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# DESIGNING ENGLISH LANGUAGE TEACHING MATERIAL FOR PHYSICS EDUCATION DEPARTMENT STUDENTS AT UIN ALAUDDIN MAKASSAR

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## ABSTRACT

Materials play an important role in ELT. The preliminary data showed that no primary module was included in the learning package and the English course material was irrelevant to their major (not an ESP material). This study aims to design the "Optic" topic of English Language Teaching Material for Physics Education Department at UIN Alauddin Makassar. This study applied Research and Development Method with ADDIE Model (analysis, design, development, implementation, and evaluation). In order to analyze the data, this study used two research instruments: the document of Need Analysis Data and Evaluation Checklist. The research subject is the researcher and two validators from English Education Department. The data collection procedures included analysing, designing, developing and evaluating. The findings of this study demonstrate that the researchers have designed prototype syllabus as a blue print for designing module. In designing module, the researchers applied three steps: selecting from existing materials related to the topic, writing our materials related to the topic and modifying existing materials related to the materials. Additionally, the evaluation checklist's results show that the Optic units (syllabus and the module) have been carefully designed to fulfill the students' needs. The product is suggested particularly to use by lecturers in English Language Teaching classroom. It can also be used as a preliminary step for the future researcher to try out the Optic unit of the module in implementation stage.

**Keywords:** ELT material; gases; physics education; material design; ESP material

## 1. INTRODUCTION

The education system in Indonesia stipulates that English as a compulsory subject at every level of education (Indrasari, 2016). However, Novita (2011) said that Indonesian people's English skills are still relatively low compared to other Southeast Asian countries. In fact, in higher

education, students in non-English majors are often taught English outside of their needs (Nunan: 2006). Many lecturers in higher education use the general English learning model so that their alumni do not gain language qualification according to their field. In accordance, Richard & Rodger see that ESP (English for Specific Purposes) is needed here to fill the language needs of non-English students. As a result, Hutchinson and Water (1987) emphasized that ESP teachers should analyze to find out the needs of students. Thus, the teacher can formulate the material according to the student's needs. Moreover, need analysis in material development is important because it is a starting point in develop material, designing syllabus, and designing course (Nurpahmi, 2013), (Nurpahmi, 2014), & (Nurpahmi, 2017).

Currently, in Physics Education Department at UIN Alauddin Makassar, there are several problems faced by students in learning English such as lack of vocabulary, difficulty in pronouncing words in English, difficulty in reading and writing text in English and this based on what Rukmana wrote in his thesis. Rukmana, (2021) also stated that another factor of Physics students' difficulty was because Indonesian students learn English as a second language. That means students should have to improve their ability to understand the components in English better. Moreover, this also due to the unavailability of adequate teaching materials to obtain effective learning outcomes.

The availability of teaching materials has an excellent influence on the teaching and learning process. Currently, teaching materials are experiencing drastic development because they are the main support in the effectiveness of the teaching and learning process. Particularly, Yaumi (2018) stated that in learning English, there are many forms of teaching materials such as textbooks, learning modules, worksheets, handouts, comics, some posters, articles, and newspapers.

Departing from the thesis compiled by Rukmana (2021) who researched the need analysis on Physics Education students, she said that these students need reading and writing to support them if they want to continue their master's education. Rukmana wrote that the gases material is on a scale of 3.22, equivalent to optics and is above Oscillation on a scale of 3.21 and Waves on a scale of 3.19, which means that this material is needed in learning. Therefore, it is necessary to develop modules or teaching materials for physics education based on English for Specific Purposes (ESP). Therefore, the researcher intends to design syllabus and English language teaching material for Physics Education student related to 12 topics, i.e., Gravitation, Electricity, Kinematic, Temperature, Magnet, Force, Equilibrium, Mechanic Quantum, Rotation, Relativity, Optics, and Gases. The

research was designed based on students' need using ADDIE model or Analysis, Design, Development, Implementation and Evaluation model.

## 2. METHODS

The researcher carried out the Research and Development (R&D) method. Borg, Gall, and Gall (2003) explained that research and development is how educational goods are designed and validated. This method involves several aspects such as observing the current situation and condition of the student, problem in the classroom, studying the latest theories about the development of educational products, validating the product to the expert and testing them. In line with that, Githa (2020) said that R&D cycle step of this process include applying the research findings to develop the product, developing product based on the findings, testing where the product used and revising the product to address deficiencies found in the pilot phase. Besides, this study used Analysis, Design, Development, Implementation, Evaluation Approach or ADDIE Approach.

ADDIE concept is applied here to build performance-based learning using instructional materials. Educational philosophy for the application of this ADDIE is that intentional learning must be student-centered, innovative, authentic and inspiring. Since ADDIE is simply a process that serves as a guiding framework for complex situations, it is particularly appropriate for developing educational products and other learning resources.

