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BUILDING THE STUDENT'S AUTONOMOUS LEARNING THROUGH DEVELOPMENT OF LEARNING RESOURCE BASED ON FLIP-BOOK ON THE MATERIAL OF *TANTRI* RELIEF

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Abstract— **This study aims to develop learning resources based on flip-book on the material of *Tantri* relief. The flip-book is aimed to give an alternative to teaching material using information communication and technology in order to reach the purpose of learning. The flip-book should be validated before used in the course of ancient Indonesian history, in the history department, State University of Malang. Based on data analysis, this research and development of interactive teaching material based on flip-book were valid without revision. The validation score from learning source expert was 95% and from material expert was 95%. Meanwhile, the validation score from small group experiment was 95.68%. therefore, the learning resource had fulfilled the standard required to be used in the teaching and learning process.**

Keywords— *learning source, flip-book, teaching of history, Tantri reliefs*

I. INTRODUCTION

Teaching and learning process in higher education seems to be under lecturer's rule. The lecturer forces his way of learning to his student. Consequently, the student merely follows the teacher's want without elaborating what he needs and what he wants. The lecturer should accommodate the student's way of learning. One of the feasible efforts is to develop learning source which could create the state of learning. Importantly, the student will get the essence and the surface of the material when he knows how to learn and learn autonomously. Autonomous learning, in general, could be defined as a person takes an intention to plan, to do, and to evaluate his system of learning.

Character building should be understood as the accumulation of self-autonomy values. *Tantri* reliefs are one of the learning sources from this accumulation of self-autonomy values. *Tantri* reliefs are the animal story or fable. In this story, the animals play the big role to shape the dynamic of the story. Both *Tantri* Kediri [1] and *Tantri* Kamandaka ([2]) have a similar story. *Tantri* story is started from the story of King Eswaryapala from Pataliputra, the descendant of King Samudragupta. King Eswaryapala wants to marry the beautiful girls every day. In a day, there is no girl who could present to the king. The prime minister's daughter takes a responsibility to marry the king. The princess' name is Dyah *Tantri*. She approves to be a wife and promises to stop the king's bad intention by telling a story. *Tantri* then tells various animal stories containing the deepest wisdom, therefore the king does not want to marry again and again.

The *Tantri* story will be easier to be understood if it is placed not only in its text but also in its context, people will gain the meaningful structure from its sculptured reliefs [3]. The placing reliefs in the temples have a certain reasoning. In addition, the function of a temple should be concerned specifically. It is possible that the sculptor tells a story in a relief because following the spirit of the age.

However, "the *tantri* reliefs were conceived as a mirror for kings [4]. They provide practical lessons on a worldly level for successful kingship, and form basis knowledge for kings" but the researchers assume that *Tantri* reliefs contain several values of autonomy for students. In its practice, teaching history is often limited to one event to another and is not going to take the meaning of events. This assumption leads the researchers to develop multiple learning resources. This study will develop a learning resource based on ICT in order to encourage the student's autonomous learning.

Living reality is recently affected by transportation, telecommunication, and tourism. Learning history is not only learning the past but following the development of information as well. The learning resource based on digital base would encourage the student to learn and to discover the knowledge autonomously. The learning resource is based on flip-book which is made through the software of Kvisoft Flipbook Maker Pro.

The use of flip-book as a media to bridge the unknown of knowledge and the interest of student is assumed by the tendency of a student who is able to operate the application of flip-book and able to run the internet. Additionally, there is rarely to see the printed and digital books which are developed to supplement student's learning in the module of ancient Indonesian history. This learning resource could be referred for other higher universities which are far from Hindu-Buddha heritage.

Flip-book is one of classical animation made by the piece of papers, as like as the thick book, and each paper aims to describe something and seems to make the thing moves like a proces if it is opened. For instance, we want to make a

falling leave then every page has described the process of falling leave slowly to touching the ground after the picture finishes then flipped and seen its result.

Flip-book has some paybacks of combining the text with pdf, picture, and video in the form of FLV, SWF, music, or narrative. The use of flip-book could be an alternative for interactive teaching of history by engaging the student to learn autonomously without lecturer supervision. its use is easy and enough to install the supported software for example flash player.

Development of learning resource is based on on the methodology of education research. However, the researchers attempt to employ the method of research and development. This method has several complex steps and needs a mastery of material and how to package the material in the digital book. This article aims to discuss the development of learning resource based on flip-book on the material of *Tantri* reliefs and the fairness of using its learning resource to grow the values of student's autonomous learning.

II. FINDING AND DISCUSSION

A. *Research and Development Model*

This study used 4D research and development proposed by [5]. It had four steps of defining, designing, developing, and disseminating. These clearly steps could describe in detail the process of developing the leaning source based on flip-book. The learning source was then validated and experimented to know the readiness of learning resource to be implemented in the teaching and learning process.

