



# Implementation of Contextual Teaching Learning (CTL) in Digital Book Development for Growing Liveliness Study

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**Abstract.** The purpose of this development is to create a digital book on writing and reading Mandarin and observe student learning activities when using the developed book and describe the results of the book validation test for students of the Mandarin language study program at Universitas Negeri Malang. The development stage includes, (1) needs analysis; (2) planning; (3) initial product development; (4) expert validation; (5) small group trial; (6) large group trial; (7) revision; and (8) dissemination. The researcher also made active observations using a questionnaire which adopt owned by Sardiman. Researcher examines respondent's feedback about contents of the material in the book. The product resulting from this research is a book that was developed on a *Contextual basis Teaching Learning* (CTL). The digital book is developed to support teaching and learning activities.

**Keywords:** Book · Liveliness · CTL

## 1 Introduction

The lack of learning media caused students to be less active in learning. This matter is proven by Researchers by conducting observations on students of the Mandarin language study program at Universitas Negeri Malang and student indicated less active. Module is one of teaching materials that is systematically arranged for students. It contains a set of learning experiences that are planned and designed to help students master specific learning objectives [1].

At the time of initial observation, there were a number of reasons for the inappropriateness of the module. This was obtained from interviews that researchers conducted with lecturers of write and read mandarin course at the Universitas Negeri Malang. This is caused by mismatch between the content and the school's ability to provide facilities and infrastructure. According to Widoretno [2] the material presented in the module must be served by logical and systematic, so that students can know when to start and end learning a module, and do not raise questions about what to do or learn.

The use of pictures or photos in the book is used to make it easier for students to understand the contents of a book discussion, so also material that must be complicated can be explained by simple, that in accordance with the students' thinking level. According to Widoretno's Theory [3] explains that module must be served by logical and systematic, so that student could knowing when start and end study a module without having question about what or which must be conducted or studied. Using a learning material that is interesting can make student understand theory easily. The use of CTL the expected to have impact on students become more active from previously. Students are expected to be able to explore learning skills by interacting with each other. Link every Theory with life daily will make student capable think clear in learning activities.

By *Center for Occupational Research and Development (CORD)* [4] the application of CTL learning strategies as follows: (a) *Relating*, learning is associated with the context of real life experiences; (b) *Experiencing*, learning is an experience activity; (c) *Applying*, learning emphasizes the process of demonstrating knowledge possessed in the context of its use, (d) *Cooperating*, learning is a collaborative and cooperative process through group learning; (e) *Transferring*, learning emphasizes the realization of the ability to utilize knowledge in new situations or contexts.

Based on the results of observations, it was found that there were still some materials that were not in accordance with the syllabus or with the practicum media used and using a system that was not compatible with the media used.

A good media covers set experience study which planned and in design to assist students in learning. According to Widoretno [5], the use of modules in the learning process can improve student learning outcomes directly related to the benefits of modules as learning media.

Development module System Operation based CTL expected to make students engaged actively in learning and do not feel bored because it is supported by interesting writing and pictures that can be understood easily and module can be used anywhere. The importance of this module can support liveliness student make researcher make ingredient teach based CTL. The use of CTL-based is expected to foster student activity.

## 2 Method

The stages of the research method refer to Sadiman's in Admaja [6] development model. The stages in Sadiman's Development Model include, (1) Problem Identification; (2) Goal Formulation; (3) Formulation of the details Theory; (4) Formulation of success measurement; (5) Media Script Writing; (6) Test/Trial; (7) Revision and; (8) Production Ready.

The stages of the research carried out are, (1) Problem Identification (observing early to school), (2) Formulation of Objectives (analysis of objectives), (3) Formulation of material items, (4) Formulation of success measurement, (5) Writing of Media Scripts, (6) Tests/Trials (Tests were carried out on 3 aspects, (a) media aspect, (b) material aspect, (c) student aspect, (7) Revision (revision is done if response negative or suggestion repair from aspect media then tested try it to the material aspect then to the students) and (8) Production Ready.

**Table 1.** Criteria validity appropriateness media based on questionnaire score

Score (Average)	Validity Level	Information
3.01 – 4.00	Tall	Worthy, no need revised
2.01 – 3.00	Currently	Not enough worthy, need to be revised
1.00 – 2.00	Low	Not worthy, total revision

On this study development, validation module conducted in five Step. First, i.e., appraisal validation from the aspect of media and a theory which conducted by expert of media and theory. Second, a small group consisting of three respondents from the Mandarin language study program at the Universitas Negeri Malang. The third stage, a large group trial consisting of 30 students of the Mandarin language study program Universitas Negeri Malang. Fourth, researcher To do observation liveliness to module which developed to find out the purpose of the module development carried out. Fifth, the researcher conducted a feasibility test of the content of the material to 3 respondents.

The first respondents consist of students of the Mandarin language study program at the Universitas Negeri Surabaya. The second respondent is student from Universitas Negeri Semarang. The third respondents is from Universitas Negeri Malang. Researchers chose the three University by considering all school criteria from the marginal to the foremost.