Moreover, the data for this research is taken from two main sources: document and validators. The data that became the basis of designing this module. The researcher used the needs analysis by Rukmana (2021) as the basis of designing and developing this research. Then the researcher invited two validators to evaluate and validate the material. The validators are the lecturers of English Education Department, UIN Alauddin Makassar.

The research instrument used in this study was evaluation checklist. The checklist method is an instrument that helps researcher and validator to evaluate textbook effectively and practically. In addition, Jusuf (2018) stated that the evaluation checklist is an instrument that provides a list of features for evaluators to evaluate the successful of teaching-learning materials. With this instrument, the validator can assess the quality of the compiled syllabus, materials and prototypes.

## 3. RESULTS AND DISCUSSION

### *Result of Analysis*

The analysis result in this phase was gathered from research by Rukmana (2021). Then, the researcher created integrated syllabus and developed module materials. The data that is inserted into the syllabus and module are:

a. Topic

The essential aspect in designing and developing a module material is topic. Departing from the need analysis by Rukmana (2021), the researcher took the "Gases" topic, one of twelve existing topics. "Gases" was taken based on the "inventory needs" on the target needs of students "want" with an average of 3.22.

**Table 1.** Need Analysis Results: Topics

| | | | |
|---|---|---|---|
| Wants | Topics | Temperature | 3.37 |
| | | Gravity | 3.37 |
| | | Thermodynamic | 3.36 |
| | | Force | 3.36 |
| | | Kinematic | 3.36 |
| | | Electricity | 3.35 |
| | | Equilibrium | 3.35 |
| | | Gases | 3.22 |
| | | Optics | 3.22 |

b. Skills

This research aims to increase students' English skills. Skills that included in the material are reading skills, writing skills, listening skills, and speaking skills. Those skills are divided from "necessities" from preferred skill to develop on each average: reading in 3.1, speaking in 2.98, writing in 2.86, and listening in 2.80.

**Table 2.** Need Analysis Results: Preferred Skills to Develop

| | | |
|---|---|---|
| Preferred skill to develop | Reading | 3.1 |
| | Speaking | 2.98 |
| | Writing | 2.86 |
| | Listening | 2.80 |

c. Target and Learning Needs of the Need Analysis

**Table 3.** *Need Analysis Result: Reading*

| | **Target Needs** | **Average Score** |
|---|---|---|
| **Reading** | Able to guess the meaning of a word from an English reading text | 3.14 |
| | Able to understand all types of reading | 3.06 |
| | Able to find the keywords and main idea through scanning and skimming | 3.02 |
| | **Learning Needs** | **Average Score** |
| **Learning Problem** | Lack of vocabulary | 2.80 |
| **Learning Style** | Learning English through reading while taking notes | 3.16 |

**Table 4.** Need Analysis Result: Speaking

| | **Target Needs** | **Average Score** |
|---|---|---|
| **Speaking** | Vocabulary | 3.17 |
| | Pronunciation | 3.16 |
| | **Learning Needs** | **Average Score** |
| **Learning Problem** | Difficulty hearing and capturing meaning of English conversation | 2.41 |
| | Difficulty speaking in English | 2.4 |

**Table 5.** Need Analysis Result: Writing

| | **Target Needs** | **Average Score** |
|---|---|---|
| **Writing** | Able to write cohesive and coherent paragraph | 3.17 |
| | Able to organize the paragraph correctly | 3.16 |
| | **Learning Needs** | **Average Score** |
| **Learning Problem** | Difficulty writing sentence in English | 2.31 |

**Table 6.** Need Analysis Result: Listening

| | **Target Needs** | **Average Score** |
|---|---|---|
| **Listening** | Able to identify the main idea from various types of listening material | 3.15 |
| | Able to understand listening material | 3.09 |
| | **Learning Needs** | **Average Score** |
| **Learning Style** | Learning English through audio | 3.11 |

***Result of Design***

In this phase, researcher designs an integrated syllabus using Nunan's (1988) syllabus design theory. Three are points of design, i.e., formulation of goals based on the need analysis, selecting and grading content, and selecting and grading learning tasks. As for the process can be seen as follows:

a. Formulating of Goals Based on the Needs Analysis

According to Nunan et al. (1988) goals are referred as learning outcomes. They could discuss students' cognitive and emotional growth, what the teacher wants students to learn in class, and what they want students to achieve, as well as communication exercises that students should be able to do after instruction. As a result, the development of objectives in the classroom must agree with the data gained from the prior needs analysis.