B. *Result and Discussion of Development of Flip-book on Tantri Reliefs*

The produced product which was learning source based on flip-book on the material of *Tantri* reliefs in order the student to learn autonomously. This learning source was developed to reach the competence standard that was "to analyze the Hindu-Buddha heritage". this was displayed the components of learning source on flip-book as well as the specification of learning source for the core material of Hindu-Buddhism heritage. The developed Learning resource was hoped to be an alternative to innovative learning resource based on ICT to ensure student to learn easily and autonomously in class or outdoor class. The components of learning resource could be seen in:

1. Learning Resource in the Form of Picture

This learning resource was equipped with numerous picture. The pictures in this flip-book were used to attract and to motivate the student to learn. The attraction displayed in the learning resource was the colourful pictures of temples and *Tantri* reliefs in each page. This picture could be seen in
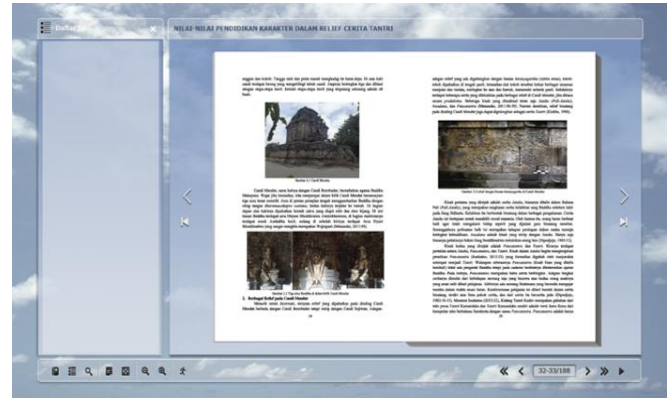

Fig. 1. Temple, statue, relief in learning resource

2. Learning Resource in the Form of Video

This flip-book could be also equipped with video and voice note. It would be useful for audiovisual readers and to ensure student's knowledge on the recent state of temples. This videos in the flip-book were inserted in each chapter. It aimed that the student could have a comprehensive knowledge of the temple, its function, and its meaning. In detail, the material in flip-book could be seen in picture 1.2
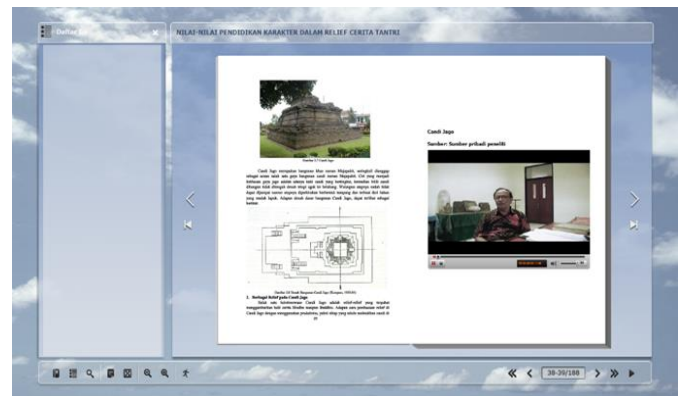

Fig. 2. The display of learning resource in the form of video in the flip-book

3. The Learning Aims in Flip-Book

The learning aims should be informed to the student before teaching and learning process began. It would help student what was learned. The learning resource had several purposes of (1) knowing the definition, function, and architecture of the temple; (2) knowing definition and kinds of reliefs; (3) knowing *tantri* reliefs; (4) understanding the theory of structuralism; (5) knowing *Tantri* reliefs in Jago temple, Panataran temple, Surawana temple, Mendut temple, and Sojiwan temple; (6) understanding meaning in *Tantri* reliefs from a structural perspective; and (7) knowing the values of character building in *tantri* reliefs.
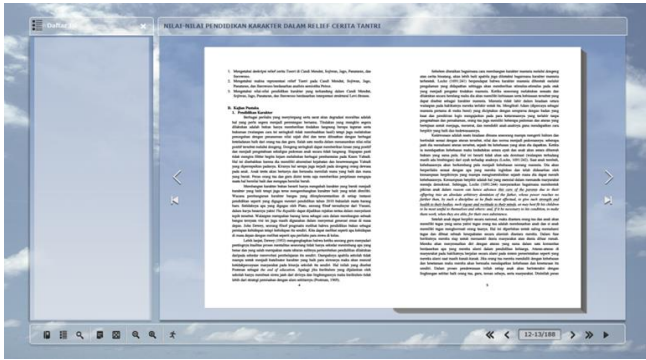
Fig. 3. The display of aim in the flip-book

4. The Material in Flip-book

The displayed material in every chapter involved (1) title; (2) basic competence; (3) learning aim; (4) material in the form of text, picture, and video; (5) summary; (6) evaluation; and (7) reference. The various kinds of learning material could be a learning resource for the student to learn autonomously.

