

DESIGN OF READING MATERIALS BASED ON CONTEXTUAL TEACHING AND LEARNING (CTL)

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Abstract

Based on the needs analysis carried out, it was concluded that it was important to develop reading teaching materials for learning Indonesian. Teaching materials are developed to support learning and as additional material in learning. The diversity of ethnic groups with cultural and linguistic backgrounds is important for developing CTL-based teaching materials. The goal is to develop teaching materials so that students better understand the text being read if the text content is close to the student environment. Based on the background of this research, the purpose of this study is to develop CTL-based teaching materials that are valid, practical and effective.

Keywords: design; reading; teaching materials; contextual teaching and learning; text based.

Introduction

Students' reading skills in Indonesia need to be improved based on PIRLS (Progress in International Reading Literacy Study) data in 2011 Indonesia ranked 45 of 48 countries (IEA, 2012). Furthermore, based on 2015 Progress (International Student Assessment) data, the average score of Indonesian students' achievement of reading was ranked 64th out of 70 countries. (OECD, 2016).

The development of reading skills is influenced by the availability of teaching materials (Dowd & Pisani, 2013). Teaching materials are one aspect that helps determine the success of learning, in addition to other aspects of learning such as syllabi, methods, learning activities, and evaluation (Salam, 2017). All materials and resources used to develop knowledge, skills, attitudes and desired values in students are the scope of teaching materials (Simsek in Saglam, 2011). Based on this, it is important to develop teaching materials to help the development of student reading.

The choice of developing a teaching material model to overcome students' problems in writing skills is motivated by the following points. First, the use of teaching materials can make the learning process easier and last longer (Saglam, 2011). Second, teaching materials contribute to the success of learning, teaching materials also help the class become more enjoyable, better time management and increase the level of productivity in the classroom (Koşar in Koparan, 2017). Third, teaching materials can make it easier for teachers to convey messages to students accurately, precisely, clearly and understandably; in making abstract knowledge concrete and allowing students to understand complex ideas to be simple (Saglam, 2011). Fourth, the instructional material developed can contain models/approaches/methods that are in accordance with the text learned (Pribadi & Sjarif, 2016).

Conditions in the field show that teaching materials for reading learning are still very limited (Salam, 2017). Teachers must prepare teaching materials and methods needed to carry out the learning process (Saglam, 2011). While preparing a daily learning plan, the teacher must also think about the teaching materials used and decide how to use learning materials appropriately and appropriately (Yasar and Gultekin in Saglam, 2011).

Facts on the ground indicate that many teachers do not have the skills to write good teaching materials (Sinaga, Suhandi & Liliyasi, 2015). This can be proven by the fact that it is very rare to find study books, such as languages written by language teachers. In fact, in the curriculum of Indonesian teacher training institutions, writing knowledge and skills are only taught in English and Indonesian language courses are devoted to developing student writing skills (Sinaga, Suhandi & Liliyasi, 2015). This was also supported by interviews with Indonesian language teachers in the city of Padang, that they only used books issued by the government and did not develop their own teaching materials to use. Based on this, it is important for language teachers to be able to develop teaching materials that are appropriate to the needs of students.

Indonesia consists of thousands of diverse islands with various vegetation and is occupied by ethnic groups with different cultural and linguistic backgrounds. Based on these facts, it is important to develop teaching materials based on Contextual Teaching and Learning (CTL) (Sinaga, Suhandi & Liliyasi, 2015).

CTL is a learning process where the teacher connects the content of learning material to real world situations (Berns & Ericson, 2001; Glynn & Winter, 2004). CTL learning is defined as a way to introduce content using various learning activities techniques designed to help students connect with something that is already known and build new knowledge from analysis and synthesis of the learning process (Hudson & Whisler, 2008).

The instructional material developed can contain models that are in accordance with the text being studied (Pribadi & Sjarif, 2016). The selection of the CTL approach is the basis for the development of teaching materials for the following reasons. First, it is easier for students to understand something that is a theoretical understanding by providing understanding through a context that is close to students (Mukwambo, 2016). Second, helping students become independent and high-achieving students (Sears, 2003). Third, actively engage students to improve and develop learning skills and capture students' attention by illustrating the relevance of the learning experience (Baker, Hope & Karandjeff, 2009). Fourth, students are motivated to make connections between knowledge and their application to life both as family members, citizens in learning (Sears, 2003).

