

# Model of Contextual-Based Semantics Learning Materials

(Research and Development at Indonesian Language and Literature Education Department,  
Faculty of Teachers Training and Education Batanghari University Jambi)

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**Abstract**—The aim of this study is to develop a model of contextual-based semantics learning material. The need analysis was carried out by interviewing and surveying the lecturers and students. This *Research and Development* adopts the Borg & Gall and Jolly & Bolitho models in developing the materials comprising of the need analysis, material analysis of the current learning materials implemented, design and development of the learning material model, expert judgment, as well as the test of the effectiveness of the materials. Interview, observation, survey, and experimental methods were used to collect the data. The study applies *mixed method* approach to describe the textual data qualitatively and to analyze statistically the experimental data using *t-test*. The need analysis result showed that the lecturers and students require learning materials that comply with and involve in their daily lives. Based on the need analysis and the defined developmental model, the model of semantics learning materials was developed by integrating seven components of contextual approach in each learning activity. Effectiveness testing result shows that the model developed is highly effective. Referring to the findings, it is suggested that the lecturers and researchers should consider developing the learning materials that meet the students' needs.

**Keywords**—*Model of Materials, Semantics, Contextual*

## I. INTRODUCTION

Semantics is an important course in linguistics. Semantics knowledge will become the main part of the other linguistic unit understanding. The fail of students in the semantics course will bring them about be difficult in understanding the other linguistic course materials as the object of semantics covers the meaning of words as well as the sentences. Semantics requires students to understanding the system and the rules of meaning. This ability becomes the basis of students' skill in the field of meaning to analyze the types, changes, and relationships of meaning. However, the requirement differs from the reality in the classroom. Based on data obtained from the Indonesian Language and Literature Education, FKIP Unbari Jambi, it is known that the understanding of students in semantics is low, only 10 out of 32 students (32%) who meet the defined KKM of FKIP Unbari Jambi of 60 (grade C).

Based on the preliminary observation of a lecturer of semantics course, it revealed some facts that (1) the students have a different initial knowledge. Their understanding and ability to implement the theory are heterogeneous; (2) the learning process is done based only on instructional activity unit (SAP) previously developed by the lecturer without considering a certain strategy or approach. Therefore, it has not been able to facilitate the instructional activities; (3) the learning process is carried out too fast as the time allocated for the course is not enough considering that the extent of the semantics materials. In other words, the students need more time to master the materials; (4) The lecturers are generally applied lecture method; students only act as listeners; and they have almost no time to ask about the materials; (5) instructional facilities and infrastructures are inadequate; i.e., the absence of supplementary textbooks or course module. It only provides limited handouts; (6) the self-learning system is less encouraged so that most students rely only on the materials the lecturers provided in the classroom; (7) semantics learning model is generally oriented on outcome, not on the process of mastering the materials; (8) the course material is less actual. It is not or has not been prepared based on a specific strategy or approach; and (9) students cannot establish a connection between what they have learned and how they apply the knowledge although the purpose of learning requires the students to apply their knowledge in a real life.

The above problems affect the learning process in the classroom. The students' learning motivation becomes low which results in discouraging response to the materials. These will cause the low level of mastering the materials and their learning outcomes. In fact, students need additional learning media to make them more easily understanding the materials. The media can be either *diktat*, module, or textbook. Therefore, in this research develops a module of contextual-based semantics learning materials. "Modul adalah sebuah buku yang ditulis dengan tujuan agar peserta didik dapat belajar secara mandiri tanpa atau dengan bimbingan guru" (Depdiknas, 2008: 17). According to Elaine B. Johnson (2002: 24)

*CTL is a holistic system. It consists of interrelated parts that, when interwoven, what an effect that exceeds what any single part could achieve. Just as the violin, cello, clarinet, and other instruments in an orchestra produce distinctive sounds that together generate the music, so CTL's separate parts involve the same meaning. Each of these distinct elements of the CTL system contributes to helping students make sense of schoolwork. Taken together, they form a system that makes it possible for students to see meaning in, and retain academic material.*

This research focuses mainly on the development of a contextual-based semantics material model that is effectively used in the learning process at Indonesian Language and Literature Education Department, Batanghari Jambi University. Furthermore, the research sub focuses are as follows:

1. The description of the need for the development of semantics learning materials at the Indonesian Language and Literature Education Program, Batanghari Jambi University.
2. The description of semantics learning materials recently used at Indonesian Language and Literature Education Program, Batanghari Jambi University.
3. The design of the developmental model of contextual-based semantics learning materials at Indonesian Language and Literature Education Program, Batanghari Jambi University?
4. The feasibility of contextual-based semantics learning materials from the experts' point of view?
5. To what extent is the effectiveness of the contextual-based semantics learning model developed?

