

DESIGNING ELT UNIT OF GRAVITY FOR PHYSICS EDUCATION DEPARTMENT STUDENTS AT UIN ALAUDDIN MAKASSAR

Nur Aliyah Nur¹

Sitti Nurpahmi²

Nur Azisah Azis³

^{1,2,3}Universitas Islam Negeri Alauddin Makassar

Corresponding Author: nuraliyahnur@uin-alauddin.ac.id

ABSTRACT

This study is set to design the Gravity topic of ELT material for Physics Education Department students at UIN Alauddin Makassar. This study used Research and development method and implemented the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). This study used 2 research instruments, which were the document of the result of data need analysis and the evaluation checklist. In this study, the evaluation checklist was for 2 lecturers from English education department students at UIN Alauddin Makassar to validate the syllabus and the product that has been designed by the researcher. This study revealed the component of the syllabus and the module content were appropriate for students' needs in Physics education students, especially on the Gravity topic. Subsequently, in this study, the unit material was designed as printed material. For future researchers, it is suggested to conduct implementation to test the acceptability of the syllabus and the material.

Keywords: ELT Material, ADDIE Model, Printed Material

1) INTRODUCTION

English is one of the core courses that must be taught in all majors (Indrasari 2016). In other words, schools and universities teach English formally, which must be taught and learned. At a high level of education especially in non-English majors, they study English generally, and sometimes the material does not match the background of their majors because it is taught English in general. According to Fatmawati (2017) said that a teacher should be familiar with ESP (English for Specific Purpose) since in order to develop a syllabus, the teacher must understand the conditions of students, as well as their needs in terms of skills, competencies, and knowledge. In other words, teachers must comprehend the concept of ESP (English Specific Purpose). In line with Hutchinson and Waters (1994), ESP is a way of teaching English in which the content and procedures are focused on the reasons why the student wants to learn English. Hutchinson and Water (1987) emphasized that ESP teachers

Paper presented at The 3rd ICONELE on September 14th-15th, 2022
English Education Department, Faculty of Teacher Training and Education
Universitas Islam Negeri Alauddin Makassar
South Sulawesi-Indonesia

must do a need analysis to obtain knowledge about their students' conditions. In case, the first stage in building a program is establishing what students need to determine the program's goals and contents (Richards, 2001)

The materials in ESP are different from materials for learning English generally since they are specifically created with the intention of assisting students in carrying out activities connected to their majors. Saragih (2014) stated that good instructional material can achieve educational purposes. In achieving educational goals, the content of learning materials must be adapted to the needs of students, as well as the needs of some formal objects. As a future teacher candidate, teaching English requires learning material, as we know that learning materials are the most significant aspect of teaching and learning in ELT (English Language Teaching). This scenario depicts how English materials are an important component in enabling English language teaching and learning (Tomlinson, 2012). Brown (1992) stated that instructional material refers to any instruments or equipment that can assist the instructor in theory teaching in the classroom or practical assessment.

In line with this research, the current issue of the problem faced by Physics Education department students at UIN Alauddin Makassar that there was no instructional material. In this case, it has been clearly explained in previous research conducted by Rukmana (2021) that instructional materials for Physics Education students in UIN Alauddin Makassar were not in accordance with students' needs, they only teach English general. The Physics department does not offer teaching resources for English classes that are directly correlated to physics majors. Contrary to students' needs that the students want content such as vocabulary, text reading, and audio that relate to their purpose of learning English related to their discipline knowledge. There are 12 topics that they want to learn, one of them was "Gravity" which the students' need for content related to the topic is 3.37% it is very important material (Rukmana, 2021).

Furthermore, all the causes above are because there is no instructional material available so, it might happen a bad effect if these causes continue over and over again in Physics Education students so, it can make students only know basic English without focusing on the specifics of their discipline knowledge.

Based on the problems above, the researcher believes that a proper English learning module is required to assist Physics Education students in better understanding the English language in light of their scientific disciplines. So, the researcher designed and developed a new

printed-English module based on physics topics, especially on “Gravity” materials by using the English for Specific Purposes (ESP) and ADDIE model.

2) METHOD

The researcher used the design and development research method which we often heard with the abbreviation R&D. Where this R&D was characterized as a research design that incorporates numerous factors such as the current status of students, classroom difficulties, studying recent theories of educational product development, producing educational products, validating the product with validators, and field testing the product (Latief, 2012). Furthermore, in Borg and Gall’s book title was “Educational research: An introduction; the third edition (2015)”, they said that educational research and development (R&D) was a method for creating and validating instructional materials. This step in the research process was known as the R&D cycle, and it consisted of past research findings relating to the generated product.

The ADDIE model was used by the researcher to design, develop and evaluate English language teaching materials. The ADDIE model, according to Alnajdi (2018), was an abbreviation for the five phases of analysis, design, development, implementation, and evaluation, but each step performs a unique role at every level to ensure that the design was rising, developing, and rebuilding (Alodwan & Almosa, 2018).

