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Research Paper

The Development of English Module for Pharmacy Using Contextual Approach

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Abstract

In today's era, a variety of medicine obtained from other countries uses English instructions resulting in the need for mastering English in the pharmacy industry. Despite one of the benefits of assisting pharmacists in fulfilling their needs, an English module specifically for Pharmacy is rare. Thus, this study aims to develop an English module for pharmacy to master a lot of English vocabulary in terms of reading skills for drug indications, reading medicines, and using a contextual approach. A qualitative method that is R&D; ADDIE models (Analyze, Design, Develop, Implement, Evaluate) is utilized. A list of interviews was given to the curriculum section of the Pharmacy Study Program and stakeholders as a needs analysis to determine the availability of Pharmaceutical English teaching materials, and questionnaires were given to material experts and media experts to test the results of module development. The method applied in analyzing the data is the descriptive method, and the analysis is used in univariate analysis. According to the result, the creation of contextual-based modules is considered very suitable to be used as English language learning to help pharmacists' works. It is indicated by the results of the material expert's questionnaire data obtaining a score of 87.69%, while from media experts, the score is 81.16%, and the results from users, i.e., lecturers, obtained 89.29% and the students is 87.39%. The percentages gained from the analysis represent that the module is very feasible to use.

Keywords *English Module, ADDIE Model, Contextual Approach, Pharmacy*

INTRODUCTION

In recent years, various medicines have been purchased from countries other than Indonesia with English instructions. As a result, pharmacist technicians are required to master English, including English vocabulary, in terms of reading skills for drug indications, reference books, and drug information services to patients (Suwandi & Wafa, 2020; Mariana, 2022). Previously, there was no module explaining English, especially for pharmacy. Previously, there was no module explaining English, especially for pharmacy. Pharmacy is a combination of health and chemistry science that studies the procedures for administering drugs in certain forms so that they are ready to be used as medicine for diseases.

The results obtained at the analysis stage show that the modules currently circulating are English modules in general, i.e., no modules to support pharmaceutical work, according to the statement from The Head of the Study Program. This condition is considered an obstacle for Diploma Three pharmacy graduates since they need to utilize their English language skills for pharmaceutical work, such as writing prescriptions in English and speaking with foreign patients regarding the provision of information. Similarly, according to the findings of stakeholder interviews, English in pharmacy is critical because many medicines now have English instructions for use, necessitating the ability of a pharmaceutical technician to communicate in English, as well as many foreign nationals who visit Indonesia for treatment, necessitating the ability of pharmaceutical technical personnel to provide drug information services in English (Balzer et al.,

2015).

The solution to this problem is to take a contextual approach in the classroom. The contextual approach is a learning concept that links the material being taught with real-world situations and can apply the knowledge in everyday life (Wahyuni, 2020). Wahyuni added that using a contextual approach enables students to relate the material being taught to real-world situations directly and encourages students to establish a relationship between their knowledge and its application in everyday life as pharmaceutical technical personnel. Moreover, methods, formats, and even technologies that ensure the intensive development of the student's and teacher's personalities acquire significant significance when using a contextual approach to education. Active learning formats and techniques assist in modelling not only the content of professional activity but also the social contexts in which it takes place. (Dewi & Primayana, 2019; Melieva, 2022). Using a learning module is one example of facilitating applying a contextual approach to learning (Dewi & Primayana, 2019).

Research on the development of contextual-based modules found that there was a correlation between the application of learning using contextual- based Pronunciation modules on the improvement of the Pronunciation skills of English Education students (Mubarok et al., 2020; Syakur et al., 2020), while other research on the development of contextual English textbooks shows that the developed textbook products can create active learning situations and improve student learning outcomes as well as their English performance in the classroom (Indriyani et al., 2018; Dewi & Primayana, 2019). Another positive impact of learning modules using a contextual approach is improving students' critical thinking skills in the biological learning context (Hasruddin et al., 2015).

Nevertheless, studies concerning English learning module for pharmacy is not easy to discover. Hence, this study aims to analyze and describe the validity and practicality of developing a contextual-based integrated mathematics module in Islamic sciences for students. The type of research used is research and development (R & D) using the ADDIE research model.

LITERATURE REVIEW

Development research is a systematic approach to designing, creating, and assessing learning outcomes, processes, and programs that must adhere to internal consistency and effectiveness standards. (Lee et al., 2019). Development research in education reduces the gap between research and practice to improve education. According to Syakur et al. (2020) and Sofiyana et al. (2022), research and development aims to create new products. In education, research and development products might take the shape of models, media, tools, publications, modules, assessment tools, and learning aids.

