

DEVELOPING A SUPPLEMENTARY MATERIAL FOR ENGLISH SPECIFIC PURPOSES FOR ARCHITECTURE MAJOR

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Abstract

Due to the lack of specific English materials for architecture students, this present study is aimed at developing a supplementary material for architecture students in Politeknik Negeri Pontianak, specifically a list of vocabulary related to the architecture major. This study employed ADDIE model in developing the material; analyze, design, develop, implement and evaluation. There are 47 of first Semester students participated in this research. Based on the need analysis, most of them need a supplementary material that conforms to their field, which in this case is the architecture major. The supplementary material is developed into five units: Architectural Style for Unit 1, Floor Plan for Unit 2, Building Materials for Unit 3, Roofs and Floors for Unit 4 and Interior Design for Unit 5. The implementation phase shows that the students have a positive attitude toward the supplementary materials. They express satisfaction in using it since the design and content are interesting. The material from this study can help students learn English that is related to their major, which can help them in their future careers.

Keywords: ESP; discipline-specific vocabulary; architecture major

INTRODUCTION

As English is growing in the field of business and academic, ESP in higher education is seen as important in order to equip students with language skills that can help them to expand their knowledge and able to compete globally. Having observed the architecture students in Politeknik Negeri Pontianak, the researcher realizes that the institution demands students to be equipped not only with the skill related to their major but also to have an extra skill in communicative competence. The interview with the teacher revealed that students are in need of an interesting and motivating material that can support the learning of English in accordance with their major. However, the teacher expresses that finding teaching material for ESP especially for architecture major is difficult.

In addition, the students express that in order to have advance knowledge in their area, they need to explore other advance architects from various countries especially western countries. Furthermore, in order to improve their English communication in a work environment once they graduate, they need to learn English that incorporate career specific vocabulary and context that can address specific context in architecture terminology such as types of building, building and decorating materials, modeling, modern style etc.

In order to encourage students to be able to use English for their future career, they need to learn English in their context. However, the textbooks that are

available in their syllabus refer to study English as general. Thus, students have difficulty in understanding the relevance of their learning English with their own life in which it leads to the low motivation from students to learn English. Furthermore, as an architecture student, they are expected to understand terminology and phrase that they use in their major in English.

ESP is understood to be about preparing learners to use English within academic, professional or workplace environments. Therefore, in ESP, “language is learnt not for its own sake or for the sake of gaining a general education but to smooth the path to entry or greater linguistic efficiency in these environments” (Basturkmen, 2008, p. 18).

There is a growing number of research investigating needs and designing/developing courses on different aspects of ESP courses associated with different disciplines. In the area of materials development, a number of studies address this issue in order to provide appropriate materials for certain students’ need in specific context, for instances, designing ESP courses for airport information desk staff (Ting, 2010), developing ESP reading materials for accounting students (Sari & Atmanegara, 2018), providing specific English instructions for professional purposes in tourism and hospitality (Zahedpisheh, Abu Bakar, Saffari, 2017) and developing presentation skills in the ESP courses for students majoring science control system and robotic for their future professional careers, (Borisova, Nikitina, Shparberg, Borisov & Poletaeva, 2019)

The English language and ESP coursework in nurses’ perspectives is very much needed in order to build trusting nurse-patient relationship and provide quality nursing care (Lu, 2018). However, though they take English program to improve their English skills, the participants considered their ESP courses as ineffective due to the content that failed to meet their language needs and challenges. Setting up a language course with a certain focus on English for Specific Purposes and on the target discipline is needed (Setiawati, 2016)

Furthermore, Poorhadi (2017) conducted research in the area of designing an ESP course focuses on Iranian students major in architecture. Employing need analysis as the foundation in designing the course, his design aim to provide the opportunity to cover the required reading, vocabulary, writing, and grammar skills (p. 20). Rus (2020), on the other hand, provided an argument in favor of a consistent application of creative educational methods in the process of teaching English for Specific purposes. His study highlights the importance of the language instructor’s choice of teaching strategies, materials and techniques in achieving overall language success.

