field practices in electrical engineering. The benefits of topic-based learning are (1) encouraging a love of learning, (2) making deeper connections to learning, (3) learning deeply on electrical engineering fields as well topic-based learning makes; (a) students learn better when experiencing knowledge in a larger context, (b) learning about wider topics and related concepts and facts more closely resemble how life is experienced outside of school and the

classroom, (c) topics can be chosen that are current and student-centered, incorporating the needs, interests, and perspectives of the students, (4) carefully selecting topics and information related to a theme helps teachers narrow the overwhelming amount of information of any discipline, (5) Thematic instructions align with current popular pedagogies and standards, including place-based education, project-based education, and cooperative learning (Seefeldt, 2005; Wiggins, 2013; Williams, 2017). JRLM for EOP with a text-based learning model entails linking written texts to spoken skills. Designing JRLM for EOP units of lessons that focus on developing language skills in electrical engineering implies guided practice as they develop language skills for meaningful communication through whole texts (Cutting, 2002). JRLM for the EOP text-based approach improves and nurtures the students' English by interacting with tasks and then using the target language to complete the tasks. This framework also involves the students much more productively and makes them depend on prior world knowledge (Baker, 2015; Kucherenko, 2013). Teaching EOP requires lecturers to assign students clear instructions on specific topics related to their knowledge (Suryadi, 2021). The availability of references could be more supportive and promising for appropriate ESPs suitable for learners.

The English teaching and learning activities in the Electrical Engineering department of PNB needed to be changed due to the new curriculum 2020 requiring updated learning materials and contents. Therefore, developing the teaching materials was relevant to the current situation so that the output could support the teaching and learning process in the study program. Concerning the above empirical study, the current situation, and the ideal theory of EOP, the teaching and learning process in vocational education should be based on the integration of content and language.

Therefore, the present study is intended to conduct a study entitled “Developing Job-Related Learning Material EOP for Electrical Engineering Students at Politeknik Negeri Bali.” It aimed to identify the materials needed, the materials developed, their quality, and their effectiveness.

## 1.2 Identification of Problem

Some existing problems concerning JRLM for EOP at PNB were identified as follows.

- 1.2.1 English for Specific Purposes teaching in polytechnics faces significant challenges in developing relevant and effective teaching materials for English language learning. Students must learn a specific target language and content related to their field. Still, ensuring that the teaching materials meet their professional needs is often challenging
- 1.2.2 Integrating English for Occupational Purposes into the curriculum of the Electrical Engineering department at PNB faces some significant challenges. While the initiative aims to improve students' English skills to make them more relevant to their professional fields, several obstacles have to be overcome. The main challenges include: (1) Developing teaching materials that suit the specific needs of electrical engineering; (2) Ensuring effective collaboration between English lecturer and engineering lecturers; (3) Choosing the right teaching methods to teach technical language practically.
- 1.2.3 At PNB, English is considered a crucial component of the curriculum within the Electrical Engineering Department. This emphasizes on English education aligned with the institution's vision of producing highly skilled and competent graduates and trainers in electrical engineering.

1.2.4 The current English course materials primarily focus on general English proficiency. However, given that the course is tailored for students pursuing a diploma in the electrical engineering department, there is an urgent need to integrate specific electrical engineering content into the curriculum to ensure the students are prepared for their future.

This gap shows that although English is essential to the Electrical Engineering Department's vision of producing skilled graduates, efforts to incorporate specific electrical engineering content into the curriculum still require further improvement and customization to make it more effective and relevant. Therefore, there is an urgent need to develop learning materials for English for Occupational Purposes that support students with a customized approach, integrating language skills with content related to their field of study. Developing job-related language materials for EOP is crucial to preparing students to communicate effectively in future professional contexts. Identifying this problem confirms the need for suitable JRLM to support English courses, emphasizing integrating language skills with electrical engineering-specific content to meet students' needs better.

### **1.3 Research Limitation**

As a research and development, this research was conducted with the following coverage:

- 1.3.1 Investigating the needs for JRLM EOP for electrical engineering students at Politeknik Negeri Bali.
- 1.3.2 Developing JRLM EOP that covers teaching grammar, developing reading, listening, and speaking skills, and teaching vocabulary for electrical engineering students at Politeknik Negeri Bali.