The problem of this research is then formulated as follow: "To what extent is the contextual-based semantics learning materials model meets the needs and the characteristics of the students of Indonesian Language and Literature Education Program, Batanghari Jambi University? Furthermore, the formulation of the problems is detailed as follows.

1. How did the identification of needs in the development of semantics learning materials conducted in Indonesian Language and Literature Education Program, Batanghari Jambi University?
2. What type of model of semantics learning materials is recently used at Indonesian Language and Literature Education Program, Batanghari Jambi University?
3. How is the development of contextual-based semantics learning materials model?
4. How is the feasibility of contextual-based semantics learning materials obtained from the expert's judgment?
5. How is the effectiveness of the contextual-based semantics learning materials developed?

## II. METHOD

The objective of this research, in general, is to develop and produce an effective model of contextual-based semantics learning materials to employ in lectures at Indonesian Language and Literature Education Program, Batanghari Jambi University. To achieve this objective, there are five things to do thoroughly, namely:

1. Obtaining a description the needs of semantics learning material development used at Indonesian Language and Literature Education Program, Batanghari Jambi University.
2. Knowing the description of the semantics learning material model recently used at the lectures at Indonesian Language and Literature Education Program, Batanghari Jambi University.
3. Producing a model of development of contextual-based semantics learning materials based on needs.
4. Testing the feasibility of teaching materials developed through expert judgment.
5. Evaluating the effectiveness of the learning material implementation developed by piloting to the students.

It is a research and development model in the field of education because it is used to develop and validate products at education domain. Product development is carried out according to the *R & D cycle* developed by Borg & Gall (1983: 772-775). It is a mixed-method approach (Creswell, 2014: 5). Data collection were conducted by observation, interview, questionnaire, document review and test techniques. The data concerning on the need of teaching materials are obtained from students and lecturer interview. The effectiveness test data of the model was collected through questionnaire and test. Student's learning outcome data is obtained from pretest and post-test. The data collected is then distributed into two types. The non-numerical data were analyzed qualitatively and the numerical data were analyzed quantitatively.

The research and development proceed four main stages covering ten steps of modifying activity or combination between Borg & Gall and Jolly & Bolitho models. These stages are as follows: 1) preliminary activities are conducted analyzing the documents and the needs to produce the learning material profile; 2) the development stage is designing and developing the initial draft of learning materials; 3) validation, evaluation, and revision phases are carried out by piloting the product. Revision, then, is made based on test results. At this stage, feasibility test or expert validation also conducted to produce a draft of teaching materials II; 4) implementation phase is carried out by testing the effectiveness of the materials on students and lecturers then revised based on test results to produce the desired instructional material product.

### III. FINDING AND DISCUSSION

The needs analysis was conducted using three methods: 1) questionnaire given to students and lecturers, 2) direct observation of the learning process at class; and 3) interview with students and lecturers.

The student needs analysis was measured by a questionnaire. The questionnaire consists of three components namely the teaching material needs, the instructional methods and the evaluation components. The first component shows that the main and very prominent needs are the material contents. These should meet the characteristics of the students. The students need not only the material content but also the enrichment of examples, exercises, and other supporting information and the materials are developed according to their characteristics by applying a certain approach. In the physical appearance, the teaching materials should be interesting so that it can motivate the students to learn. The varied form and technique of evaluation should also be considered.