The first respondent is included in the university's criteria, it can be seen from the accreditation it has, namely accreditation B. Meanwhile, the second respondent is the criteria for the university to have a new study program. The third respondent is a school with the foremost criteria, which can be seen from its accreditation, namely accreditation B.

The data collected in the form of quantitative and qualitative data. Quantitative data is obtained from the results of assessments and responses by expert validators and target users. Meanwhile, qualitative data obtained from critics, suggestion and response which given by subject test try. The data collection instrument used was a closed questionnaire.

The assessment aspects of the assessment of the media, material and student aspects used refer to the assessment aspects developed by Nesbit and Li [5] known as LORI (*learning object review instrument*) and consist of 9 assessment aspects.

Data analysis technique that is suitable for analyzing the results of the questionnaire is a descriptive analysis technique with an average *scoring* answer for each *item* that is assessed [7].

Level validity criteria used in development research this building presented in Table 1.

The learning media developed can be said to be successful and in accordance with the level of eligibility criteria if the average score obtained reaches a minimum score of 3.01 (high category).

### 3 Findings

The product developed is in the form of a book. As for theory book which consist of 6 chapter, namely: (1) Development Reading and Writing, (2) Structure Reading and writing, (3) Process Boot on Reading and writing, (4) Installation Reading and writing, (5) Administration of Reading and writing and, (6) Troubleshooting Procedures on Reading and writing.

Data results evaluation on each aspect which rated, could be seen on Table 2.

Whereas results acquisition average score from overall trial are presented on Table 3.

Results from observation liveliness state student active seen from Table 4 and 5.

**Table 2.** Acquisition rating score of each aspect (average)

No.	Aspect which Rated	Expert Media	Material Expert	Group Small	Group Big
1	Content Quality	4	3.2	3.2	3.2
2	Learning Goal Alignment	3	3.25	3.16	3.24
3	Feedback And Adaption	3,33	3	3,33	3,27
4	Motivation	3,5	3,33	3,44	3,61
5	Presentation Design	3,71	3,25	3,55	3,54
6	Usability	4	3,5	3	3,42
7	Accessibility	3	3	3,5	3,64

**Table 3.** Results acquisition score test try overall

No.	Subject	Total Score	Average	Information
1	Expert Media	83	3.61	Worthy Used
2	Expert Theory	96	3.20	Worthy Used
3	Small Group	224	3.39	Worthy Used
4	Big Group	2697	3.50	Worthy Used

**Table 4.** Results acquisition score test try

No.	Subject	Aspect 1	Aspect 2	Aspect 3
1	Observer 1	3	4	4
2	Observer 2	4	4	4
3	Observer 3	4	4	4
4	Observer 4	4	4	4

**Table 5.** Results acquisition score test try respondent

No.	Subject	Amount	Average
1	Respondent 1	6960	3.21
2	Respondent 2	4265	3.43
3	Respondent 3	7539	3.47

## 4 Discussion

The material was developed by taking into account the elements of CTL and packaged to be denser. The existence of contextual elements is expected to foster student learning activity in learning. Module developed there are some extras like observation activities and box which containing piece sentence from Theory which connected with life real. Activity observation aim for stimulate student so that active in study especially in the area of skills.

The overall validation and trials that have been carried out state that the learning media developed are included in the category valid or worthy to use in learning. Thing this proven from results validation by expert media and expert Theory in the form of the average score of the questionnaire obtained exceeding the minimum expectation, which is above 3.01. Meanwhile, in the small group and large group trials, it was stated that the learning media developed was also included in the appropriate category for use with an increase in the average score between the small group and large group trials of 0.11 points after revision.

In the active observation by four observers, the observer held 9 students and some held 8 students for observed. On the first aspect observer 1 tend choose criteria 3 and other observers tend to choose 4. On aspect 2 the observers tend to choose criterion 4 and in aspect 3 the observers tend to choose criterion 4. It can be concluded that the book developed is able to grow activeness in learning.

In the respondent test, the researcher chose 3 respondents with different criteria and backgrounds. These criteria are the criteria for marginal, middle and leading University, the selection is to see how appropriate the developed module can be used.

## 5 Conclusion

The product resulting from this research is a book that was developed on a *Contextual basis Teaching Learning* (CTL). Book which developed is a book which serves to support teaching and learning activities. The material presented in the developed book is Reading and Writing subject matter in semester 1.

The material is developed in a simple form. In addition to presents the material, there are observation activities to stimulate students to be active in learning. There is a box to describe Theory which being discussed with activities that exist in real life in the hope of fostering student activity in learning.

The results of the validation from the experts stated that the learning media in the form of books was included in the valid or feasible category for use in learning with increased results scoring between tests try small group and large groups as big as 0.11 points after revision. Based on the data analysis of each aspect that has been described in the previous chapter, the developed book has met the criteria media learning which is good according to the LORI version 1.5 assessment aspect [8] with high validity criteria tends to be moderate in every aspect.

After the media feasibility test was carried out, the researchers conducted active observations, from the results of observations made by four observers showed that the books developed were able to foster active learning in students. After observing the activity, the researcher conducted a test appropriateness of content to respondents in 3 University, taking into account the criteria of different University.

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