Learning Outcomes are the goals of the teaching and learning process. In developing learning outcomes, researcher identify what learning materials and skills children require and what is lacking at this level. Therefore, the teacher is determining if the objectives of the research instrument's results comply with their requirements. This course is meant to assist students in mastering and effectively using English abilities in their daily life. The material offered is designed to improve students' abilities in speaking, listening, writing, and reading. Indicators were created based on the Learning Outcomes.

Indicators are recommendations or pieces of information that serve as a guide for student progress and proficiency. It is a set of information, talents, and attitudes that students should be mastered along their learning journey. The indicators provided in this syllabus are produced in response to student demands on the need analysis.

b. Selection and Grading of Content

Nunan et al. (1988) stated that the selection and assessment or grading of content in this syllabus are aims to prepare the skills that need to be evaluated and criticize the selection and assessment of content in the syllabus. The contents of this syllabus were prepared based on the skills-based syllabus model and also according to the learning outcomes and related to needs analysis,

c. Selection and Grading of Learning Tasks

The third step is to examine the various tasks or activities in the curriculum (Nunan et al., 1988). As a result, the activities included in this syllabus are all relevant to the learning objectives and abilities established in the following stage.

1) Activity

Activity is an action that aims to develop content in designing syllabus. Such as integrating information in the classroom to achieve students learning outcomes and include exercise such as reading, writing, and exercise in the form of audio and visual. Learning by audio, learning through reading, and other activities are examples of activities in the curriculum.

2) Evaluation

Evaluation is used to gain information from students' understanding of the subject was studied. In other words, after defining the object of study, adapting material, teaching the students about the material, and administering the test, evaluation appeared to assess students using written task, oral and answering question.

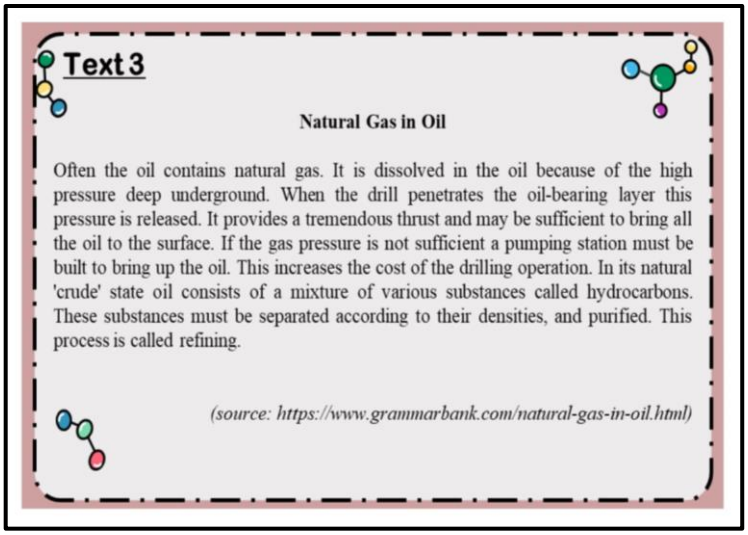
***Result of Development***

According to Hutchison and Waters (1987), there are three ways to construct the materials during the development phase: choosing from existing materials, writing your own materials, and upgrading existing materials. As a result, the following are the steps in the prototype material design process.

a. Choosing from existing materials

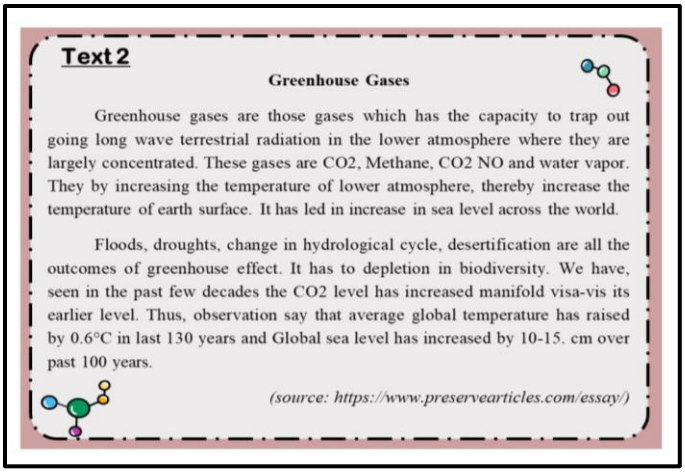
Researcher in this phase chose the material that was considered suitable for ELT material and was related to the Gases topic in Physics learning. Researcher gathered material from e-book or web page (shown in text 3 of the exercise 3 on the speaking skill), essay (shown in text 2 of the exercise 3 in the speaking skill), book (shown in grammar focus), YouTube video that converted into the audio (shown in the exercise 6&7 on the listening skill of the module), and the internet (shown in the passage of reading skill on the module as well as the exercise 1 and the passage of the exercise 4,). The researcher used material such as English passage because based on Rukmana's (2021) analysis of students' needs, she suggested several perceptions expressed by Physics Education students about their difficulties in learning English, including: difficulty speaking in English on average 2.4, difficulty in understanding the English reading text on average 2.35, and difficulty in writing text/sentences in English with average 2.31. The example of material containing in module are:

1) E-book or web page




Source: Natural Gas in Oil, Grammar Bank (2022) https://www.grammarbank.com/reading-comprehension-questions.html (accessed on September 1st 2022)

2) Essay



**Text 2**

**Greenhouse Gases**

Greenhouse gases are those gases which has the capacity to trap out going long wave terrestrial radiation in the lower atmosphere where they are largely concentrated. These gases are CO2, Methane, CO2 NO and water vapor. They by increasing the temperature of lower atmosphere, thereby increase the temperature of earth surface. It has led in increase in sea level across the world.

Floods, droughts, change in hydrological cycle, desertification are all the outcomes of greenhouse effect. It has to depletion in biodiversity. We have, seen in the past few decades the CO2 level has increased manifold visa-vis its earlier level. Thus, observation say that average global temperature has raised by 0.6°C in last 130 years and Global sea level has increased by 10-15. cm over past 100 years.

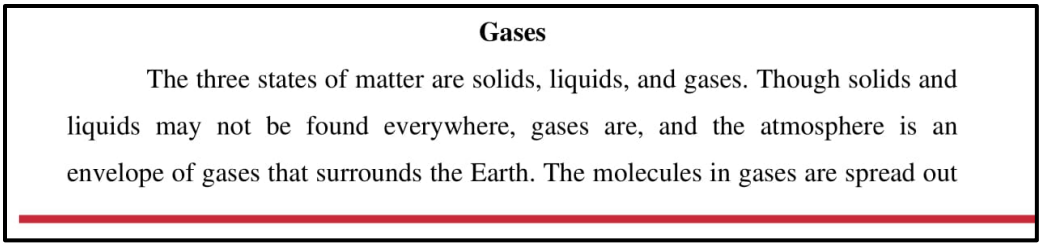
*(source: https://www.preservearticles.com/essay/)*

Source: Greenhouse gases, Preserve Articles, https://www.preserveaerticles.com/essay/very-short-essay-on-green-house-gases/26397 (accessed on September 1st 2022)

3) YouTube Video converted


Source: Climate Change Basic (OLD) U.S. Environmental Protection Agency (2015) https://youtu.be/ScX29WBJI3w (accessed on September 1st 2022)

4) Internet



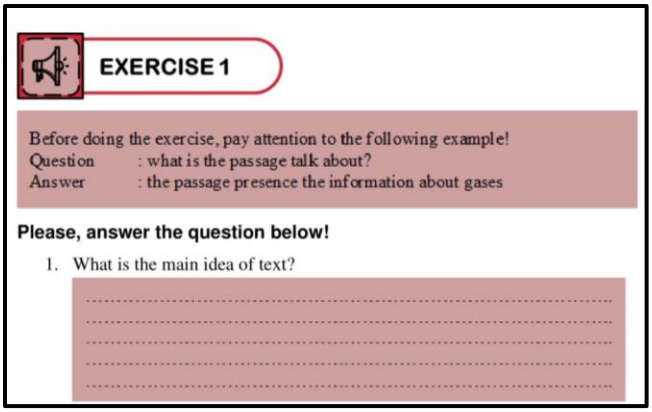
**Gases**

The three states of matter are solids, liquids, and gases. Though solids and liquids may not be found everywhere, gases are, and the atmosphere is an envelope of gases that surrounds the Earth. The molecules in gases are spread out

Source: Gases Reading Comprehension, *Soft Schools* (2020) https://www.softschools.com/language_arts/reading_comprehension/science/536/gases/ (accessed on September 1st 2022)

b. Writing your own materials

The researcher, during this phase, developed the contents based on the topic that has been discussed previously based on the learning outcome that has been designed in the syllabus. Some of the material included in the module are: making vocabulary lists along with their pronunciations (shown in exercise 2 on the module) and writing summaries in the form of sentences and paragraphs (shown in exercise 3). In the results of students' needs analysis by Rukmana (2021), she wrote that students' perceptions of spelling/pronouncing vocabulary mistakes was on average score 2.89 that was in the 'often' category. Some respondents chose 'lack of vocabulary' as an item of difficulty that was often encountered by students of the Physics education department in learning English, also in the 'often category. In addition, students also have several learning preferences such as learning through reading while taking notes (in exercise 4 of the module) with an average score of 3.16 and learning through audio (shown in exercise 6) with an average 3.11. Those things can be seen as follows:



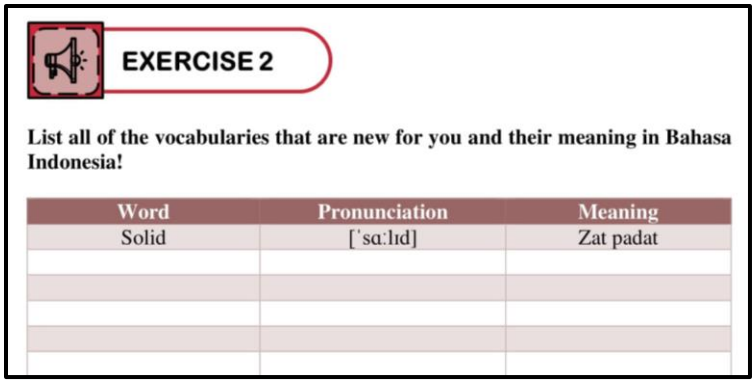
**EXERCISE 1**

Before doing the exercise, pay attention to the following example!
Question : what is the passage talk about?
Answer : the passage presence the information about gases

**Please, answer the question below!**

1. What is the main idea of text?

.....
.....
.....
.....
.....



**EXERCISE 2**

**List all of the vocabularies that are new for you and their meaning in Bahasa Indonesia!**

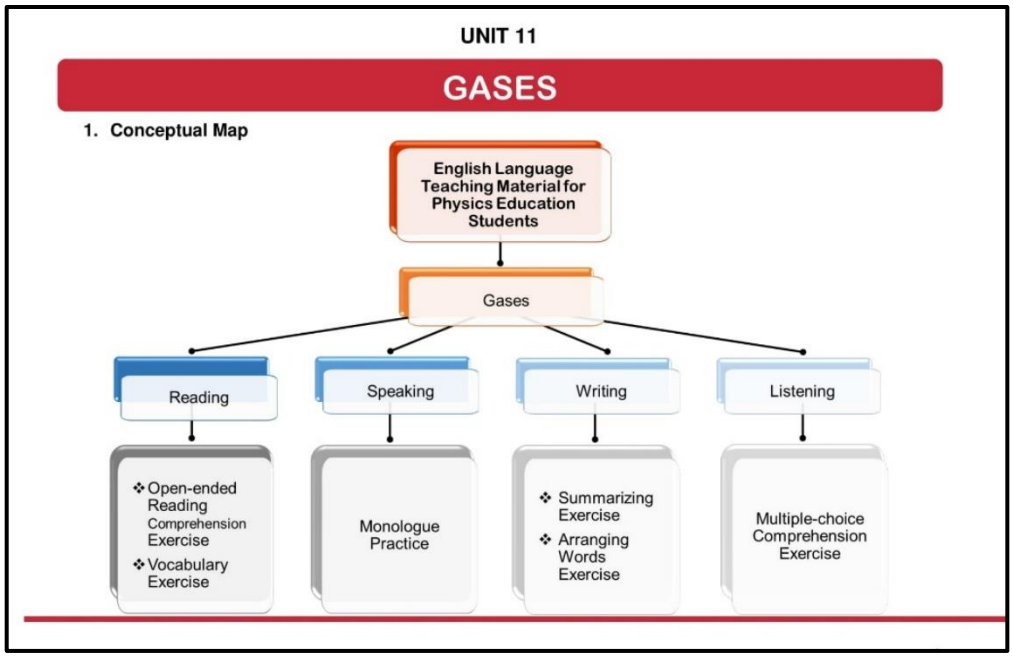
| Word | Pronunciation | Meaning |
|---|---|---|
| Solid | [ˈsɑːlɪd] | Zat padat |
| | | |
| | | |
| | | |
| | | |
| | | |

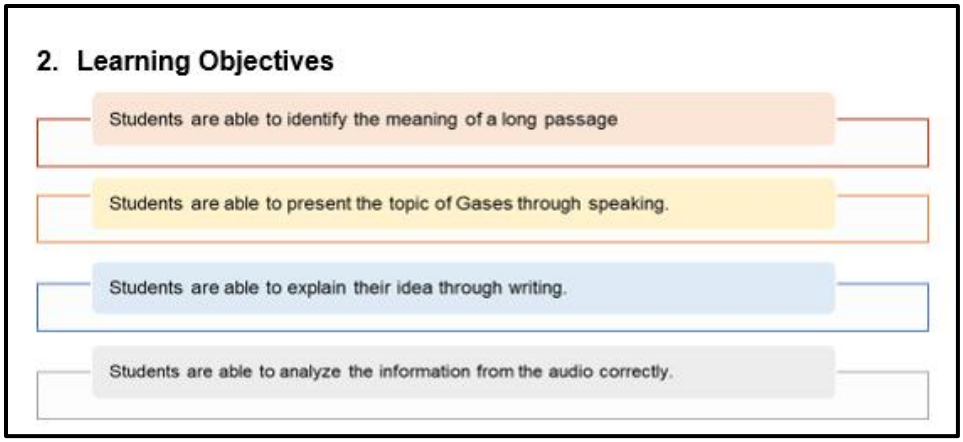
c. Upgrading existing materials

In this step, the module is constructed by collecting provided material and designed before. The prototype for material one has been designed in the section below:

1) Conceptual Maps and Learning Outcome

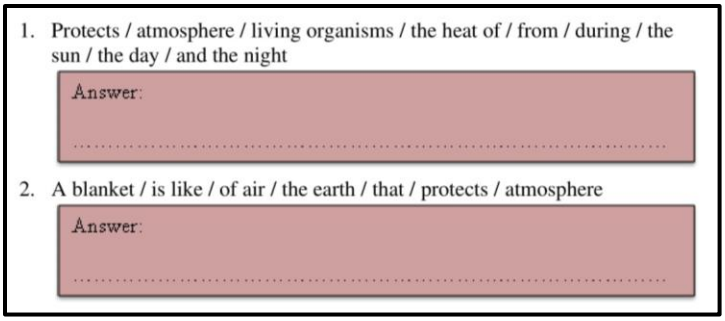
Conceptual maps and learning outcomes in this section are the results of analysis from the research conducted by Rukmana (2021). The form of these two things can be seen as follows:



2) Learning Materials

Materials in this module are according to the topic, skills, target and learning needs, and the learning outcomes from Rukmana's (2021) research result, which is essential in designing module material. The researcher took the "Gases" as the unit topic on this occasion. The researcher selected the module's learning material based on Rukmana (2021). Students must have a large vocabulary and understand how to pronounce it to participate in the speaking component. In the listening skill: students can recognize and comprehend various types of listening material. In reading section: students can guess the meaning of a word in English reading, know several types of English reading, and locate keywords and main ideas in a reading. Students need to be able to write cohesive and coherent paragraphs, organize the incorrect sentences (shown in exercise 5) or paragraphs, and do free writing in the reading section. The example of the materials can be seen below:



1. Protects / atmosphere / living organisms / the heat of / from / during / the sun / the day / and the night

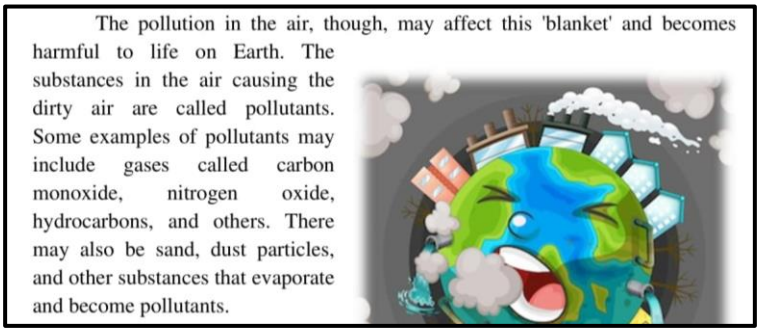
Answer:

.....

2. A blanket / is like / of air / the earth / that / protects / atmosphere

Answer:

.....



The pollution in the air, though, may affect this 'blanket' and becomes harmful to life on Earth. The substances in the air causing the dirty air are called pollutants. Some examples of pollutants may include gases called carbon monoxide, nitrogen oxide, hydrocarbons, and others. There may also be sand, dust particles, and other substances that evaporate and become pollutants.



3) Task

The tasks in this module are designed to assess students' understanding of the module's material and train them in time management. The task part in the module is a summary of all the skills that students need to improve i.e., mastering vocabulary, knowing the meaning of a word in reading, being able to find the keywords and main ideas through scanning and skimming, and being able to understand all types of reading in English. Below is the example of the task part:

**4. Task**

Read the following text and answer the question!

Under certain circumstances, the human body must cope with gases at greater-than-normal atmospheric pressure. For example, gas pressures increase rapidly during a dive made with scuba gear because the breathing equipment allows divers to stay. Line underwater longer and dive deeper. The pressure exerted on the human body increases by 1 atmosphere for every 10 meters of depth in seawater, so that at 39 meters in seawater a diver is **exposed to** a pressure of about 4

2. The words "exposed to" in a bold typed word are closest in meaning to ….
   a) leaving behind
   b) prepared for
   c) propelled by
   d) subjected to

4) Chapter Summary and Vocabularies

The aims of the summary of this research are as an illustration of the state of the module's content, and vocabularies here are aim to facilitate the students in understanding the meaning of a problematic word in reading passage.