Furthermore, the lecturer's needs analysis is also obtained through a questionnaire on seven components namely: rationale, subject and content, gradation, methodology, design (layout), exercise, and other components. Rationally, semantics course materials need to be authentic. The materials presented should also be integrated with other linguistic levels. In addition, it also needs to be supplemented with examples and the way to analyze them, a list of difficult vocabulary, as well as instructional guide in using the teaching materials. The lecturer also suggested that the degree of difficulty of the material is presented gradably from the easiest level to the difficult ones and implementing various methods to avoid boredom. At the design section, the students suggested that the cover should be uniquely designed and interesting in order to motivate the students to learn. In addition, additional components such as student worksheets are also necessary.

The needs analysis is also carried out by interviews with students and lecturers. The results of interviews suggested that the students and lecturers need teaching materials that meet the characteristics of students and are prepared by applying certain methods.

The document analysis results found that the teaching materials used at Batanghari University in semantics courses are delivered in language that is too difficult to understand by the students. The examples presented are not contextual to the student's daily life. The delivery of the course materials also overlaps one another. These facts result in the students' low understanding of the semantics course.

Referring to the data of the need analysis, it can be concluded that the development of a model of semantics learning materials that meets the needs of students and lecturers is necessary. The model of teaching materials should be interesting, contextual, and meets the characteristics of students in order that increase the motivation, activity, and competence of students on semantics. The teaching materials were developed referring to the developmental model suggested by Borg & Gall and Jolly & Bolitho.

#### The Design of Contextual-Based Semantics Learning Material Model

After noticing the results of observation, need analysis and document analysis, the authors formulated a model of contextual-based semantics learning materials in the form of draft I. The concept of initial draft of the materials was developed based on: 1) principles of teaching material model development; 2) result of need analysis of lecturer and students obtained by questionnaire, interview and observation; and 3) and the results of semantics materials analysis recently used. Based on the results of the analysis of some components, it is then formulated the developmental design of the model of semantics learning materials consisting of four structural components namely introduction, competence, orientation, and evaluation.

The introduction is presented at the beginning of each material containing the general overview as a guide for students before proceeding to the topic or content of learning materials. This introduction is in the form of questions that can stimulate the students to immediately learn the materials.

The competence is the ultimate ability the learners will acquire on completing every subject. Competence is in sentence form describing learning objectives to achieve as well as their indicators.

The orientation is a description of all contents of learning materials for every topic of the subject. The description contains all materials to be learned in a whole. Seven components of contextual approach were integrated into each topic or subject matter in the materials developed.

And the evaluation activities were carried out to determine the accomplishment of the learning process, as well as to determine the ability of students in understanding the materials they have learned. As this teaching material is contextual based, the evaluation is carried out during the learning process and at the end of the learning process.

The model of draft I is, then, tested on a small group of six students of semester VI. The results revealed that: 1) the model of teaching materials is good and interesting; 2) the introductory language used is easy to understand; 3) the examples provided are less varied; 4) the exercises should be provided with clear instructions; 5) the time to complete the exercises should be extended; and 6) a list of difficult words should be supplemented.

After revising the student's input from a limited trial, it was then performed the validation or expert judgment. The results are as follows: 1) the order of the materials is arranged; 2) each subject is arranged based on of the defined allocations of time; 3) abstract images should be utilized according to the learning objectives; 4) it is suggested to use a vocabulary relating to

the daily life of the students; 5) consistency of writing should be noticed; and 6) the instructions in the exercise should be clearly written. Some inputs from the experts are then used as a guide to revise the teaching materials to get the expected learning materials. It will then be tested for their effectiveness.

After going through several times of trials, the final model of contextual-based semantics learning materials is produced. The final model of this development result did not undergo much significant change since the results obtained from the test phase showed positive results.

#### The Model Feasibility

The test of model feasibility was carried out after a small group trial and revision. It was conducted by asking expert judgment. The questionnaire of feasibility of the model is given to experts. In addition, expert judgments and inputs are also obtained through consultation and discussion. The conclusions about the feasibility of the developed model then are drawn based on the expert inputs.

#### The Model Effectiveness

The test of model effectiveness has been experimented on class 6B and 6C. The class 6B was instructed using the developed teaching materials, while the class 6C was taught using conventional teaching materials available. After the learning process was completed, the test was administered to the classes. Furthermore, the test results obtained are compared and analyzed using *t-test* statistic formula.