Aliakbaria & Boghayeri (2014) investigated the needs and views of architecture students and graduates on the effectiveness of their ESP courses. Due to participants’ dissatisfaction with their abilities, the courses are often criticized for not fully serving their purposes. Thus, the study concluded that revisions of the current programs seem to be necessary to offer more effective ESP courses for architecture students in Iranian universities. This issue is also faced by the students of Politeknik Negeri Pontianak who through the results of the questionnaire express their difficulties in learning English that is relevance to their major.

This study aimed at developing appropriate and effective material in the form of supplementary material consist only vocabularies that are used in the

architecture major. The material in this study is meant for the students. It is developed in a way that can promote self-use and self-direction in order for the students to be able to learn from the material themselves. The writer also provides the visuals for each vocabulary and interesting design in the material in such a manner to gain students' interest and their motivation.

METHOD

This study applied a research and development framework with ADDIE model. Research and development is a study that focuses on designing particular lessons, products, or programs that can be in the form of hardware such as books, modules, learning aids, dictionaries, or lesson plans or software such as applications, programs for classroom learning, or libraries (Branch, 2009). In this study the product is a supplementary material for English for specific purposes for architecture major. There are five phases in ADDIE model in which it includes analysis, design, develop, implement and evaluation. The selection of participants in this present research was based on purposive sampling. In this case, the participants were 47 of first semester students of Politeknik Negeri Pontianak.

Data Collection

This study used students' needs analysis questionnaire, interview, and students' checklist table in collecting the data. The need analysis questionnaire was directed to the students in order to identify students' need in learning English language. Need analysis questionnaire was constructed in accordance with theory proposed by Dedley Evan & John as cited in Basturkmen (2010, p.17). It consists of information such as professional information about the learners (the tasks and activities learners are/will be using English for), personal information about the learners (previous learning experience, cultural information, reason for attending the course and expectations of it), English language information about the learners (their current skills and language use) The questionnaires also regarded as one of the ways to evaluate products from the participants involved.

Interview was directed to the teacher to gather information about the material that she uses in the classroom. Furthermore, information such as the syllabus and curriculum that are used was also be gathered. The writer also inquired about the struggle and challenge faced by the teacher in teaching English for architecture students.

The student's checklist table was directed to the students after the implementation phase. This checklist was used to see the students' point of views related the dictionary developed by the writer. It would also be part of the evaluation of the product as stated by Tomlinson (2011, p112). There are 19 questions provided in the checklist that questioning about the content, display, challenges in the using, and the usefulness of the supplementary materials.

Technique of Data Collection

The questionnaire was distributed to the students before the researcher develop the supplementary materials. This questionnaire was analyzed by counting the students most chosen item of the supplementary materials criteria. The obtained data of the interviews were transcribed and then the information categorized to see the emerging themes related to the students' needs. For the checklist forms, the results were analyzed whether revisions for the materials were

needed. In measuring the questionnaire and checklist, the Likert Scale was used. This measurement is appropriate to obtain the respondents' views, judgements, and opinions regarding the supplementary materials and language

FINDINGS

This research aimed at developing supplementary materials for architecture major in order to support the learning of English for architecture students. In developing the material, the writer applied ADDIE which is Analyze, Design, Develop, Implementation and Evaluation.

Analyze

In developing the supplementary materials, the first phase that the writer took into consideration is the results of the need analysis from the interview and need analysis questionnaires. In analysis, the writer distributes the questionnaire in the form of Google form to students. There are 47 students participated in responding to the questionnaire. The form of the questionnaire is multiple choices questions. The highest percentage of the student's choices were considered as students need.

Table 1. Target Situation Analysis

Item	Question	Answer	Percentage
1	What is your main goal of learning English at school?	To master English (spoken and written)	87%
2	Which of the answers below that you think is most difficult?	All answer true (grammar, lack of vocabulary, expressing ideas)	43.5%
3	What do you usually use English for?	All answer true (Writing, Reading, Listening, Speaking)	76.1%
4	Which activities you like the most?	Work with a partner or group	63%
5	What do you expect to be able to do after having taken English	All answer true (to be able to communicate in English, to be able to write in English and for academic purposes)	65.2%

Table 2. Discourse Analysis

Item	Question	Answer	Percentage
6	Your experience in learning English	Only at school	82.6%
7	How important do you think to master vocabularies related to your major	Quite important	58.7 %