1.3.3 Evaluating the quality and effectiveness of JRLM EOP for electrical engineering students at Politeknik Negeri Bali.

1.3.4 Analysing the effectiveness of developing JRLM in English for Occupational Purposes at Politeknik Negeri Bali

#### **1.4 Statement of Problem**

There are four research questions formulated as follows:

1.4.1 What are the needs for JRLM EOP for Electrical Engineering students at Politeknik Negeri Bali?

1.4.2 How is the JRLM EOP developed for electrical engineering students at Politeknik Negeri Bali?

1.4.3 What is the quality of JRLM EOP for electrical engineering students at Politeknik Negeri Bali?

1.4.4 What is the effectiveness of the JRLM EOP for electrical engineering students at Politeknik Negeri Bali?

#### **1.5 Research Objectives**

There were two main purposes of the research objectives in this study:

##### **1.5.1 General Research Objective**

The general research objective was to develop job-related learning materials in English for occupational purposes for electrical engineering students at Politeknik Negeri Bali.

##### **1.5.2 Specific Research Objectives**

The specific research objectives were:

1.5.2.1 To investigate the need for JRLM English for Occupational Purposes for electrical engineering students at Politeknik Negeri Bali.

1.5.2.2 To develop JRLM English for Occupational Purposes for electrical engineering students at Politeknik Negeri Bali.

1.5.2.3 To examine the quality of the developed JRLM English for Occupational Purposes for electrical engineering students at Politeknik Negeri Bali.

1.5.2.4 To analyze the effectiveness of developed JRLM English for Occupational Purposes for electrical engineering students at Politeknik Negeri Bali.

## **1.6 Research Significances**

The research's theoretical and practical significance were:

### **1.6.1 Theoretical Significance**

The study's results will enrich the literature in design and develop a practical paradigm on JRLM for EOP, which utilizes information and provides experience in using language practically. This study also provides theoretical and empirical information related to English materials development that takes research procedures in designing, developing, and validating the product.

### **1.6.2 Practical Significance**

The practical significance of JRLM EOP for students, lecturers, and future researchers:

1.6.2.1 For students, this research would provide content and procedural knowledge to promote language learning. Content knowledge affects how students interpret the content goals expected to reach. It affects how the English language instructor hears and responds to students' questions. It also affects the English

language instructors' ability to explain clearly and to ask good questions. At the same time, one advantage or outcome of procedural knowledge is that it can involve more senses, such as hands-on experience, practice at solving problems, understanding of the limitations of a specific solution, etc.

1.6.2.2 For English lecturers, the product of this research could facilitate contextual learning through JRLM for EOP teachers with better content knowledge who know how to teach the subject to a specific audience, which should create student gains over a less prepared or less experienced teacher. Teaching the English language would improve the students' cognitive function, including enhanced problem-solving skills, verbal and spatial abilities, memory function, creative thinking capacity, and flexible and creative thinking.

1.6.2.3 For future researchers, this study could exemplify research and development procedures that apply JRLM EOP with industrial knowledge and practices and opportunities for graduates of similar vocational institutions.

## **1.7 Novelty**

The novelty of the present study can be seen from the product in the form e-book product, which integrates principles of English for Occupational Purposes:

1. The learning material is appropriate for teaching English in electrical engineering because it integrates vocabulary, concepts, and scenarios directly related to the field, providing students with relevant content for their future professional context.
2. The language skills implemented in this e-book are contextualized to the specific linguistic demands of electrical engineering. Material development is

based on an in-depth needs analysis of the target learners, ensuring the content is relevant and appropriate for the users.

3. Learning materials as real-world application exercises. This e-book offers practical exercises in electrical engineering, enhancing language learning through application-oriented content. It integrates language skills with contextual activities, fostering motivation and practical application in communication.
4. Learning materials designed with modularity, allowing instructors or learners to customize the learning path based on individual needs or specific course requirements, adds a layer of adaptability and uniqueness.

