Developing ESP - BIoLAE

by Abdul Syakur

Developing English for Specific Purposes (ESP) Textbook for Pharmacy Students Using On-Line Learning in Higher Education

Abd. Syakur¹, Esti Junining², M. Khusni Mubarok¹, Margarana³
¹Department of Graduate Program of English Education, STKIP PGRI Sidoarjo, Indonesia
²Doctoral Environmental Assessment and Development Program, Universitas Brawijaya, Indonesia
³Department of Graduate of English Education, Universitas Negeri Yogyakarta, Indonesia
Email: syakurabdmpd@gmail.com

Abstract: This developmental research aims to develop ESP learning textbooks for students of Diploma three (D3) Pharmacy at the Surabaya Pharmacy Academy to determine the feasibility of textbooks, and to determine students' responses to ESP textbooks. This research uses the ADDIE Research and Development (R&D) model. This ESP textbook was developed based on the results of the study. The results of the feasibility of the ESP textbook indicate the following points: 1) Material experts and lecturers of the Diploma three (D3) Pharmacy program give a percentage of 53.33% under the range of 85.94 which means that the development of digital-based textbooks gets a "A" score and in the "Very Good" category, 2) Media and digital experts with on-line learning as well as Pharmacy diploma three (D3) study programs give a percentage of 53.33% below the 85.94% range which means that developed digital-based textbooks score "A" and in the category of "Very Good" 3) student understanding through questionnaires, also gave a positive response with 53.33% in the range of 85.94 which means that the development of digital-based textbooks scored "A" and in the " Very Good ". The results of the interviews showed that students' understanding showed good responses to digital-based ESP textbooks. In short, it can be concluded that the ESP textbook for Pharmacy in Diploma three (D3) department students is eligible and can be used as an online learning medium for teaching English.
Keywords: English for Specific Purposes (ESP); texts book; on-line learning

I. Introduction

Development in the pharmaceutical world today is highly regarded by the public and various groups and pharmacy study programs as a profession that cannot be separated from efforts to consolidate the three main pillars of professions such as education, service, and professional life (Antony et al., 2015; Syakur, 2015). There have been several attempts made to improve the quality of education by developing a standard curriculum in accordance with the development of science and technology (Mayfield, 2011; Shah et al., 2011; Wats and Wats, 2009). English has become one of the main determinants of the quality of pharmaceutical services, because English courses are the core curriculum set by the Indonesian government. Therefore, the importance of ensuring the quality of education must be realized by all stakeholders related to efforts to answer the needs of the community in the world, especially in Indonesia. A form of quality assurance the analysis and evaluation of English language materials (textbooks) and curricula adapted to the Indonesian National Qualification Framework (INQF / KKNI) and the Indonesian National Standard of Higher Education (SN-Dikti) in 2015 as the development of sustainable science and technology now (Syakur, 2017).

This paradigm invites humans to think about the sustainability of planet Earth and the sustainability of the whole1 of the universe. WCED (World Commission on Environment and Development) provides Recognition that sustainable development overall requires change in

the value of attitudes towards the environment and development, therefore what can play an important role in achieving sustainable development is education, The Ministry of National Education included the concept of education for sustainable development as a basis for national education in Indonesia in 2011 which is a sustainable concept as one of the basic principles in the development of national education. This is shown in the National Education Law and the Strategic Plan of the Ministry of National Education for 2010-2014 which makes Education for Development, Development and/or Sustainable Development (PUP3PB) as one of the paradigms of education development national.

Education for sustainable development which is commonly disputed (ESD) is expected to be able to change the attitudes and behavior of individuals, groups, economists, governments, and the wider community to be able to live sustainably, with an understanding of economic, social and environmental problems. Sustainable development is always connected with development and the environment. This is the reason why education for sustainable development is often equated with environmental education.