Based on the post-test result of the experimented class and the controlled class, it was found that the mean score of experiment class is 80.66, while the control class is 66.39. Further, the result of the mean variance test using *t-test* presented in Table I.

The Table I revealed that the *t-count* equals to 4.595. If it is compared to score of *t-table* at the level of significance  $\alpha = 0.05$  and  $df = 34$ , the  $t\text{-count} = 4.596 > t\text{-table} = 2.021$ . Therefore, it can be concluded that there is a significant difference in the mean score of learning outcomes between the students taught using conventional materials and the students taught using the developed teaching materials.

The average value of learning outcomes of the students taught using the developed teaching materials, in fact, is higher than the students who learn using conventional teaching materials. This means that the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_1$ ) is accepted.

This test results can also be interpreted that the product of teaching materials developed has a high level of effectiveness. Therefore, the contextual-based semantics learning materials developed are feasible and effective to implement in semantics course.

To measure the perception of students and lecturers on material readability developed, a 28 item questionnaire is applied. The questionnaire is assembled using Likert scale that contains four categories of choice: strongly agree (SA), agree (A), less agree (LA), and disagree (DA). The readability and perception test covers 16 aspects: 1) connected to the curriculum; 2) there are clear instructions; 3) encourage and foster interaction; 4) focus on language; 5) the application of learning skills; 6) encourage its application in the real world; 7) aspects of relevance; 8) fulfill psychological validity; 9) meet pedagogical validity; 10) meet the validity of the process and content as well as apply the latest methodology; 11) be potential to active engagement; 12) interesting and fun; 13) pay attention to the desired learning motivation; 14) fulfill a gradual and correct order; 15) the application of contextual approaches such as feedback and so on; 16) the availability of tests in accordance with the given materials. These sixteen aspects are elaborated in 28 items of statements in a questionnaire.

Table I. Test Result of Mean Variance

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	T	df	Sig. (2-tailed)
Y	Equal Variances assumed	.013	.909	4.596	34	.000
	Equal Variances not Assumed			4.596	33.970	.000

The students' perceptions on the questions of 28 items are as follows: 53.77% of the students said that the teaching materials are very good (strongly agree); 46.03% of students said the teaching materials were developed well (agree); and 0.198% of students said that the developed materials were worthless (less agree). Meanwhile, the lecturers' perceptions of the 28 items are as follows: 96.43% or 27 items were answered by strongly agree (very good) and 3.57% or one item was answered by agreed (good). This result shows that the lecturer suggested that the teaching materials developed are very good.

The advantages and strengths of this developed learning material model are based on the result of need analysis and student characteristics. Therefore, it can be developed a learning materials with the following characteristics: 1) developed for special purpose; 2) focused on the relevance to the needs and characteristics of students; 3) developed based on contextual approach by highlighting the seven components of contextual approach (constructivism, inquiry, modeling, community learning,

questioning, reflection and authentic assessment). Finally, these teaching materials can motivate students to study independently or in groups.

#### IV. CONCLUSION

The need analysis and document analysis results show that either the students or the lecturers need semantics course materials that meet their need, contextual-based. Based on these results, it is, then, developed a semantics materials referring to several theories of the development of language learning materials, principles of materials development as well as language material evaluation.

The effectiveness test suggests that the model of contextual-based semantics learning material developed can improve students' learning outcome. It is depicted on the significant difference of mean scores of the test result of effectiveness of learning materials on the two classes. The mean score of post-test of the experiment class, after taught using the developed teaching materials, equals to 80.66 and the control class is 66.39. Furthermore, the test result of the two mean differences indicates that *t-count* is higher than the *t-table*. Thus, it can be concluded that there is a difference of material effectiveness between the class taught using the developed contextual-based semantics learning materials and the class that taught using conventional ones. These results suggested that the learning outcomes of the students learning using context-based semantics learning materials are higher than the students taught using conventional learning materials.

The feasibility test using questionnaire on lecturers and students finds that the average equals to 96%. Both lecturers and students said that the developed materials meet the criteria of feasibility or are categorized as very feasible.

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