Contextual Learning and Teaching (CTL) which is used as the basis for compiling this teaching material is compiled based on the CTL component which consists of the following components, namely constructivism, inquiry, asking, community learning, modeling, reflection and authentic assessment (Hosnan, 2014). The CTL component is used as a foundation in developing the design of the developed reading teaching material.

Based on the elucidated explanation, it is important to develop reading teaching materials based on Contextual Learning and Teaching (CTL) in class VII of SMP. By presenting material and steps of structured activities, it is expected that students will get the concept faster and can practice reading skills well. This teaching material is expected to provide solutions for students to be skilled in reading and assisting teachers in the learning process. This teaching material is also expected to develop students' creativity and innovation in learning.

Based on the background stated, the purpose of this study is to explain the design of reading teaching materials based on Contextual Learning and Teaching (CTL). This paper focuses on the design of teaching materials that aim to explain the steps of learning presented in teaching materials so that readers can understand and develop their own teaching materials as one of the learning resources.

Method

The type of research used in this study was research development. Research development was a research method used to produce a specific product and test the effectiveness of the product (Sugiyono, 2010). The results of this study are CTL-based reading teaching materials. The process of developing instructional materials was carried out based the model proposed by Plomp (1997). This model consists of three stages of developments, namely preliminary research, prototyping phase, and assessment phase. The type of data in this study were quantitative data and qualitative data. Data obtained through questionnaires, interviews, observation sheets, and tests. In development research, product development is the most important thing. Products that had been developed are then validated and tested. Trials were held in junior high schools in Padang to get practicality and effectiveness.

Results and Discussion

A. Results

The process of developing instructional materials is carried out following the Plomp (1997) model. This model consists of three stages of development, namely preliminary research, prototyping phase, and assessment phase. The results of the development stages are explained as follows.

1. Preliminary Research

The results of the initial analysis in general can be summarized as follows. First, based on interviews with Indonesian language teachers, it can be concluded that it is important to develop teaching materials that are suitable for students' needs and can be additional teaching materials in addition to the textbooks that have been used. Secondly, the students studied were middle school students aged around 12-13 years and mostly from West Sumatra. Third, the teaching material developed is teaching material for class VII SMP which consists of seven texts, namely description text, fantasy story texts, procedural texts, observation report texts, folk poetry, fable texts, official letters and personal letters. The text is determined based on the revised edition Curriculum 2013. The skills that will be developed are reading skills, namely students are able to identify and review the text that is read.

2. *Prototyping Phase*

At the prototyping phase, the most important thing is to design teaching materials. The design of teaching material structure consists of three main parts, namely introduction, learning activities, and evaluation (Daryanto and Dwicahyono, 2014). Teaching materials also include a cover page, preface, table of contents and a list of references outside the main component. An explanation of the components of the teaching material is as follows.

a. Introduction

This section contains a general description of teaching materials that serve to provide a general explanation of the contents of learning activities. By understanding the contents of the introductory section, students can understand the general picture of teaching materials used by reading only without having to wait for the teacher's explanation. The introduction section contains several aspects that are tailored to the needs of students, so that these aspects can be designed differently for each teaching material.

In the instructional materials that have been designed, the contents of the teaching materials framework in the introductory section are as follows. First, a general explanation of the learning that contains the Indonesian language learning objectives, general details of the contents of the learning activities that explain the topics and texts to be studied, the approaches used in teaching materials, and descriptions of the material presented in the teaching material. Second, an explanation of the systematic presentation of teaching materials. Third, instructions on the use of teaching materials intended for students. Fourth, core competencies and basic competencies are targeted at learning. For teaching materials developed, core competencies targeted are knowledge competencies, the skills expected to be mastered by students are reading skills.

b. Learning Activities

Learning activities are a major part of teaching materials. This section generally contains scant material, exercises, worksheets, and summaries. Learning activities on teaching materials developed consist of seven chapters, which are adjusted to the number of texts studied. Each chapter consists of two learning activities. In the first learning activity, students learn to identify text, while in the second learning activity, students learn to study the text. The division of learning activities adjusted to the basis of Indonesian language learning is text-based learning. The ability to understand and gain knowledge from text is a fundamental skill (Elleman, et al, 2009).

The content of teaching materials is material that students must learn according to the learning objectives. In addition to the material, in this section there are also several aspects that support the learning activities, such as a description chart (concept map) material, indicators, objectives of learning activities, benefits of learning, conclusions, summaries, exercises, reflections, and evaluation of chapters. The supporting aspects of this learning activity can be adapted to the needs of students.

