

# DEVELOPING ENGLISH INSTRUCTIONAL MATERIAL: THEORY OF EVOLUTION FOR BIOLOGY EDUCATION DEPARTMENT STUDENTS

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## ABSTRACT

The research is aimed to develop English Instructional Module for Biology Education Department: Evolution at UIN Alauddin Makassar. The Research and Development model implemented in this study was 4-D Approach (Define, Design, Development, and Disseminate), but Disseminate phase is not conducted because corona pandemic. In this research involved the students of Biology Education Department, the lecturers of Biology Education Department, and 2 experts from English Education Department at UIN Alauddin Makassar. The researcher used three instruments which are Questionnaire, Interview Guideline and Evaluation Checklist. To obtain the data, the research will conduct an interview as qualitative analysis for the students and lecturers by using interview guidelines constructed based on the theory of Dudley Evans and St. John. Meanwhile, the researcher will use evaluation checklist as quantitative analysis and the module material design would validate by the expert's judgment. The results of this research expressed that the students of Biology Education need an instructional material in context module which include integrated skills and not general module but focus on English Specific Purposes due to the students' needs of Biology Education. The data of the students' need became the basis in developing module. This research can be utilized both for lecturer and students as a learning source. Moreover, for further research, it could be a helpful guideline in developing a language teaching material by adapting the same model.

**Keywords:** Instructional Module, Research and Development, English for Specific Purposes (ESP)

## 1) INTRODUCTION

The Current issue of Biology Education Department is one of the majors in UIN Alauddin Makassar. Based on the preliminary research by asking the Lecturer of Biology Education student she said Many of materials in Biology education need such English vocabularies or text, because it can help the students to read International Journal, etc. (Jamilah, February 2020). It means that they do not provide suitable knowledge and competence that can fulfill the students' needs the module uses. The problems include; there is less a primary module as a leaning package, there is no uniformity materials, the content of English material is not relevant to their major (English

Specific Material), and the students of Biology Education is really difficult to understand the International Module.

Research is an activity of collecting, processing, analyzing, and presenting data which is carried out systematically and objectively to solve a problem or want to test a hypothesis to develop general principles, while development is a process or method used to develop something to be good or perfect. Biased development is also referred to as the application of organized knowledge to help solve problems in society, including in the field of education. The conclusion is Research and Development are a research method that is quite popular and has been widely chosen as a research method in all fields of study, including in the world of education.

The instructional material has significant effects for teaching and learning. Instructional material is kind of tools or equipment that can effectively help the instructor in theory teaching classroom or in practical assessment (Brown, 1992; 217). Instructional material has gotten a lot of development since it becomes one of the crucial things that can support the effectiveness of learning process nowadays, especially English learning which can be discovered in the form of text book, learning module, worksheet, handout, article, newspaper, comic, and poster (Yaumi, 2018: 108-123).

Module is one type of teaching materials that are presented systematically, so that the user can learn without the teacher. Learning by using module allows students who have a high ability to learn would be faster in completing a basic competence than other student (ministry of education, 2004), but it does not mean that the presence of lecturer is not important, yet this module invites students to more independent in their learning and the role of the lecturer is to complete the understanding gained from independent learning through the module (Yaumi, 2018:114).

Module is an important part in learning process; therefore, the content of learning materials must be relevant to the scientific disciplines, and curriculum syllabus are designed according to needs analysis. Based on preliminary research, students of Biology Education said that they do not have relevant instructional material which is relevant to their major and only learn about English general, whereas they realize that they really need English influential on the prospects of the Department they take. This problem supported by preliminary research, lecturer of Biology Education said that there is no syllabus design that is suitable for the analysis of student need. Based on the problems above, the researcher decides to design and develop English Instructional Module for students of Biology Education Department by using English for Specific Purposes (ESP) and Define, Design, Development, and Dissemination (4D) model. This research will focus on designing English material which oriented in non-printed material such as module. In this research, the researcher will design and develop Theory of Evolution with integrated Reading skill by using English for Specific Purposes (ESP) and 4D approach that consist of define, design, development, and dissemination.

Designing is a plan or specification for the construction of an object, system and implementation of an activity or process, then the result of the specification in the form of prototype, product or process. Instructional material is a set of media or learning resources that have been systematically compiled to be used as a guide in achieving learning competencies includes aspects of knowledge, skills and attitudes according to student needs through teaching and learning process. Thus, development of instructional material means a process of make a chance of learning resources that have been systematically compiled to achieve learning competencies based on the students need through teaching and learning process. English reading material is a reading material which contains some of text themed of the theory of evolution which will focus to learn for the student of Biology Education Department.