5. Levi-Strauss on *Tantri* Reliefs

Learning resource in the form of flip-book was also equipped by the material on *tantri* reliefs, by analyzing the reliefs to find the values of character building

6. Evaluation in Flip-book

In the context of learning resource development, evaluation was given in subjective question aiming to direct the student to know the description and meaning from *Tantri* reliefs. The evaluation would help the lecture to evaluate the student's knowledge on the material that had been learned. The evaluation could be seen in:
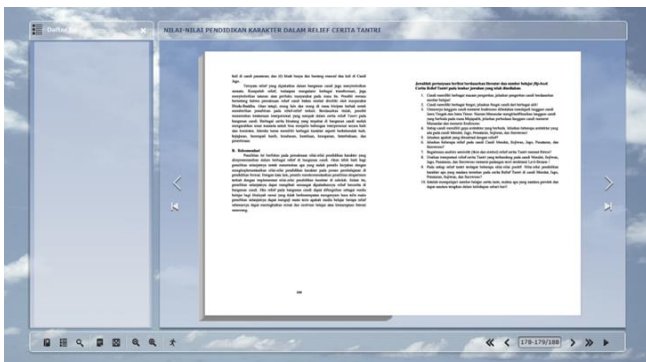

Fig. 4. The display of learning evaluation

C. Data Analysis of Material Expert's Validation

The used material to compose the learning resource based on flip-book should be validated. The displayed graph showed some indicators that led the expert to evaluate the product. Based on the expert's validation, the product was graded in the score of 85 meaning 81.97%. It is clear that the learning resource based on flip-book was valid without revision.
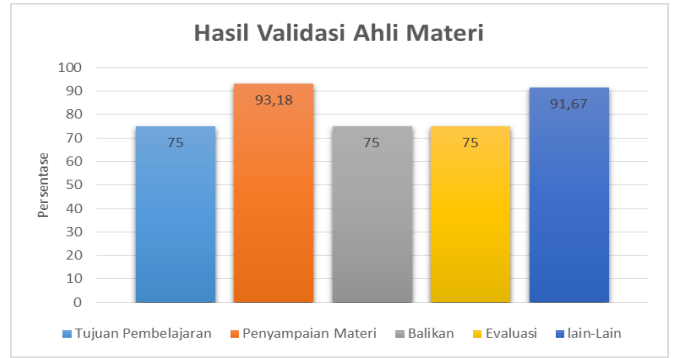

Fig. 5. The graph of percentage of material expert's validation

D. Data Analysis of Learning Resource Expert's Validation

The experiment of learning resource based on flip-book should be validated from ICT perspective. Based on the expert's validation, the product was graded in the score of 95 that meant 95%. It is clear that the learning resource based on flip-book was valid without revision.
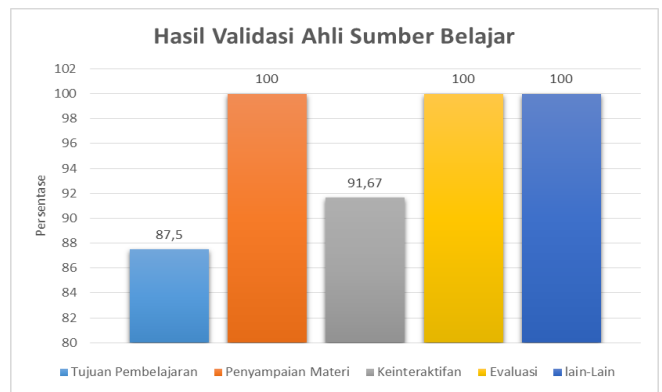

Fig. 6. The graph of percentage of learning resource expert's validation

Moreover, it could be clearly seen from both experts' validation that the validated score is at 81.97% and at 95%. the comparative result of both validation is depicted in the picture 1.7.
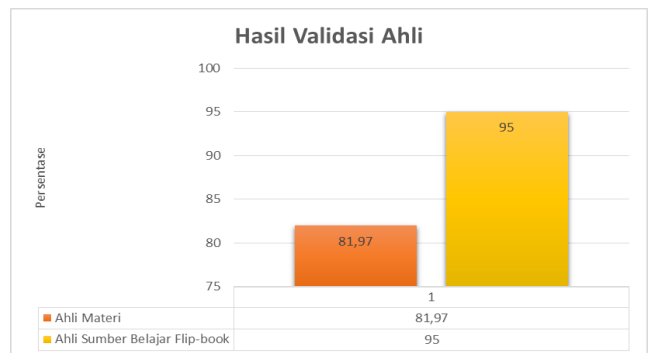