The learning activities in the designed teaching materials are more meaningful because they are developed based on the CTL approach. CTL is a learning approach that makes use of everyday life problems or problems around students as learning objects (Khotimah & Masduki, 2016). CTL which is used as the basis for compiling this teaching material is arranged based on seven components, namely constructivism, inquiry, questioning, community learning, modeling, reflection, and authentic assessment (Hosnan, 2014). An explanation of the steps of the learning activities in the teaching materials is explained as follows.

1) Constructivism

Constructivism is the initial stage in CTL-based learning activities. At this stage, learning activities are packaged into a process of constructing knowledge, not receiving knowledge, so learning starts from what students know (Hosnan, 2014). In the teaching material for this stage, images, song lyrics, poetry, or other things related to the text can be presented, which can give students a general overview of the text to be studied. It is intended that students can find and create meaning through experience, drawing from prior knowledge to build based on existing knowledge (Baker, Hope & Karandjeff, 2009).

To support images, song lyrics, poetry, pantun, or other things related to the text, teaching materials are also equipped with illustrations about the things presented. In addition to the illustration of the section on constructivism, some basic questions can also be presented regarding the text to be studied based on the illustrations and presentations contained in the teaching material. Designers of teaching materials can present things other than pictures, song lyrics, poetry, and poetry. However, for this learning, it must be adapted to the context that is close to the student. Something presented is indicated to have been known by students beforehand, so that learning is successful.

2) Inquiry

Rusman (2011) states that inquiry is the core activity of the CTL approach. At this stage the knowledge and skills obtained are not the result of remembering the facts, but the results find themselves (Hosnan, 2014). In teaching materials, this stage displays a text that students must read. By reading the text, students are expected to be able to identify information in the text that is read. After students read the text, students answer several questions based on the text they read. In addition to finding information contained in the text, students are able to mention the type of text that is read. In addition, students are also expected to be able to explain understanding, functions, and so on regarding the text in accordance with students' understanding.

The importance of understanding as a result of reading (Liang & Dole, 2006). The text only provides instructions for students but the meaning is built on the knowledge acquired previously. Understanding text is an interactive process between the background of the reader and text. Thus, students can achieve efficient understanding by linking textual material with their own knowledge (Nordin & Eng, 2017). To make it easier for students to grasp the meaning, the text displayed is text that is adapted to the context of students. The closer the context is raised, the better. For example, a context that is close to students such as family, school, neighborhood, or something related to student experience.

Basically, text reading is significantly needed in reading learning (Stephens, 2007). This is related to the volume of the text by reading significantly can give an understanding of the text (Brenner & Hiebert, 2010). Reading volume is influenced by several variables such as the complexity of the text and learning context (Hiebert & Martin, in Braker-Walters, 2014).

3) Questioning

Asking questions in CTL learning is seen as a teacher's activity to encourage, guide, and assess students' thinking skills. This section is an important facility that students must use to ask questions about dubious teaching material that is not understood. In the teaching material, a column is provided for students to use as a place to write questions that will be asked to the teacher. Although learning is carried out independently, in this section the teacher has an important role to play in further learning activities.

4) Learning Community

Learning community is an activity that familiarizes students to collaborate and utilize learning resources from their learning friends (Rusman, 2011). Almost every learning model has learning activities with the group. The activity is important so that students can share information with the group. Even so, not all activities are carried out in groups. Activities can be carried out independently after they are discussed in groups.

5) Modeling

Modeling is a learning process by demonstrating an example that can be imitated by students (Hosnan, 2014). In the instructional material developed, a table is presented in the form of the results of the analysis, or identification, or review of the text read. By understanding the results of the analysis, students are expected to be able to analyze the text according to the example. It can be concluded that this stage can provide convenience for students to learn.

6) Reflection

Reflection is the process of prioritizing the experience that has been learned by sorting the learning events or events that have been carried out (Hosnan, 2014). In the instructional material developed, a column can be filled with students. The note is used as a form of feedback on the use of teaching materials. Students can express their views, opinions, and expectations about learning activities that have been carried out. In addition to the columns presented, the instructional material is also equipped with illustrations of the learning that has been done.

This stage for Indonesian language learning uses CTL-based teaching materials for each text equally. In order for teaching materials to be more interesting, the reflection section can display motivational words that can motivate students to learn, because the reflection part is the final part of learning activities.

