

Conference Paper

Model of Problem-based Learning Module on Indonesian Language Affixation

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Abstract

This article aims to describe the process of valid, practical, and effective problem-based module development. The findings show that the module developed is valid, practical, and effective. This reflected in the results of data analysis, which indicate that the level of module validity was 86.564 (highly valid), the module practicality of the lecturer was 84.64 (highly practical), and the module practicality of the students was 83.8 (highly practical). The effectiveness of the module for student learning outcome was 80.2 on average with a very good (A) grade and the student activity was 80.4 (very active).

Keywords: affixation process, based-problem, learning module

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Received: 6 April 2018

Accepted: 3 May 2018

Published: 26 July 2018

Publishing services provided by
Knowledge E

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Selection and Peer-review under the responsibility of the ISLLE 2017 Conference Committee.

1. Introduction

Mastering affixation is essential for students and is fundamental in learning the more complex linguistic units as the affixation process describes such processes as word forming, tools for word formation, parts of speech, word meaning, and sound changes resulting from the process. Santoso and Rahayu state that students' view on the changing of word sounds containing affixes depends on students' understanding of the affixation process [1].

A preliminary study conducted showed that students' understanding of affixation was still weak. Out of 30 students, only 30% achieved the minimum standard score (60, equal to grade C). The students made mistakes in applying phoneme assimilating rules, such as the prefix *meN-* attached to word heads beginning with the phonemes /b/, /c/, /k/, /s/, and /t/. Those phonemes, based on the rule, should be assimilated and changed into other phonemes, but the students did not assimilate them. This problem arises because of the limited number of textbooks available, and because the language of the textbooks is hard to understand.

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The best approach for a lecturer to take in facilitating learning is to provide learning materials in the form of a module. A module is a book developed to help students learn by themselves with or without the teacher's or lecturer's guidance [2]. According to Russel, a module is a teaching-learning package regarding a unit of a particular learning material [3].

In developing a module attention needs to be given to the organization of the content that will be delivered. One of the models that can be used is the model of problem-based learning (PBL). Eggen and Kauchak suggested that problem-based learning is a set of teaching models viewing the problem as a focus on developing problem-solving skills, materials, and self-control [4]. Students learn through problems contextually associated with their real life.

With the process of research and development, this study aims to describe the process of valid, practical, and effective problem-based module development for the learning of the affixation process of the Indonesian language in morphology course.

2. Methods

This study is a research and development model (R&D). It was used to produce a certain product and then test the effectiveness of that product [5]. In this research, the development uses 4-D models developed by Thiagarajan et al. [6]. The 4-D developing model consists of four phases: (1) defining, (2) designing, (3) developing, and (4) disseminating. This research focuses on only phase 1 to phase 3.

In the defining phase, learning prerequisites are set before the module is developed. This was done in three steps: (a) curriculum analysis, (b) concept analysis, and (c) student analysis. The designing phase is aimed at constructing the module based on the PBL model. In this phase, a module is designed based on the module structure, from the cover to the reference list. The developing phase is aimed at producing a module to be tested. This phase consists of: (1) a module validation test, (2) a module practicality test, and (3) a module effectiveness test based on the objective test results and an observation sheet.

The subjects of this study are Class III A students from the Indonesian Language and Literature Education, Faculty of Teaching and Training Education, University of Batanghari Jambi. There are 30 students. The quantitative data were collected from expert validation, module practicality, and observation sheets as well as objective test scores.

Data were analyzed by descriptive statistics. The data analysis is divided into three types. Firstly, validity and product practicality analysis. This was performed by analyzing questionnaire data of the validation and product practicality sheets using a Likert scale. Secondly, data analysis of the product effectiveness test. The data of student learning outcomes were analyzed in five steps: (1) checking the test results; (2) scoring; (3) calculating the score using the formula suggested by Purwanto (2011, p. 207) by dividing the score achieved by the maximum score then multiplying it by 100% [7]; (4) qualifying data using standard reference assessment; and (5) calculating the average using the formula suggested by Nurgiyantoro, by summing up all the students' scores and dividing by the number of students [8].

The data collected from the observation sheet were analyzed as follows: (1) calculating the average frequency of student activity; (2) calculating the percentage of student activity using the formula of Sudijono by dividing the frequency of activity by the number of students [9]; (3) calculating the average; (4) qualifying the percentage average by applying predefined criteria.