8	What do you find the most difficult in learning vocabularies	Can's seem to remember because not related to my major	41.3%
9	The difficulties you encounter when learning English vocabularies	Understanding it in context	34.8%
10	List of vocabularies that I like	With pictures	43.5%
11	Which font do you prefer	Architecture daughter	71.1%
12	Font size that I prefer	Vary (11 to 13)	69.6%
13	Color base that you like	Red	47.8%
14	I like to work an assignment	With a group	56.5%

Table 3. Present Situation Analysis

Item	Question	Answer	Percentage
15	Your English level	Elementary	56.5%
16	You need vocabularies most in	Doing tests	69.6%
17	Are you familiar with vocabularies related to your major	Familiar	56.5 %

Table 4. Learner Factor Analysis

Item	Question	Answer	Percentage
18	What is your motivation in learning English	To communicate in English	69.6%
19	Do you like learning vocabulary in a way	Memorizing specific vocabularies for my major	50%
20	What do you expect after learning specific vocabularies for your major	All answer true (Get to understand the use of vocabularies in architecture, Increase my motivation and my interests)	45.7%

Based on the analysis, the purposes of students in mastering English are especially for speaking and writing purposes in academic settings. The students feel the most difficult things in learning English are in almost all aspects like expressing ideas, lack of vocabulary and grammar. At campus, the students learn English used all four skills such as speaking, listening, reading and writing. In doing the tasks the students prefer to work with a partner or group. The students expected that after taking English class, they will be able to use English for academic purposes, for communicating and for writing. It is also expected that their interest to learn English will increase. Mostly, the students only had experienced learning English at school. The most difficult thing in learning English for the students is when remembering the vocabularies that have been learned. To make it easy, the students agree that if the pictures are provided in the

supplementary material since their English proficiencies are still in elementary level.

Design

The design phase includes specifying the desired performance, identifying the primary learning tasks required to achieve a goal and facilitating a way to determine learner readiness. There are several steps to include in design phase. The first one is the selection of the vocabularies. In selecting the vocabularies, the writer refers to the syllabus that is in semester one. The focus of this semester is to learn vocabularies related to house design. Therefore, the vocabularies that will be developed in this study are circling around the house design. There are five units in the material.



Figure 1. Unit one: Architectural Style

The first one is architectural style. In this architectural style, there is a list of different house design across the world especially western house styles from the traditional houses to modern houses. There are thirty vocabularies in this unit which means there are thirty house styles. Each vocabulary will have a picture and the name of the house style. There will also short explanation or description regarding the history or the information about each house style. After the section, there will be an exercise at the end of the unit. The exercise and the task are designed based on students' preference that is the majority of students agree to prefer do assignments in group or with a partner. Accordingly, the tasks are designed mostly on a either a group project or work with a partner. The focus of the tasks is mainly on speaking. That is because the majority of students expect that they are able to communicate and speak in English in their academic settings.