**5. Summary**

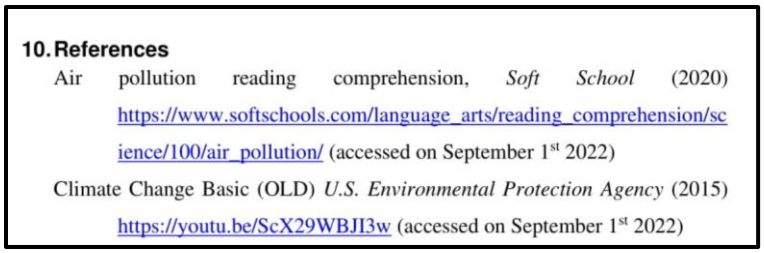
There are several kinds of exams that are commonly use to assess the integrated skill abilities of students such as stating the main idea of a paragraph, making summary, presenting monologue, arranging incorrect sentences, and multiple-choice assignment. The main idea is the most important thing on a passage and it may be stated or implied. The stated main

**6. Vocabularies**

| Word | Pronunciation | Word Class | Meaning |
|---|---|---|---|
| Atmosphere | [ˈætməsfɪr] | Noun | Lapisan udara |
| Molecules | [ˈmɒl.ɪ.kju ː l] | Noun | Molekul |
| Spread out | [spred] [aʊt] | Verb | Menyebar |
| Collide | [kəˈlaɪd] | Verb | Bertabrakan |

5) References

The references in this section are printed books, some e-books, articles, and YouTube videos used by the researcher to adapt the material in the module.



**10. References**

Air pollution reading comprehension, *Soft School* (2020) https://www.softschools.com/language_arts/reading_comprehension/science/100/air_pollution/ (accessed on September 1st 2022)

Climate Change Basic (OLD) *U.S. Environmental Protection Agency* (2015) https://youtu.be/ScX29WBJI3w (accessed on September 1st 2022)

***Result of Evaluation***

In the ADDIE model, evaluation was used to determine whether the learning resources' quality satisfied the standard that established during the design stage. The objectives chosen based on weighted assessments of learning and performance goals. The entire research and product development process was evaluated in this phase, especially for syllabus and module. These were assessed to test the product's suitability to the students' needs. The evaluation stage is as follows:

a. Self-Evaluation

At this stage, the researcher performs several steps, including selecting, changing, modifying, designing and creating materials based on her own opinion, which refers to the need of the previous analysis. After that, the researcher conducted her own review.

b. Peer Evaluation

The research's consultants carried out peer evaluation at this design stage. At this stage, suggestion, comments and criticisms were given. There was no research instrument. The points that are suggested for revision are down below:

1) The module needs to include a verse of the Qur'an.
2) The learning outcome in the syllabus should use the operational verbs in Bloom's Taxonomy.
3) The module should add examples of vocabulary usage in the conversation situations.
4) Researcher should pay attention to the capital letter, where it should take place.

c. Validators' Evaluation

The evaluation is one of the essential requirements building a module. Through the evaluation of the validator which was done to determine whether the product was suitable to use in the classroom or not. Module content, learning outcomes, indicators, skills, activities, evaluations and time allocation are just some components included in checking the syllabus evaluation list. The two products in this study that the validators reviewed the integrated syllabus and the prototype module material. Validators of this syllabus are two lecturers from the department of English Education qualified in English Language Teaching (ELT). The evaluation result from the validators are as follows:

1) The result of the syllabus evaluation

The result derived from this syllabus evaluation check showed that course content with two criteria, indicator which has three criteria, skills and activity got 4.2 average score with good quality. Learning outcome has two criteria, and evaluation has two criteria on average 4.4 with a very good quality. Then time allocation on average score 4.6 with very good quality.

The first validator suggested the researcher to recheck the operational verb on the syllabus because some words did not use operational verb from the bloom taxonomy. While the second validator, there was no suggestion and input written on the evaluation checklist for syllabus. From the overall data, the integrated syllabus design met the standards and criteria to be used as learning resources as a module in teaching English for Physics Education.

2) The result of evaluation prototype module material

There are two aspects in the module evaluation i.e., the organization of the module and the content of the module. The result that derived from the organization of the module from the cover design, title, layout which has two criteria, font which has two criteria, conceptual maps which has three criteria, learning outcome which has four criteria, learning guides which has two criteria, material organization which has three criteria, exercises which have five criteria, and summary which also has five criteria on average score 4.2 with "good" quality. Task with four criteria and glossaries with three criteria on average answer 4.6 with "very good" quality.

The result of The content organization results from topics witheria on average answer 4.3 with the "very good" quality. Examples and non-examples which have seven criteria on average answer 3.9 with the "good" quality. Content of the materials which have seven criteria on average score 4.2 with "good" quality. The last one, language which has three criteria on average score 4.6 with "very good" quality.