ESP has not properly gained the popularity among English instructors until now in Indonesia specifically at college or university levels. This can be seen from the credit load of English courses in the first or the second semesters which is only allocated for 2-4 credits at non-English departments. This might be the cause that makes English instructors not quite interested in teaching ESP. However, the case is ESP which is more on EOP in character is now highly needed in the workplace. At universities there is a requirement of not only a certificate after completing the courses but also a graduate diploma that states the competences of the graduates. This means that not only do the occupational colleges or polytechnics have to concern ESP, but also universities.

While at colleges and universities, based on casual observations at the official documents "reading in the case of EAP is the language skill which is mostly taught at non-English departments in the graduate and the undergraduate levels. The courses are offered in the first or the second semesters". The purpose of teaching reading by text book is study skills ultimately aimed at broadening the academic knowledge of the fields that the students learn

The development of technology, communication and information, especially the internet has become a demand for teachers in Indonesia to be able to use it as a source of positive learning media in supporting teaching and learning processes. The use of technology media provides benefits for teachers and students to access learning materials and interact directly in learning in the classroom, and also outside the classroom through online media (Prasasti, et al: 2019).

Higher education is one of educational institutions in the national education system. Higher education institutions are obliged to carry out education, research, and community service as stipulated in Law Number 20 of 2003 concerning the National Education System (Depdiknas, 2003). The main aim of higher education is to facilitate student learning in order to carry out its obligations, tertiary institutions must be supported by synergistic cooperation from all universities (Hamid K, et al: 2019)

The existence of e-learning has a big influence on the learning process. Even many universities that have used e-learning as a tool so that the teaching and learning process can still be carried out without the need of facing each other from both parties. So that the difficulties in the learning process that have only been fixated on meetings in the classroom can be resolve by

utilizing the e-learning. For example, when there are limitations to the classroom or time, in which leads to the absence of learning process that should be held (Hutagalung, 2018).

ESP can be taught in the study program and one of them is in the Diploma three (D3) Pharmacy department as it has been done in previous research both nationally and internationally (Shah et al., 2011; Syakur, 2015). Learning with continuous and continuous innovation can help students quickly for the time being online learning by referring to Education for Sustainable Development (ESD) to have creativity in thinking, solving problems, and interacting and helping in learning that leads to solving real problems (Syakur, 2015, 2017).

On the other hand the education system consists of five important components (students, lecturers, materials (textbooks), online-based teaching methods, and evaluations which are closely related. Textbooks for three diploma study programs (D3) Pharmacy in higher education are designed to provide opportunities to develop students' English competence that includes reading skills, speaking skills, and writing skills in a more communicative and meaningful way with on-line learning models (Henard and Roseveare, 2012; Shah et al., 2011; Syakur, 2019).

Online media or also called E-learning which is popular nowadays is distance learning that can be accessed in various ways. Students do not have to be in the same room as education in the past. The use of online learning can be accessed by students anywhere at any time (Robles, 2012; Syakur, 2018, 2019). Implementation of learning requires the availability of Wi-Fi facilities. Other benefits for students can be accessed by anyone easily, flexibly, quickly and accurately. The application of internet-based e-learning technology in learning needs to be created as one of the innovations in the use of instructional media and learning resources in this era so that students will not only see textbooks but can be multi-beneficial (Syakur, 2019).

Textbooks that have been online for the Diploma t (D3) Pharmacy d as a core guide, in learning, researchers found several problems in Pharmacy Diploma 3 (D3) students, especially when studying English for Special Purposes (ESP). The problem is students lack vocabulary, student vocabulary mastery is still low, most students have relatively low motivation to learn, and students find it difficult to translate pharmaceutical terms into English. In addition, students find it difficult to learn English (ESP) because the textbooks used only contain exercises and lack explanatory material even though they have been online (Sulam et al., 2019; Syakur, 2015; Syakur et al., 2020).