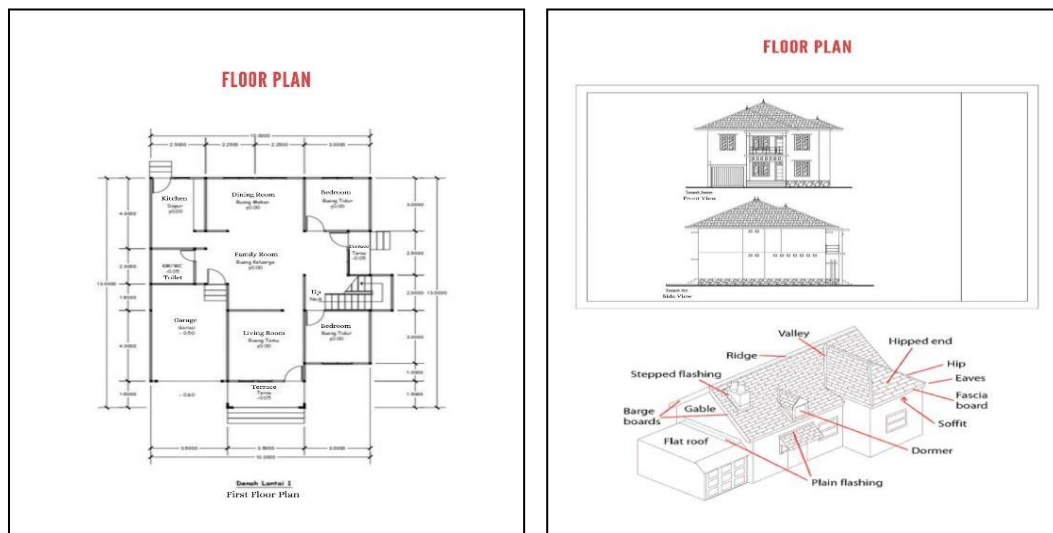


Figure 2. Unit two: Floor Plan

The second unit is floor plan. This unit consists of a drawing of a floor plan to scale. It shows the layout of a home from above. It shows the name of the rooms and pattern at one level of a structure. In the drawing, the writer puts the name of the locations, for instances, the location of the bathroom, doors, windows, stairs etc. There are also the drawings of the home from left view, from right view, from front view and from the back. Just like in unit one, the writer also adds tasks at the end of the section with the same focus that is speaking and group work.

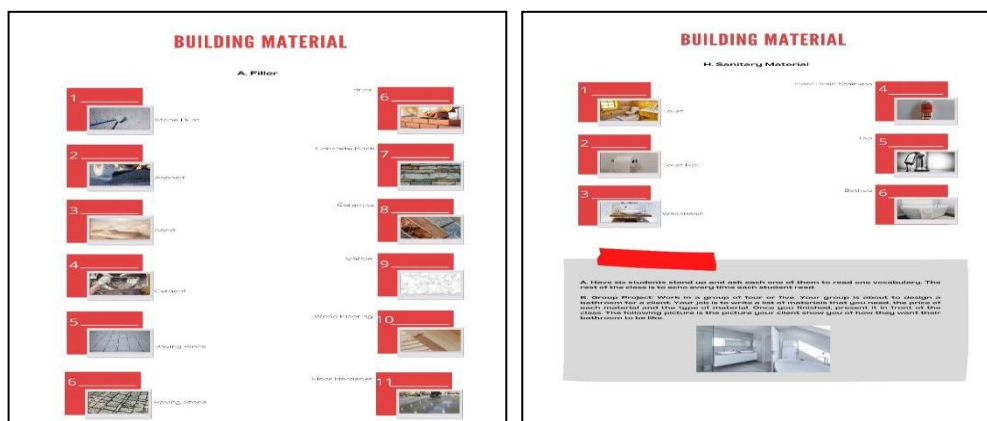


Figure 3. Unit three: Building Material

The third unit is building material. In this unit, taken from various books of architecture those students of architecture use, the writer lists names of building materials. The materials are classified into several types that include filler, wood material, paint material, Iron and Aluminum material, hanging material, glass material, plywood material, sanitary material, oil material, materials for electric appliance and fire extinguisher.