English for Biology is an English study program for the Biology Education. Department where the materials should be based on various interesting text and activities providing a wide

range of skills. Moreover, the materials consist of any topic related to Biology concepts specially for Theory of Evolution.

## 2) METHODS

### Research Method

This study is Research and Development study which is done by involving several aspects such as student present situation, classroom problems, studying recent theories of educational product development, developing the educational products, validating the product to experts, and field testing the product (Latif, 2012).

In addition, Mills and Gay (2016: 35) stated that “Research and Development is the process of researching consumer needs and the developing to fulfill those needs. The purpose of R & D efforts in education is not to formulate or test theory but to develop effective for use in schools”. Supported by Borg and Gall in their book under the title “Educational research: An introduction”, they stated that R&D is a research design which aims to developed and validate a product. It consists of several steps that usually referred to as the R&D cycle, which concern for studying research findings pertinent to the product to be developed, developing the product based on the finding, field testing it in the setting where it will be used eventually, and revising it to correct the deficiencies found in the field-testing stage. (Borg, and Gall: 2003).

### Research Subject

This research will take place at the Biology Education Department, in the Tarbiyah and Teaching faculty at Alauddin State Islamic University Makassar, located at St. Sultan Alauddin 63, Romangpolong, Somba Opu district, Gowa regency, South Sulawesi, Indonesia. In this research involved the students of Biology Education Department, the lecturers of Biology Education Department, and 2 experts from English Education Department at UIN Alauddin Makassar.

### Research Instrument

In this research, the researcher used three instruments. There are questionnaire, interview guidelines, and Evaluation Checklist. In the questionnaire, the researcher used close questionnaire and open questionnaire to determine the content of materials each topic to make a syllabus. Open questionnaire and close questionnaire in this research as a function to know the comparison of effectiveness between the previous module and the researcher's product. The last, the researcher used the result from the questionnaire as a source of data and as a question for the expert through an interview to get the expert evaluation.

## 3) RESULTS

### The Level Ability

**Table 1. Level Ability**

No.	Level Ability	Average
1.	Listening	2.22
2.	Speaking	2.16
3.	Writing	2.38
4.	Reading	2.53
5.	Vocabulary	2.30
1 – 1.75 = Poor; 1.76 – 2.50 = Fair;		
2.51 – 3.50 = Good; 3.51 – 4.00 = Excellent;		

## The Learning Problem

**Table 2. Learning Problem**

No.	Learning Problems	Students	Graduate	Lecturer	Average
1.	Lack of motivation	3.77	4	3.5	<b>3.75</b>
3.	Commit spelling errors	3.51	3.4	4	<b>3.63</b>
4.	Inadequate mastery of grammar	3.48	3.4	4	<b>3.62</b>
5.	Rely much on L1 structure	3.71	3.1	4	<b>3.60</b>

1 – 1.75 = Hardly ever;    1.76 – 2.50 = Seldom;  
2.51 – 3.50 = Often;    3.51 – 4.00 = Always;

## The Learning Preferences

**Table 3. Learning Preferences**

No.	Learning Preferences	Students	Graduate	Lecturer	Average
1.	Learning individually	3.18	3.3	4	<b>3.54</b>
2.	Learning in pairs	3.30	3.2	3.5	<b>3.57</b>
3.	Learning in a small group	3.34	3.3	4	<b>3.83</b>
4.	Learning in a big group	3.18	3.2	3.5	<b>3.54</b>
5.	Learning through reading while taking notes	3.36	3.3	3.5	<b>3.59</b>
6.	Learning through role play	3.30	3.1	4	<b>3.82</b>

1 – 1.75 = not important;    1.76 – 2.50 = less important;  
2.51 – 3.50 = important;    3.51 – 4.00 = very important;

## The Learning Style

**Table 4. Learning Style**

No.	Learning Style	Students	Graduate	Lecturer	Average
1.	Learning through picture	3.61	3.5	4	<b>3.70</b>
2.	Learning through video	3.40	3.8	4	<b>3.73</b>
3.	Learning through audio	3.65	3.9	3.5	<b>3.68</b>

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1 – 1.75 = not important; 1.76 – 2.50 = less important;

2.51 – 3.50 = important; 3.51 – 4.00 = very important;