There are a number of development research; 4D Model, ADDIE, R2D2 (Cahyadi, 2019; Sofiyana et al., 2022). In this study, the model applied is ADDIE (analysis, design, development, implementation and evaluation) model. It is an approach that emphasizes analysing how each owned component interacts in coordination according to the existing phases. In its implementation, it can be said that researchers can develop this development research based on the needs to be obtained. However, you still have to pay attention to the type of research to be studied (Iswati, 2019; Najuah et al., 2021). Cahyadi (2019) describes the phases in ADDIE Model as follows:

1. Analyze: The first step in this research is preliminary research by conducting a needs analysis and literature study
2. Design: Planning, in terms of determining the material to be used, analyzing the need for English in drug information services, designing the sequence of Module components, making a sequence of materials to be made in the Module, determining additional components in the Module, determining size, density, and page organization, collect and

compile materials, determine assessment instruments, draft modules.

3. Develop: Developing the module includes: Writing the title, placing learning objectives at the beginning of the activity, placing material that is in accordance with the learning objectives, observing and asking the required questions and making clear instructions.

4. Implement: Examiners of module trials to material experts, media experts, lecturers, and students. The trial is carried out by showing the module that has been made and providing a questionnaire; then, the suggestions from the trial are used as input to improve the module that has been made.

5. Evaluate: Revise the module after the trial based on input and suggestions from the test results and then conduct a feasibility test.

Contextual learning is learning to acquire and add to new knowledge acquired in a deductive way which occurs when students apply or experience themselves the material taught in everyday life related to their role as members of the family, community, students and workforce (Gaffas, 2019; Noer, 2020; Wahyuni, 2020). In addition, contextual learning occurs when students apply or experience themselves the material taught in everyday life related to their role as members of the family, community, students and workforce (Tabany, 2017). In relation to contextual learning, the contextual approach is a learning concept used to link the material being taught with real-world situations and apply the knowledge in everyday life (Wahyuni, 2020). To be able to link, it can be done in various ways; apart from the fact that the material being studied is directly related to factual conditions, it can also be circumvented by providing illustrations or examples, learning resources, and media that are directly or not attempted to be related to real-life experiences (Rusman, 2013).

RESEARCH METHOD

This study uses a qualitative method with the type of research and development research conducted and tested at the IKIFA Institute of Health Science in 2021. This research was conducted from March - December 2021. The type of development research used is ADDIE, and the steps are:

1. Analyze
    The first step in this research is preliminary research by conducting a needs analysis and literature study. The needs analysis was carried out by interviewing the curriculum section of the Pharmacy Study Program at a university in Jakarta to determine the availability of pharmaceutical English teaching materials. Literature studies are carried out by looking for studies that have been published in a journal. The survey was conducted in bookstores and the internet to see the availability of English language modules for pharmacy, and the weaknesses and strengths of the existing modules. An interview list was given to the curriculum section in the Pharmacy Study Program of one of the Universities in Jakarta to find out the availability of English Pharmacy teaching materials.

2. Design
    Planning, in terms of determining the material to be used, analyzing the need for English in drug information services, designing the sequence of Module components, making a sequence of materials to be made in the Module, determining additional components in the Module, determining size, density, and page organization, collect and compile materials, determine assessment instruments, draft modules.

3. Develop
    Developing the module includes: Writing the title, placing learning objectives at the beginning of the activity, placing material that is in accordance with the learning objectives, observing and asking the required questions and making clear instructions. The tools used to obtain data at this stage include a questionnaire and a list of interviews. Material and media experts were given questionnaires to validate the pharmacy English module. The

validation results will be used to consider the feasibility of the module and get input for improving the module. Validation was also carried out with a small group of users to improve the module to make it easier for users to use.

4. Implement

Examiners of module trials to material experts, media experts, lecturers, and students. The trial is carried out by showing the module that has been made and providing a questionnaire then, the suggestions from the trial are used as input to improve the module that has been made. The module has been declared suitable for use and tested on a small group of students and several lecturers. Suggestions from lecturers and students are used to improve the module. Modules that have been repaired are then tested on large groups of students.

5. Evaluate

Revise the module after the trial based on input and suggestions from the test results and then conduct a feasibility test.