7) Authentic Assessment

Assessment is important in learning. Assessment can also be referred to as the result of learning that is described through numbers. In instructional materials, an assessment of the form for learning Indonesian using CTL-based teaching materials on reading learning can be done by conducting tests in the form of objective tests or essay texts. Text selection can be adjusted to the desired results in learning that is tailored to the learning objectives.

c. Evaluation

Evaluation is the final part contained in the teaching material. this section can also function as an assessment. For reading assessment learning can be done by doing a test. The test can be in the form of objective text and/or essay text. Objective tests can be multiple choices, right-wrong, matching, or others. The shape and number of questions are determined by the instructor of the material. A good evaluation is an evaluation that can assess students' abilities in accordance with the learning objectives.

At the prototyping phase, developed teaching materials are validated obtain the value of the validity of teaching materials. The results of the validation can be seen in table 1.

Table 1. Teaching Materials Validity Result

Rated Validity	Score (%)	Category
Self Evaluation	88.20	Very valid
Expert Validaton	92.00	
Teacher Response	86.11	
Student Response	96.27	
Average Overall Validity Value	90.65	

3. Assesment Phase

Teaching materials that have been declared valid, then tested in research schools. The results of the trial were to find out the practicality and effectiveness of the teaching materials developed. The practicality results of teaching materials can be seen in table 2 and the results of the effectiveness of teaching materials can be seen in table 3.

Table 2. Teaching Materials Practical Result

Rated Practicality	Score (%)	Category
Practicality results by the teacher	96.40	Very Practical
Practicality results by the students	95.00	
Learning Activity	87.15	
Average Overall Practicality Value	92.85	

Table 3. Teaching Materials effectiveness Result

Learning Result	Score (%)	Change Value	Category
Attitude	91.41	A	Very Effective
Cognitive	80.34	B	

B. Discussion

Instead of students gaining knowledge from one source and memorizing it, education today aims to train individuals in seeking information and how to use that information to solve problems (Kazu & Yeilyurt, 2008). One learning resource that can be used in learning is teaching materials designed by subject teachers. Teaching materials that are not developed by the teacher can be assumed that students have the same ability in understanding learning, whereas in fact, students have different learning difficulties (Nguyen & Meltzer, 2003; Flores et al., 2004).

The design of teaching materials is the most fundamental activity in development research. This paper focuses more on the contents of the developed instructional materials. It is intended that by understanding the design of teaching materials, teachers can use the design as a model or can modify their own teaching materials that are useful for learning.

Teaching materials developed are reading teaching materials consisting of various kinds of texts. In accordance with the opinion of Alyousef (2005) that reading is an interactive process between the reader and the text. The ability to understand and gain knowledge from text is a fundamental skill (Elleman, et al, 2009). The development of reading skills is influenced by the availability of reading material (Dowd & Pisani, 2013).

Teaching materials developed based on Contextual Learning and Teaching (CTL). CTL selection is the basis for developing learning instructional materials because CTL learning involves the mind in finding meaning in context and sensible relationships and resonating with one's socio-cultural background (Nashon & Anderson, 2013). In addition, in Indonesia, which consists of thousands of diverse cultural and socio-cultural backgrounds, it is important to develop CTL-based teaching materials (Saldanha, et al., 2014).

Conclusions

Based on the results of the research and discussion it can be concluded that it is important to develop reading teaching materials based on Contextual Learning and Teaching (CTL). As an additional learning resource for Indonesian language learning. The instructional material can be developed by the teacher, which is adjusted to the needs and context of the student's environment.

By understanding the formulation of teaching materials that have been described, this paper is expected to be used as a reference for both subject teachers, further researchers, and the education community, to be able to design their own teaching materials needed for learning activities. The design of the instructional material described is only a model, and can be adapted to the needs of the next instructor of materials.