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## The Inventory Need

**Table 5. Inventory Need**

No.	Needs	Component	Result	Category Scores
1.	Target Situation Analysis	Purpose	To get a scholarship	Very Important
			Future career	Very Important
			Visit other countries	Very Important
			Develop self-quality	Very Important
			Complete study	Important
		Language component	Reading	Very Important
			Pronunciation	Very Important
			Vocabulary	Very Important
			Listening	Very Important
			Grammar	Important
			Spelling	Important
		Topics	Cells	Very Important
			Microorganism	Very Important
			Animal cells	Very Important
			Plant cells	Very Important
			Structure of cells	Very Important
			Circulation of blood	Very Important
			Genetics	Very Important
			Ecology	Very Important
			Evolution	Important
Language skills are that most often used	Reading	Often		
	Writing	Often		
	Speaking	Often		
	Listening	Often		

		Reading Aspect	Able to understand reading material,	<b>Very Important</b>
			Able to understand reading material	<b>Very Important</b>
			Able to understand specific reading material	<b>Very Important</b>
			Able to understand reading material in detail	<b>Important</b>
		Language Skills	Speaking	<b>Very Important</b>
			Listening	<b>Very Important</b>
			Reading	<b>Very Important</b>
			Vocabulary	<b>Very Important</b>
			Writing	<b>Very Important</b>
			Translation	<b>Very Important</b>
		2.	Present Situation Analysis	Level Proficiency
Writing	<b>Fair</b>			
Vocabulary	<b>Fair</b>			
Listening	<b>Fair</b>			
Speaking	<b>Fair</b>			
Learning Problem	Lack of motivation			<b>Always</b>
	Commit spelling errors			<b>Always</b>
	Inadequate mastery of grammar			<b>Always</b>
	Rely much on L1 structure			
	Lack of learning English strategies			<b>Often</b>
3.	Learning Needs	Learning Preferences	Learning in a small group	<b>Very Important</b>
			Learning through role play	<b>Very Important</b>
			Learning through reading while taking	<b>Very Important</b>
			Learning in pairs	<b>Very Important</b>
			Learning in a big group	<b>Very Important</b>
			Learning individually	<b>Very Important</b>
		Learning Styles	Learning through video	<b>Very Important</b>
			Learning through picture	<b>Very Important</b>
			Learning through audio	<b>Very Important</b>

#### 4) DISCUSSION

##### The Students' Need of English Module Material

From the results of research conducted by Hasriani as described in the findings section, the researchers found that:

1. The results of the analysis in Table 2 illustrate that in level ability. four of the five skills are in the fair category, this shows that the English basic language skills in the Biology Education Department are lacking.
2. The results of the table 3 analysis show that, that the lack of motivation has the highest score with the category often.
3. The results of the analysis in table 4 shows that learning in a small group as one of the learning preferences are included in the category that is very important with the highest score.
4. The results of the analysis in table 5 shows Overall respondents chose Learning through video as a very important learning style.

##### The Designing Process of the Students English Module

The designing process of the English module materials in this research divided into two phases, that were the designing phase and the developing phase. At the designing phase, the researcher designed the module based on the information from the needs analysis by adapting Thiagarajan theory.

The researcher design material related to the evolution based on the conceptual framework by adapting Thiagarajan theory. Thiagarajan theory stated that there are three stages that must be passed namely: construction of criterion-referenced tests, Media selection, Format Selection. The researcher developed English Module material with the topic evolution by adapting material from various sources such as books, journals, internet, etc. After selecting the material, the researcher then changes, improves or modifies the material that has been made to make it more interesting and not boring before entering the evaluation stage. In addition, the module one can be seen in the findings section.

##### The Developing Process of the Students English Module

Developing was the last phase conducted by the researcher based on the 4D Model. The process of developing the English module material in this study included an evaluation stage by adapting Thiagrajan's theory. The Process developing was crucial phase to know the Module for Biology education department was designed very well and had been appropriate or not. In addition, in review the product, to make sure the module material has met the criteria of acceptability to use in the classroom.

Although, evaluation was the last phase in this research, however to streamline the developing process of English Instructional module for the students of Biology Education, the researcher conducted evaluation for the module by expert appraisal.

#### 5) CONCLUSION

The results of this research expressed that the students of Biology Education need an instructional material in context module which include integrated skills and not general module but focus on English Specific Purposes due to the students' needs of Biology Education. The data of the students' need became the basis in developing module. This research can be utilized both for lecturer and students as a learning source. Moreover, for further research, it could be a helpful guideline in developing a language teaching material by adapting the same model.

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