Fig. 7. The graph of the experimental result of learning resource

E. The Result of Small Group Validation

The validation of learning resource based on flip-book had been experimented to the student in 9th august 2017. the result could be seen in picture 1.8.
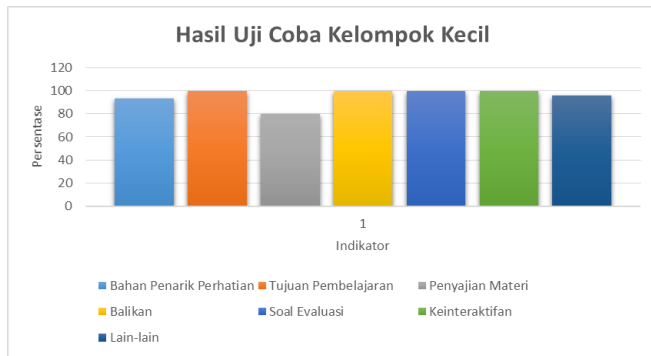
Fig. 8. The graph of percentage of small group validation

Based on the data, it could be concluded that the total score was 140 and in percentage of 95.68%. therefore, the learning resource could be categorized valid and not be needed to revise.

F. The Study of Revised Product

This research and development produced the learning resource based on flip-book and made by the software of Kvisoft Flipbook Maker Pro. This product was developed through four steps of defining, designing, developing, and disseminating. Interestingly, this model was not only focused on the chains of the technical process but the textual and empirical exploration as well. Then, it was tested by the two experts of learning resource and material. In addition, the small group experiment also reinforced the validity of the product. The product was the learning resource based on flip-book on the material of *tantri* reliefs. This learning resource could be a model for the student to study and mean the material comprehensively in order to lead student having the theoretical ability as well as internalizing the values of character building on *tantri* reliefs. Additionally, flip-book could enlighten student that there are various alternatives to compose the learning resource and innovative media through developing historical material based ICT.

The learning resource was composed systematically to reach the aims of teaching. Consequently, the composed material was arranged by the flip-book. This learning resource was equipped by many attractions of videos, images, audios, multimedia objects. The display of multimedia application had an interface like the opened book.

The movement of pages could be dealt with dragging pages like our finger folds the page, and at the same time by dragging the folded paper. Besides dragging the folded page, the movement of the page could be done by the available navigation button. This application was equipped by several features for instance zoom, word searching, bookmark, thumbnail, and content. In the display of video, there was an audio to re-explain the material.

The packaging of learning resources was in many kinds in order to bridge student and his appropriate way of learning. The student, through the help of learning resource, could learn the material autonomously. The format of learning resources in videos was able to give a concrete understanding of the recent state of *tantri* reliefs. The targeted user of this learning resource was the second year student in the module of ancient Indonesian history.

the learning resource was equipped by reflective evaluation sheet. This reflective task was helpful for the reader to think deeply and to talk with his own experience. The validation had been done before implementing in the teaching and learning process. Two experts on learning resource and material evaluated the product and its result was 88.45%. if it refers to the standard of learning resource validity. The resource was valid without any revision. However, some suggestions from experts and small group respondents were considered to revise the content and the package of the learning resource.

It could be concluded that learning resource based on flip-book is appropriate to the aims of research and development that is producing development of learning resource based on flip-book on the material of *tantri* reliefs as an alternative of learning resource on the module of ancient Indonesian history in reaching the aims of learning. Based on the validation and experiment of the learning resource, the product could be used in teaching and learning process in the History Department, State University of Malang. Other additional resources are:

1. The learning resource based on flip-book is easy to use and supports the student's autonomous learning. The use of learning resource is also easy to be used in the teaching and learning process. It is caused by the practicality of learningresource as opening the usual book in digital format.

2. The learning resource is not only based on the existing literature but the empirical study as well. Therefore the learning material leads the readers to grasp the knowledge deeply.

3. The learning resource has various interesting images of the temple, relief, and archaeological site.

4. The video has been also added to accommodate the audiovisual learner and to make the material more concrete than the abstract text.

5. There is a useful reflection for the student to think and to talk with his own experience. The learning resource has the evaluation to evaluate the student's understanding.

6. The learning resources is a supplement for the student to support the daily teaching and learning process.

7. The learning resource based on flip-book could be used by the student to learn autonomously without any lecturer's supervision.

III. CONCLUSION

Development of learning source should be placed on the substantial matter, for instance, the learning material and not the material package. Therefore, the learning source development is developed after researching the material. The researchers had been applied the theory of semiotics and the structural perspective. This learning source could be placed as an alternative building the student's autonomous learning. In the digital era, the use of technology could accommodate the student's way of learning. Historical knowledge will be displayed in the student's personal gadget and attracts the student to understand and to take the values from ancient Hind-Buddha heritage in the *Tantri* reliefs.

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