In the validation process, the first validator did not give any comment and suggestion on the product prototype. While the second validator suggested to remove the watermark on the module design. Then, the researcher removed the watermark to gain the appropriated module material to use as a learning resource for Physics Education.

***Discussion***

There are several points about the process of compiling the integrated syllabus and module material this also related to the study that has been done by Alam, (2021). In his thesis, she designed ELT material for Islamic Economics Department using ADDIE model. She also used evaluation checklist by inviting two experts to check the validity of the syllabus and module material. further than that, some points in the preparation of the syllabus and module material are explained below:

1. The Design Process of English Teaching Syllabus

The need analysis by Rukmana (2021) used as a basis in designing this syllabus. To make it relevant with the topic, Brown's theory (1995) was adapted. The syllabus here was used as a reference in developing the module material. Tarihoran (2008) in his book, he wrote several steps in designing syllabus with the following stages:

a. The preliminary phase. A review of the theory literature is a part of preliminary phase. It has to do with the creation of the syllabus and includes research on the creating the syllabus model. The parameters for the language syllabus model framework were built using the study's finding as an input.

b. The implementation phase, the stage where the need analysis was carried out. However, in this case the result of the need analysis was obtained from the need analysis that have been carried out previously, so this process only involved a literature study. As a conclusion, the result of this

phase is related to the lacks, necessities, wants, learning problem and style of Physics Education students in learning English.

c. The last phase was the completion. This phase included selecting the type of syllabus, renewing the syllabus, and making the final form. In this phase, the researcher designed skill-based syllabus. This was consisted four English skills, they are: reading, writing, listening and speaking. The steps of the design based on approach that suggested in Holmes (1981, as quoted in Hutchinson & waters) are: analyze the target needs, choose engaging and representative text, leverage skill hierarchies to use text, sort and adjust text as necessary to support focus on necessary skills, designing system to acquire skills.

2. The Developing Process of ELT Material

The designing of ELT module material came after the syllabus has been designed. In this stage, the researcher designed the ELT module using data from the syllabus pertinent using the gases issue. Toohey (1999), who stated that the effectiveness of the module materials was seen when the determined learning outcomes are in accordance with instructional activity and the evaluation, lend support to this.

Researcher modified the module material from a variety of sources, books, journals, internet, and any other sources, to develop English content on the topic of gases. Before moving on the evaluation stage, the researcher then edited, enhanced, and adjusted, the information to make it more intriguing and engaging. The ELT module was also visible in the finding section.

3. The Evaluation Result of ELT Module Material

There were three aspects in evaluation phase. Self-evaluation, peer evaluation, and validator evaluation. In the self-evaluation, researcher looked at the content of the module on the topic of Gases and developed the module according to the previous need analysis.

Hutchinson and Water (1987) stated that a type of evaluation that can be used to categorize the product is peer evaluation. In the peer evaluation, the researcher collected all the comments and suggestions from the consultants and revised it to gain an appropriate module material. The consultant suggested the researcher to add a verse of Qur'an after the unit cover, the module should

add the example of vocabulary usage in the conversation situation, the researcher should also pay attention to the placement of the capital letter.

The last one is validator evaluation. The validators of the syllabus and module were two lecturers of English Education Department of UIN Alauddin Makassar. In this phase, researcher used the evaluation checklist for module material and syllabus to collect the validators' evaluation. The data from the evaluation checklist then collected and summed using Microsoft Excel using the Likert scale, which has been explained on the analysis technique in the third chapter. On the evaluation sheet for syllabus the average score was 4.3 with "very good" quality and for the module material the average score was also 4.3 with "very good" quality.

Rahmat et al., (2020) said that after all of the objectives and criteria were marked positive results, the instructional material claimed validity. Based on the findings of the evaluation by the validators with average score 4.3 for syllabus and module, where that score in the number five of categories score with "very good" quality (in 4.2-5.00 mean score scale). These two things were well planned and practical to use as a resource in learning and teaching activity for English subject in Physics Education Department especially for Gases topic.

## CONCLUSION

This study aims to design and create the ELT module material especially for Physics Education Department that integrated with English for Specific Purposes (ESP) on the specific topic: Gases, using ADDIE model. The design of the integrated syllabus for Physics Education Department was based on the result of the need analysis (the inventory need) from Rukmana (2021). The researcher only focused on Gases topic with four English skills i.e., speaking, listening, reading, and writing. The prototype of ELT module material was designed based on the integrated syllabus. This Gases-themed module contains several passages, kinds of exercise, some grammar focus, some vocabulary and the examples of its use, and glossary. There is also an audio in QR code form to examine students' listening skills. Later on, evaluation checklist was used to validate the ELT module material and integrated syllabus by two validators. The syllabus and module material were well-designed and claimed validity after some revision was done based on the comment and suggestion.

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