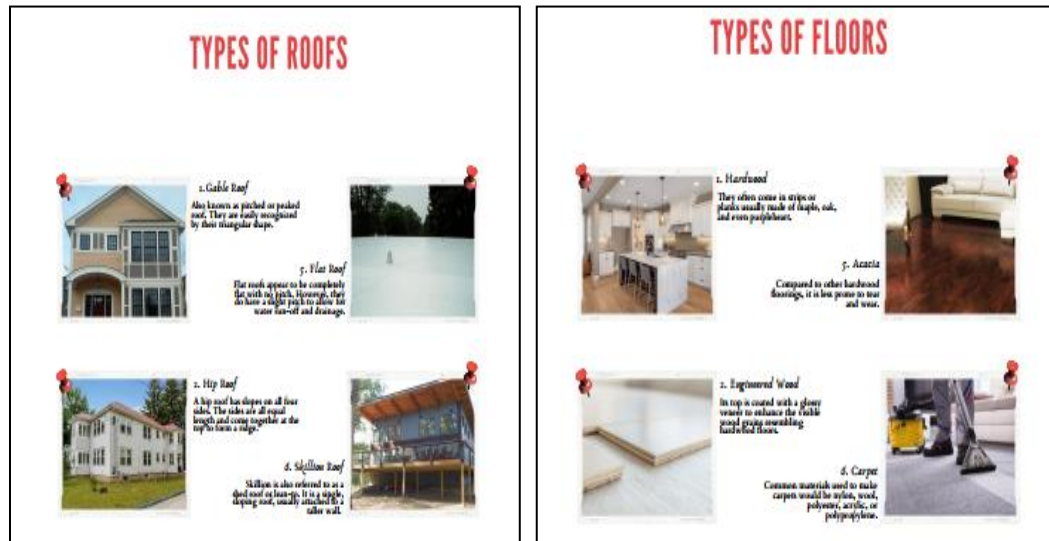


Figure 4. Unit four: Roofs and Floors

The fourth Unit is consisting of the list of vocabulary related to different types of roofs and floors. Just like the previous unit, each vocabulary is accompanied by the name of each type of roof and floor as well as the description. The description is in regard with the function or the material that are used for each type.



Figure 5. Unit five: Interior Design

The last unit, unit five, learners are presented with different types of interior design. Learners can get the information regarding the name of each type as well the description of those types. There is also task provided by the end of this unit. By the end of the list of vocabulary for each type, the writer provides tasks and activities for students. There are approximately 321 vocabularies listing in the material.

Develop

After having the data from the need analysis and the outline from the design, in develop phase the writer selecting the vocabularies that will be taken and included in the materials. Because the writer uses reference from students' books and tasks in their architecture classes, the writer had to consider which

vocabularies that will be included in the material and what kind of tasks should be written. In selecting the vocabularies, the writer considers how common and how often those words appear in their study. While for the tasks, the writer considers the results from the need analysis which is students prefer to work either with a partner or group.

In making the design for the book, the writer uses an application. The application is 'canva. It is an online application that allows users to design various things such as books, presentations, pamphlets, brochures, etc. The writer also consulted with a friend who works with a design company for suggestions and opinions.

Implement

The material in this study used as supplementary English material for the architecture major students in Politeknik Negeri Pontianak. In this phase, the writer acted as a teacher who taught the material to students while their classroom teacher acted as a facilitator. The writer implemented the material in the classroom. This phase included the introduction to the material, the focus of the topic in the material and the focus of the activities in the material. Furthermore, information like how to use the material was also presented.

The writer argues that the product developed in this study can offer various benefits for both the teacher and the students. Due to the difficulty in finding materials that is suitable for the learning of vocabularies specific for architecture major, the material in this study can be reference for the teacher to use. With interesting designs and content that are developed in accordance with the students' need, the supplementary materials in this study is ready-use and practical with tasks and activates already provided. Furthermore, in the implementation phase, the students express their satisfaction and interest with the material.

Since the supplementary material in this study is designed more for the students, they can learn the vocabularies themselves outside of the classroom without teachers' guidance. This material can also serve as small dictionary that consists only with the words relating to their major should students need to look up a word in English. In addition, this supplementary material can also be used by other faculties major in architecture due to the content that provides listing of vocabularies related to house design and building materials.

Evaluation

After the implementation, the writer provided students with a checklist that was designed based on Tomlinson' (2011, pp. 8-23) guidance. The checklist was used to understand about students' evaluation and impression about the material presented. In distributing the checklists, the writer explained each point and question in the checklist. The following charts are the results of the checklists. SS indicates strongly agree, S agree, TS disagree, STS strongly disagree.

Table 5. Students Checklist Table

No	Questions	Strongly Agree	Agree	Disagree	Strongly Disagree
1	The material gives positive impact				
	a. Novelty (unique topics, illustrations, and activities)	38.46%	61.53%		