The researcher used two instruments such as; the first was document of the need analysis from previous researcher, and the second was evaluation checklist included two types, those are evaluation checklist for syllabus, and evaluation checklist for module. Moreover, the document and the validators from the lecturers of English education department student was the participant of this study.

In this study, the process of gathering data involved four stages: Analysis, Design, Development, and Evaluation. In the analysis phase, the researcher examined and re-examine the findings of the need analysis by the previous researcher to be analyzed by the researcher in an effort to create learning outcomes that suit to the demands of these students need. The second stage is designing; at this stage, the researcher started to create the syllabus as a lesson plan for the physics education department's English teaching and learning process. The next phase was development, during which researchers started to create tangible products in the form of ELT modules based on the findings of analyst needs and previously created syllabus. The final phase was evaluation. During this phase, all products, including the syllabus and ELT

modules, were assessed using an evaluation checklist that was directly filled out by validators in order to confirm that the product has been validated.

3) FINDINGS AND DISCUSSION

The Process of Designing ELT Material Unit Kinematic for Physics Education Department Students at UIN Alauddin Makassar

The researcher first analyzed and studied Rukmana's need analysis (2021) before beginning to design material products for the physics education department. Researchers using the analysis' findings as a guide for creating products like the syllabus and elt module. Following are the findings of the need analysis:

There are 12 different categories of the topics become the unit of ELT module. The subject is a unit that students frequently study and that they become dependent upon during the learning process. These subjects include gravity, temperature, thermodynamic, kinematic, electricity, equilibrium, relativity, energy potential and conservation, mechanic quantum, magnet, and rotation. For the topic, the skill set that students need includes reading, listening, writing, speaking, vocabulary, grammar, and pronunciation. The following table provides comprehensive information on students' needs with regard to these abilities:

Table 1. Students' Needs

Target Needs		Average Score
Reading	Able to guess the meaning of a word from a reading English text is the first priority	3.14
	Able to understand all types of reading is the second priority	3.06
	Able to find keywords and main ideas through scanning and skimming is the third priority	3.02
Learning Needs		Average Score
Learning Problem	Lack of vocabulary	2.80
Learning Style	Learning English through reading while taking notes	3.16

Target Needs		Average Score
Writing	Able to write with cohesive and coherent paragraphs is the first priority	3.17
	Able to organize the paragraph correctly is the second priority	3.16
Learning Needs		Average Score
Learning Problem	Difficulty writing text / sentences in	2.31
Target Needs		Average Score
Speaking	Vocabularies is the first priority	3.17
	Pronunciation is the second priority	3.16
	Accuracy and fluency are the third priority	2,83%
Target Needs		Average Score
Listening	Able to identify the main idea from various types of listening material is the first priority	3.15
	Able to understand listening material is the second priority	3.09
Learning Needs		Average Score
Learning Style	Learning English through audio	3.11

The researcher then proceeded to the design phase after analyzing the data. In this stage, researchers started to create a rough syllabus based on information already available about target needs. The information from the results of the aforementioned need analysis was used as a guide by the researcher when creating the learning objectives for this syllabus. The researcher

must first choose the sort of syllabus to be used before developing it. The researcher chose to employ a skill-based syllabus type for this study in accordance with the data from the information from the results of the need analysis that has been acquired. The researcher concentrated on three stages during the preparation phase: developing learning goals from a need analysis, choosing and grading content, and choosing and grading task or evaluation (Nunan, 1988). The learning outcomes, indicators, skills, activities, and evaluations were the components of the syllabus.

In order to make it easier for the researcher to develop this product, the researcher did it by doing three stages, i.e., selecting existing material, writing own material, and modifying the material. After designing the syllabus, the researcher then developed the product material, i.e., ELT Module, based on the results of the existing inventory needs. The module must include English learning skills.

The Result of Validator Validation of ELT Material

After developing material, the next phase was evaluation. The researcher carried out this evaluation in every process of making the ELT Module for Physics Education students, starting from the syllabus design which would produce prototype material 1, then developed it to produce prototype 2. And the last was the evaluation, it was divided into 3 categories such as; self-evaluation, peer evaluation, and validator evaluation.

First, In the self-evaluation conducted by the researcher, in this evaluation, the researcher reviewed the material that had been contained in the module specifically on the topic "Gravity" which was in accordance with the results of the existing need analysis.

Second, Peer evaluation was carried out by a researcher consultant by provided several suggestions regarding the development of the module. According to Hutchinson and Waters (1998), one type of evaluation to assess a product is peer evaluation. This peer evaluation is carried out to assist the researcher in reviewing the results of her product. The items that are reviewed again such as material themes, learning objectives, learning activities, skills, and the appearance of the material. As a result of peer evaluation, the consultant advises that learning objectives must be related to the activities of each skill contained in the module. In addition, the consultant provided suggestions to pay more attention to the completeness of the content in the module such as adding list vocabularies, providing worksheets for each activity, and adding a scoring scale for the activities.