3. Results

3.1. Defining phase

The first phase of the study is the defining phase. In this phase, analyses of the curriculum, concept, and characteristics of the students were carried out. These analysis phases were as follows:

3.1.1. Curriculum analysis

The curriculum refers to the curriculum of the Indonesian Language and Literature Education, Faculty of Teaching and Training Education, University of Batanghari Jambi. It is the curriculum from 2013. The morphology offered in the third semester is a compulsory course. The learning materials that are going to be discussed include: (a) understanding the concept of morphemes; (b) basic form concepts; (c) parts of speech; (d) process of morphology (affixation and process of verbs, nouns, and adjective affixations; form and reduplication meaning; form and composition meaning). All aforementioned materials suggested that the process of morphology focuses on three topics: (1) affixation (the process of forming verbs, nouns, and adjectives); (2) reduplication; and (3) composition. The main competence to develop through these

materials is that 'Students are able to analyze the morphology process of the Indonesian language correctly'. And its secondary competence is that 'Students are able to analyze the affixation process of the formation of verbs, nouns and adjectives in the Indonesian language correctly'.

3.1.2. Concept analysis

The concept analysis is aimed at identifying, detailing, and formulating the main concepts that are going to be provided in the module. Based on the learning indicators and impartial that have been developed, the main concepts of the affixation process of the Indonesian language are defined. They are (1) affixation of verb formation; (2) affixation of noun formation; and (3) affixation of adjective formation.

3.1.3. Student analysis

The subjects of this research are students of Class III A of the Indonesian Language and Literature Education, Faculty of Teaching and Training Education, University of Batanghari Jambi ranging from 19 to 24 years old categorized as adults. Pannen and Sadjati state that the learning characteristics of the adults are as follows. First, students, as adults, are able to direct themselves in learning (self-directing). Second, students have had much experience of the benefits of real life as a learning resource. Third, students tend to be more interested in the learning process related to solving the problems and tasks they face (problem solving) [10].

3.2. Designing phase

The second phase of study is designing. This phase is a step to construct a module from the first page to the end. The designing includes (a) cover; (b) preface; (c) table of contents; (d) module instruction; (e) main competence, secondary competence, indicator, and learning outcome; (f) learning material; (g) supporting information; (h) summary of learning; (i) exercise of understanding test; (j) feedback; and (k) list of references.

3.3. Developing phase

3.3.1. Validation of learning module

The designed module was validated by four validators to validate four aspects: content feasibility, language, presentation, and graphing aspects. Every aspect was validated by each validator. The result analysis of questionnaire validation suggests that the validity of the module as a whole was in the very valid category (86.54). The aspects validated are described in Table 1.

TABLE 1: Results of questionnaire validation by experts.

No	Aspect of Observation	Average (%)	Category
1	Content Feasibility	86.73	Very Valid
2	Language Feasibility	86	Very Valid
3	Presentation Feasibility	86.66	Very Valid
4	Graphing	86.77	Very Valid
	Average Summary	86.54	Very Valid

The table confirms that the learning module developed is very valid.

3.3.2. Practicality of learning module

The pilot study was intended to examine the practicality and effectiveness of the module. The practicality test was carried out by the lecturer and the student. The analysis of the results of the practicality sheet by the lecturer is presented in Table 2.

TABLE 2: Analysis results of module practically by lecturer.

No	Aspect of Observation	Practicality Score	Category
1	Ease of Use Aspect	82.82	Very Practical
2	Compatibility of Time Aspect	84.78	Very Practical
	Average	83.8	Very Practical

Table 2 shows that the module practicality score of the lecturer is 83.8 (very practical). Next, the results of the analysis of the practicality sheet by the student can be seen in Table 3.

TABLE 3: Analysis results of module practicality questionnaire by the student.

No	Aspect of Observation	Practicality Score	Category
1	Ease of Use Aspect	88.28	Very Practical
2	Compatibility of Time Aspect	81	Very Practical
	Average	84.64	Very Practical

Based on this table, it is concluded that the module practicality score of the student is 84.64, which is classified as very practical.

3.3.3. Effectiveness of learning module

Student learning outcome

Based on the analysis of student learning outcome, it can be concluded that: (1) 17 out of 30 subjects gained a very good (A) grade; and 13 subjects achieved a good (B) grade; (2) the average score is 80.2, which is a very good (A) grade. The findings suggested that all the students mastered the materials; and (3) the class of research subjects both classically and individually completed and passed the materials.

Student activity

The student activity was observed through the observation sheet. Students were divided into two groups. The first group comprised 15 students and was observed by the first observer and the second group also comprised 15 students and was observed by the second observer. The observation was done from the first to the third meeting and included nine activities. Based on the analysis of the results of the student activity observation sheet, it was found that the average score of the activity was 80.4, which is categorized as very active.

4. Conclusion

Based on the findings and discussion presented, it can be concluded that the developed module is: (1) valid, as the validation result is 86.54 (very valid category); (2) practical, with a practicality score awarded by the lecturer of 84.64 while the student's score is 83.8 (very practical category); and (3) effective, as the average student learning

outcome is 80.2 both as the whole class and students individually with a very good (A) grade and the observation sheet average is 80.4 (very active).

Conflict of Interest

The authors declare that there is no conflict of interest in this research.

Acknowledgement

The researchers would like to thank the University of Batanghari Jambi for facilitating this research.

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