Based on the identification of the problems above, the researchers chose to develop textbooks based on online learning media that can make students practice and improve their English independently. By conducting such a study, it is hoped that it can help students to learn English more easily and successfully in this millennial era

II. Research Methods

This type of research includes research and development (R&D) methods, research methods used to generate student interest in learning English with the core guidelines of textbooks that have been digitalized in the diploma three (D3) Pharmacy departments from vocabulary mastery in pharmaceutical science in languages English. This research is intended to produce English language learning media products, in the form of digital-based textbooks. The model used in this research development is the ADDIE model which is a design learning model that consists of five stages including analysis, design, development, implementation and

evaluation. The research procedure used in this research and development uses the ADDIE model developed by Dick and Carry (Mayfield, 2011), as follows:
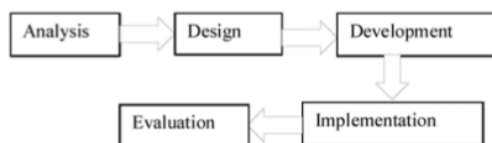

Figure 1. *Phases of the ADDIE model*

First: Analysis phase, researchers do need analysis to find out the needs of students and diploma study program (D3) of Pharmacy Surabaya Pharmacy Academy, Brainstorming products and conduct needs analysis in lessons and identify learning content / material in the textbook that will later be online and objective formulation. Second: in the design phase, researchers in this phase prepare the concepts and structure of the module framework that will be online in a piece of software. Third: in the development phase, the researcher starts an action including (1). Development of textbooks, (2) Validation is carried out by media and IT experts, (3) material experts, (4) lecturers and (5) Measurement of products to be produced. Fourth: the implementation phase, student assessment of digital based textbooks that are online on a software.

Finally: an evaluation is carried out to measure the success of using digital-based text that is online on a software using a questionnaire. The subjects of this study were lecturers and students in the Diploma (D3) Pharmacy departments at Surabaya Pharmacy Academy where lecturers (to provide input on materials used), material experts, media experts and IT experts, lecturers majoring in English education and semester students firstly at D3 Pharmacy at Surabaya Pharmacy Academy there were 60 students. The method for obtaining data, the following are used:

1. Questionnaire

Questionnaire is a data collection technique that is done by giving a series of questions or written statements to respondents to be answered. Questionnaire is a question or written statement that is used to obtain information or matters relating to student responses to learning English in the online form using digital-based textbooks for mastering English terms in pharmacy by using digital-based textbook media as a source of independent learning. The questionnaire used to collect data in this study includes:
a. A Questionnaire for material experts and Pharmacy D3 departments
b. Questionnaire for media and IT experts
c. Questionnaire for D3 Pharmacy lecturers
d. Questionnaire for first semester students

2. Interview

Interviews were conducted to obtain information about the media used previously. And to find out the extent of student interest in learning English in the online form using digital-based textbooks for mastering English terms in pharmacy. Interviews are also used as a guide to request material to be summarized in the media textbooks / modules.

Alternative answers use the Likert Scale provided for the media feasibility questionnaire with 5 alternative answers, which are very good, good, neutral, lacking, bad Table 1.

Table 1. Criteria for evaluating items on the media eligibility questionnaire

Criteria	Scoring
Very Good	5
Good	4
Fair	3
Less	2
Poor	1

The steps to analyze the online media quality data ESP Module are:

a. A change in the qualitative value becomes quantitative using a Likert Scale with the provisions in Table 2, as follows:

Table 2. Changes in qualitative data into quantitative data

Criteria	Scoring
Very Good	5
Good	4
Fair	3
Less	2
Poor	1

b. Then the data collected is analyzed by calculating the average score obtained by the formula:

Information: $\bar{x} = \frac{\sum x}{n}$ and $Sd = \sqrt{\frac{\sum(x-\bar{x})^2}{n-1}}$

$\bar{x}$: Average
X: Total sample
n: Number of samples
SD: Standard deviation

c. The results of the average assessment obtained in the form of quantitative data are converted back into qualitative data in the feasibility category of digital-based textbooks so that it can be concluded about the feasibility of digital-based textbooks for mastering English terms in pharmacy with Software based on the ideal conversion guidelines described in the table following.