FINDINGS AND DISCUSSION

The ADDIE development model is used in module development (Analyze, Design, Develop, Implement, Evaluate). Literature research, surveys, and needs analysis are used in the first step of the study. The module is validated by material experts, media experts, and small groups of users, including an English lecturer and ten students. The results indicate that the module needs to be revised in several areas based on the material and media experts' recommendations, so the module is revised. The module was tested for a second time with a large group of users, this time with an English lecturer and 30 students. The module feasibility test is carried out by giving questionnaires to media experts, material experts, and users (English lecturers and students).

Material Expert Evaluation

The validation test on material experts aims to test the feasibility of the module on aspects of English and pharmacy material and get suggestions for improving the module's content. Some of the inputs submitted by material experts:

1. The material in Chapter I need to be updated with how a pharmaceutical technical staff can read pharmaceutical formularies in English.
2. Add practice questions to the module. The modules that have been repaired in accordance with the advice of material experts are: (1) the material in Chapter I has been added according to the request of a material expert, namely, to add the ability of a pharmaceutical technical staff to read pharmaceutical formularies in English, and (2) the module now includes practice questions.

Based on the results of the material expert evaluation, the average percentage of the assessment is 87,69%, with interpretation being Very Eligible. This shows that the contextual-based module is feasible to use, especially regarding the material in it.

Media Expert Evaluation

The validation test on media experts aims to evaluate modules related to the form and components of the modules made and get suggestions for module improvements. As for some inputs submitted by media experts:

1. Ensure that students have enough space to answer questions and complete assignments.
2. The red square line (to clarify certain parts of the prescription or drug instructions) does not cut the text in the picture.
3. The tool image used is made in PNG format to blend with the module template.

Based on the evaluation of media experts, the average assessment percentage is 81,16%, with interpretation being Very Eligible. This shows that the contextual-based module is feasible to be used as a learning medium.

User Evaluation

Trials on a small group of users were conducted on students and lecturers. The questionnaire used for lecturers and students has different assessment indicators (seen in the attachment). The results of trials conducted on one lecturer and ten students are as follows:

The average percentage of student evaluations as users is 74,62%, with interpretation is Eligible. The average evaluation results given by lecturers and students in small group trials are 81,95%, with interpretation is Very Eligible, so that the contextual-based module that is made is feasible to use.

These results indicate that the contextual-based module created to support pharmaceutical work is declared feasible to use. The module that is declared feasible is then used for evaluation on the user. User trials are conducted on students and lecturers who will use this module in learning. The questionnaire used for lecturers and students as users is the same as those given to lecturers and students in small groups (seen in the attachment). The results of trials conducted on one lecturer and 30 students are as follows:

The average percentage of the evaluation of lecturers as users is 89,29%, with the interpretation being Very Eligible, while the average percentage of student evaluations as users is 87,39%, with the interpretation being Very Eligible.

The average evaluation results given by lecturers and students as users are 88,34%, with interpretation as Very Eligible; therefore, the contextual-based module that is made is feasible to u Learning modules are the smallest units of education and learning programs, which are studied by students exclusively or instructed by students for themselves (self-study), the currently circulating modules are English modules in general. However, there are no modules that support pharmacy work. Whereas for Diploma Three pharmacy graduates, it is more necessary to apply English language skills to pharmaceutical work, such as writing prescriptions in English, speaking with foreign patients regarding drug information, and reading drug instructions only with explanations in English.

The result of this study is similar to research conducted by Indriyani et al. (2018) that the designed textbook materials can foster active learning environments and enhance student learning outcomes as well as their English proficiency in the classroom. However, the difference between this development research and previous research is that the type of research conducted in previous research uses the development research model according to Borg & Gall (1983), which explains that there are ten development research procedures, including (1) self and information collection, (2) planning, (3) developing preliminary form of product, (4) preliminary friend, (5) main product revision, (6) main field testing, (7) operational product revision, (8) operating field testing, (9) final revision, (10) dissemination and implementation. In this study, they modified the procedure into seven steps.

CONCLUSIONS

Based on the data and findings above that have been described, the study's findings on the creation of contextual-based modules, which were based on the validation results of material experts, media experts, and users (both lecturers and students), were regarded as very suitable for use as English language learning to aid pharmaceutical jobs. The data analysis shows these results from the material expert questionnaire, which received an 87.69%, indicating that the module is very practicable to use; from media experts, it received an 81.16%, indicating that the module is

very practicable to use; and the results of the questionnaire from users in the form of lecturers, which received an 89.29%, indicating that the module is very practicable to use. The questionnaire results from users in the form of students received an 87.39%.

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