References

- Alyousef, H. S. (2005). Teaching reading comprehension to ESL/EFL learners. *The Reading Matrix*, Vol. 5(2), pp 143—154.
- Baker, E. D., Hope, L. & Karandjeff, K. (2009). Contextualized teaching & learning a faculty primer. California: The Chancellor's Office of the California Community Colleges.
- Braker-Walters, B. A. Informational text and the common core: A content analysis of three basal reading programs. *Sage Open*, pp. 1—8.
- Brenner, D. & Hiebert, E. (2010). If I follow the teachers' editions, isn't that enough? Analyzing reading volume in six core reading programs. *Elementary School Journal*, Vol. 110, pp. 347—363.
- Daryanto dan Dwicahyono, A. (2014). *Pengembangan perangkat pembelajaran (Silabus, RPP, PHB, Bahan Ajar)*. Gava Media: Yogyakarta.
- Dowd, A. J & Pisani, L. (2013). Two wheels are better than one: the importance of capturing the home literacy environment in large-scale assessments of reading. *Research in Comparative and International Education*, Vol. 8, No. 3, pp. 395—372.
- Elleman, A. M., Et al. (2009). The impact of vocabulary instruction on passage-level comprehension of school-age children: A meta-analysis. *Journal of Applied Effectiveness*, Vol 2(1), pp. 1—44.
- Glynn, S. M. (2004). Contextual teaching and learning in elementary school. *Journal of Elementary Science Education*, Vol. 16(2), pp. 51—63.
- Hosnan. (2014). *Pendekatan saintifik dan kontekstual dalam pembelajaran abad 21*. Ghalia: Bogor.
- Hudson, C. C. & Whisler, V. R. (2007). Contextual teaching and learning for practitioners. *Systemics, cybernetics and informatics*, Vol 6(4), pp. 54—58.
- IEA. (2011). International report. *Performance at the PIRLS 2011*. International Benchmarks TIMMS & PIRLS Report International Study Center (IEA): Lynch School of Education, Boston College.
- Khotimah, R. P. & Masduki. (2016). Improving teaching quality and problem solving ability through contextual teaching and learning in differential equations: A lesson study approach. *Journal of Research and Advances in Mathematics Education*. Vol. 1(1), pp. 1—13
- Koparan, T. (2017). Analysis of teaching material developed by prospective mathematics teachers and their views on material development. *Mojet*, Vol 5(4), pp. 8—28.
- Liang, L. A. & Dole, J. A. (2006). Help with teaching reading comprehension: Comprehension instructional frameworks. *The Reading Teacher*, Vol. 59, pp. 742—753.
- Mukwambo, M. (2016). Trainee teachers' experience using contextual teaching and learning: Implications for incorporation of indigenous knowledge in instructional design. *Pedagogical Research*, Vol. 1(1), pp.3—12.
- Nashon, S. M. & Anderson, D. (2013). Interpreting student views of learning experiences in a contextualized science discourse in Kenya. *Journal of Research in Science Teaching*, Vol. 50, pp.381—470.
- Nguyen, N. L. & Meltze, D. E. (2003). Initial understanding of vector concepts among students in introductory physics course. *American Journal of Physics*, Vol. 71(6), pp. 630—638.
- Nordin, R. & Eng, L. S. (2016). Text-selection fo teaching reading to ESL tertiary students: A study on genre and content preferences. *International Journal of Instruction*, Vol 10(1), pp. 71—85.
- OECD. (2016). "PISA 2015 results in focus", (Online), (<http://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf>, accessed date 25 March 2018).
- Plomp, Tj. (1997). *Educational design: introduction. from tjeerd plomp (eds). educational & training system design: introduction. design of educatio and training (in Dutch)*. Utrecht (the Netherlands): Lemma. Netherland. Faculty of Educational Science and Technology, University of Twente.
- Pribadi, B. A. & Sjarif, E. (2010). Pendekatan konstruktivisme dan pengembangan bahan ajar pada sistem pendidikan jarak jauh. *Jurnal Pendidikan Terbuka dan Jarak Jauh*, Vol. 11(2), pp. 117—128
- Rusman. (2011). *Model-model pembelajaran mengembangkan profesionalisme guru*. Jakarta: Raja Grafindo Persada.
- Saglam, H. I. (2011). An investigation on teaching materials used in social studies lesson. *Tojet*, Vol. 10(1), pp. 36—44.

- Salam, S. (2017). Developing needs analysis based reading comprehension learning materials: A study on the Indonesian language study program students. *Advances In language and Literacy Studies*, Vol. 8(4), pp. 105—113.
- Saldanha, M. et al. (2014). Catch them before they fall: A simple test of sight-word and pseudo-word reading in Kannada for a quick and early assesment. *Sage Open*, pp. 1—8.
- Sears, S. (2003). *Introduction to contextual teaching and learning*. Indiana: The Phi Delta Kappa education Foundation.
- Sinaga, P., Suhandi, A. & Liliyasi. (2015). The effectiveness of scaffolding design in training writting skills physics teaching materials. *International Journal Instruction*, Vol. 8(1), pp. 19—34.
- Stephens, K. E. (2007). Text to test comparison in Texas: Analysis of information text in basal readers for elementary students. *Collage Reading Association Yearbook*, Vol. 28, pp. 142—156.
- Sugiyono. (2010). *Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R & D*. Bandung: Sinar Baru.