3. Student Response Data

Student responses to digital-based textbooks for mastering English terms in pharmacy were taken from 60 students who filled out a questionnaire containing 20 questions. The answers from these students were categorized into: 1 = Very good with a score of 85-94, 2 = good with a score of 75-84, 3 = Fair with a score of 65-74, 4 = Less with a score of 55-64, 5 = Poor with a score of 45-54. Very good and good are considered positive and analyzed further (Table 3). Meanwhile, Fair, Less, and Poor belong to negative responses. Student responses are said to be positive if the average percentage of student responses is greater than or equal to 60%.

Table 3. The frequency distribution of respondents' responses to products

No.	Score	Criteria	Information
1	85-94	A	Very good
2	75-84	B	Good
3	65-74	C	Fair
4	55-64	D	Less
5	45-54	E	Poor

III. Discussion

In the research of the discussion to be elaborated namely to determine the feasibility of digital-based textbooks for mastering the English term in pharmacy that was developed, it was carried out through several validation processes by several experts. The results of the responsive data are shown in Table 4 as follows.

Table 4. Results of the frequency distribution of respondents' values

No.	Score	Criteria	Information
1	53,33	A	Very good
2	28,33	B	Good
3	8,33	C	Fair
4	6,67	D	Less
5	3,33	E	Poor

The product suitability validation for a module is done by material experts, media and IT experts, and lecturers of diploma three (D3) Pharmacy departments at Surabaya Pharmacy Academy. After that, a digital-based textbook revision process was carried out with D3 Pharmacy students. The result of this process is the decision whether digital based textbooks are feasible to be tested in the field or not. After that digital based textbooks were implemented among the second semester diploma three (D3) Pharmacy department's students. Field trials were conducted with 60 students. Researchers introduced digital-based textbooks, explained the contents of digital-based textbooks, then explained the benefits of digital-based textbooks for learning ESP English courses for pharmacy. After that, researchers conducted teaching practices to students. The students look very enthusiastic when learning English using digital-based textbooks to master the English term in pharmacy with software.
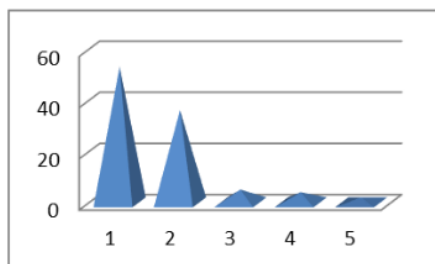

Figure 2. Results of digital-based textbook questionnaires (online learning media)

After learning to use digital-based textbooks, students assess digital-based textbooks through questionnaires. The researcher gave a questionnaire containing 20 questions to 60 students. The questionnaire uses a Likert scale of 1-5. This function is to obtain data on student interest in digital-based textbooks. Based on the responses of the questionnaire it shows that digital-based textbooks developed under the aspects of motivation, interest, and media visualization, received positive responses from students (Syakur, 2018). The percentage score is 53.33% which is a range of 60 <P≤28.33%. In conclusion, digital-based textbooks scored "A" and were in the positive category.

To find out students' responses to digital-based textbooks, it was conducted through interviews. The interview results show that students are interested and more motivated in following the lessons using the English language module. In addition, the students told us that

the English module made learning interesting. In short, the interview results show that students gave a good response [1] the use of digital-based textbooks for mastering English terms in pharmacy with software during the learning process.

IV. Conclusion

Based on the results of the study it can be concluded that ESP with digital-based textbooks for mastering English terms in pharmacy with software for diploma (D3) Pharmacy departments' students at the Surabaya Pharmacy Academy is eligible and can therefore be used for English language learning media. Furthermore, it can be focused on developing English language material for diploma (D3) Pharmacy departments' students whose competencies are needed more than before as well as large pharmacy dictionaries in terms of writing, speaking, and reading and memorizing recipes by digitizing as the demands of this millennial era. For other material developers to emphasize the needs of students in the form of ESP in studies and outcomes relevant to competencies in the field of pharmacy and prescription science studied at the undergraduate, professional and pharmacy level.

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