After receiving advice from the consultant, the researcher revised the module's content. In particular, the researcher added a list of vocabulary words relating to the issue and placed it after the reading skill and listening skills. Each exercise sheet that lacked a worksheet was also given a worksheet by the researcher. The author then adds a rating scale in the concluding stage, adapting Randi & Sari's rating scale (2021).

Last, validator evaluation, there are two validators consisting of two lecturers of the English Education Department at UIN Alauddin Makassar conducted a validator evaluation utilizing an evaluation checklist. The results of the evaluation were quoted from the evaluation checklist that has been given to the Validators. The evaluation checklist consisted of two types an evaluation checklist for the module and a syllabus. in the evaluation checklist for the module, there were two items such as the organization of the module and the content of the module were already checked with a good mark, while in the evaluation checklist of the syllabus there are several items such as learning outcomes, indicator, skills, activity, and evaluation were already evaluated with a very good checklist. As for several revisions based on suggestions from the validator, namely the researcher changed the font type to Arial which was originally the font type used in the module was Times New Roman, added part of speech to each vocabulary list, and changed the orientation of the layout on the conceptual map which was originally portraited and then changed landscapes.

As the result of two evaluation checklists, the syllabus and prototype English module material were very well designed, and ready to be used as guides and teaching materials in learning English in Physics Education Departments, especially in Gravity topics, and several revisions of the two products that were processed using Microsoft Excel and compiled based on the concept of Likert scale. Moreover, the two evaluation checklists proved that the score obtained for all criteria for a good module and well syllabus was 4.5 – 5.0. The score was included in the very good category which means both products (module and syllabus) that have been designed and developed were very good, and those were suitable for using as instructional materials for teaching English in the physics education department.

4) CONCLUSION

This research was carried out to develop an ELT module for students in Physics Education Department who have an integrated English capability for English for Specific Purposes (ESP). The researcher used the ADDIE model in this study, and the following are some of the findings:

1. The syllabus was created using the findings of the need analysis. The syllabus has only one topic which is Gravity.
2. The prototype module content was developed with the help of the designed ELT syllabus as a guide. The module includes Gravity-related learning materials as well as a variety of exercises to assess students' comprehension.
3. Two experts evaluated the prototype of ELT module material for the Physics Education Department using an Evaluation checklist. The syllabus and prototype materials developed by the researcher were well constructed after multiple changes based on the results of the expert judgment sheet.

REFERENCES

- Alnajdi, S. M. (2018). The Effectiveness of Designing and Using a Practical Interactive Lesson based on ADDIE Model to Enhance Students' Learning Performances in University of Tabuk. *Journal of Education and Learning*, 7(6), 212. <https://doi.org/10.5539/jel.v7n6p212>.
- Alodwan, T., & Almosa, M. (2018). The Effect of a Computer Program Based on Analysis, Design, Development, Implementation and Evaluation (ADDIE) in Improving Ninth Graders' Listening and Reading Comprehension Skills in English in Jordan. *English Language Teaching*, 11(4), 43. <https://doi.org/10.5539/elt.v11n4p43>.
- Borg, W. R., & Gall, M. D. (2015). *Educational Research: An Introduction*. Longman. <https://books.google.co.id/books?id=KcE0AAAAAAAJ>.
- Brown, H. D. (1992). *Language Assessment Principle and Classroom Practices*.
- Indrasari, N. (2016). *English for specific purposes: A need analysis at the second semester of physics education students of IAIN Raden Intan Lampung in the academic year of 2015/2016*.
- Nunan, D., Candlin, C. N., & Widdowson, H. G. (1988). *Syllabus Design* (H. G. W. C. N. Candlin (ed.); Illustrate). OUP Oxford.
- Latief, M. A. (2012). *Research methods on language learning: An introduction*. Malang: Universitas Negeri Malang.
- Richards, J. (2001). Curriculum Development in Language Teaching. In *European Journal of Teacher Education* (Vol. 25, Issues 2–3, p. 152). <https://doi.org/10.1080/0261976022000044872>.
- Rukmana, A. P. (2021). *Need Analysis on English for Physics Education Department Students at UIN Alauddin Makassar*. 4(1), 6.
- Saragih, E. (2014). Designing ESP materials for nursing students based on needs analysis. *International*

Journal of Linguistics, 6(4), 59.

Tomlinson, B. (2011). *Materials Development in Language Teaching*. Cambridge University Press.
<https://books.google.co.id/books?id=TmhyTQji2UEC>.

Hutchinson, T., & Waters, A. (1987). *English for Specific Purposes*. Cambridge University Press.