b. Varieties (variety in fonts and unpredictable tasks)	30.76%	50%	15.38%	3.8%
c. Attractive display (attractive colors and photographs)	65.38%	30.76%	3.8%	
d. Interesting content (interesting topics and offer the students to learn something new)	46.15%	53.84%		
e. Achievable challenge (the tasks push the students to think)	38.46%	57.69%	3.8%	
2 The material does not intimidate the students				
a. it has much white space	11.53%	42.30%	46.15%	
b. The texts and illustration do not contradict to the students' cultures	19.23%	73.07%	7.69%	
c. the contents and activities push the students to achieve their success	42.30%	57.69%		
3 The materials could help the students to develop their thinking				
a. Stimulated tasks	30.76%	50%	19.23%	
b. Developing imagination	23.07%	73.07%	3.8%	
4 The Material is relevant and useful				
a. It could help the students to achieve short term objectives	23.07%	61.53%	15.38%	
b. It could help the students to achieve long term objectives	38.46%	61.53%		
5 The material could facilitate the students' self-investment				
a. The students are interested to the texts in the material	30.76%	69.23%		
b. The tasks focus on the learner-centered discovery	15.38%	80.76%	3.8%	
c. It could help the students in analyzing the linguistic characteristic of the texts. Such as Noun, Adjective, Verb, Adverb, and etc.	38.46%	61.53%		
6 The material showed the use of authentic English	50%	50%		
7 The material could attract the students to learn the linguistic characteristic of the texts.	57.7%	38.5%	3.8%	
8 The material could help the students to use English for communicating.				

a. Insisting the students to communicate each other and with the teacher to get an information.	38.46%	61.53%
b. Insisting the students to use the information in the material to achieve communication objective with the students or teacher.	34.61%	65.38%

DISCUSSION

This study confirms previous study by Poorhadi, 2017 and Aliakbair & Boghayeri, 2014 that argue designing English for specific purposes for certain major can benefit students in various ways. For instance, by learning English that is related with their major can increase student’s motivation and interest because they can see the relevance of what they learn with their own life experience. Furthermore, the previous study by Andrianova & Makarova (2016) also confirms the results of the need analysis with the teacher and students in this study that reveal the need to elaborate and introduce new teaching methods related to condition of the education and professional development for students’ future career.

This study also confirms other studies that argue designing material for certain major should be based on students need analysis and considers their future career (Behjat, 2012; Peters & Fernandez, 2013; Marcu, 2020). Furthermore, this study also employs the claims by Tomlinson (2011) who states the importance of designing material with the teaching points that are relevant and useful by relating them to known learners’ interest and to real-life tasks which learners might need to perform in the target language.

There are several challenges that the writer encountered in designing the material. The first one is relating to the vocabularies. Due to many unfamiliar words for the writer because it dealt with the architecture terms, the writer had to make sure which vocabularies that are commonly used and often used in their early semesters by consulting several senior students of architecture. The second one is doing the translation. Because the vocabularies are specific in terms, the writer could not just translate them like translating the general English. In this case, the writer consulted and read several books of architecture in English and made sure the translation was in accordance with architecture terms.

There are several limitations in this study. The first one is relating to the numbers of vocabularies in the materials. The listing of the vocabularies is limited to only 321 vocabularies which means the vocabularies only cover words that commonly used for early semesters students. The second one is relating to the task and activities. Since the design of the content of the material cover need analysis of one classroom, different classrooms might have different need.

CONCLUSION

This study produces an ESP Supplementary Material for Architecture Major Students. The Supplementary materials is developed based on the needs of the

students. The analysis of the students' needs shows that most of students learn English is for speaking and writing purposes in academic settings. The problems faced in achieving those skills are the students get difficulties in some aspects like expressing ideas, lack of vocabulary and grammar. To support the learning, the students learn English in speaking, listening, reading and writing at campus. To solve the problems in doing the tasks, the students prefer to work with a partner or group. Mostly, the students only had experienced learning English at school. The most difficult thing in learning English for the students is when remembering the vocabularies that have been learned. To make it easy, the students agree that if the pictures are provided in the supplementary material since their English proficiencies are still in elementary level.

The supplementary material is interesting in design and content that are developed in accordance with the students' need. After the implementation phase the students feel this supplementary could help them in learning English especially for their major. Besides, the students express their satisfaction and interest with the material. The supplementary materials in this study is ready-use and practical with tasks and activates already provided.

There are several limitations in this study. The first one is regarding the need analysis. The need analysis was only limited to one classroom as the participant. Thus, the material was developed accordingly. Second, the vocabularies listed in the material was limited to approximately around 321 words.

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