

Development of Learning Resources Based on E-Books in Sasak Alus Language for Elementary Schools in Lombok

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Fast progress in the field of information communication and technology (ICT) has influenced the way of life of humans and has also affected the way humans learn and teach. Currently educators and teachers are required to be able to carry out analysis, design, and develop several learning resources that are suitable for students. Development of electronic books (e-books) to meet learning needs and is an adaptation of learning methods that keeps up with the development of real ICT. Books are print learning resources that are often used by students and teachers in the learning process. By utilizing ICT, this allows the change of printed books to electronic books. E-books are electronic books that use digital formats and have multimedia elements. This study aims to develop e-books of Sasak Alus language that are suitable to be used as learning resources. The research method is Research and Development (R & D) using 4D model and is limited to the development step. Data was collected using questionnaires given to 4th grade students in elementary school. The data analysis technique is done by qualitative and quantitative statistical analysis. The results showed that the interactive e book of local content subjects in Sasak Alus language is feasible to use as a learning resource - content criteria 80.5%, presentation, 81.1%, instructional design 83.1%.

Key words: *development, electronic books, Sasak Alus language.*

Introduction

The development of electronic books (e-books) as learning resources is closely related to teaching and learning theory, because teaching and learning cannot be separated from the learning resources themselves. Teaching and learning as a system consists of various components that interact in shaping the learning situation. According to Suparman in Wardani, (2015) there are at least 6 basic components that make up the education system: (1) students, (2) the learning process, (3) competent graduates, (4) professional instructors, (5) curriculum, and (6) learning materials. The six components of the system, in principle, can all be used as learning resources. This is in line with the view that learning resources are everything that can be used as a source to improve the quality of teaching and learning in an effort to meet learning objectives.

Through the existence of various learning resources, students have the opportunity to study anytime and anywhere to improve their ability by constructing their own knowledge, (Amry, 2014: 116). Based on the opinions of the experts mentioned above, it can be understood that learning resources are an important factor. Learning is a conscious effort that is carried out in a planned, systematic manner, and uses certain methods to change relatively settled behaviour through interaction with learning resources. Therefore, learning resources are one component in learning activities that allow individuals to gain knowledge, abilities, attitudes, beliefs, emotions, and feelings. Learning resources are things that can be used to support and facilitate the occurrence of the learning process. Learning resources are all sources including tools, materials, devices, settlers, and people that may be used by learners either individually or in a combined form to facilitate learning activities and improve performance (Januszewski, 2008). Learning resources are used to create resources based learning. Hannafin and Hill (2017) define resources based learning as "the use and application of available assets to support a variety of cross-context learning needs".

The progress of information and communication technology has influenced the human way of life and also the way humans learn. In ancient times, if someone wanted to get information or knowledge they would go to people who were considered sources of information or knowledge (teachers). In the process of disseminating this knowledge, the teacher holds the dominant role as a source of information. With the discovery of paper, the pouring of ideas and knowledge was then carried out in the form of paper print media. The teacher prepares learning materials in printed form for students, and it is disseminated so that students can study at home or elsewhere. With the presence of textbooks, more people can get information about science and various other things. The textbook then becomes a learning resource that has an important and strategic role in addition to the teacher. Packaging textbooks in electronic form is currently needed to facilitate students learning, including students in

elementary school, because based on observations, almost all students from elementary school to university level are proficient in operating internet enabled devices such as mobile phones, laptops, tablets and others. The results of these observations are reinforced by Rozalia's (2017) research, that gadget users in Indonesia are not only adults, but begin at elementary school students.

E-books are textbooks that are converted into digital formats; e-books also have the meaning of a learning environment that has applications that contain multimedia databases instructional resources that store multimedia presentations about topics in a book. According to James Ohene Djan (2003), an interactive e-book contains a network of digital information units consisting of text, graphics, videos, animations or sounds and questions that are all packaged in the form of flash animation visualization that is combined in one program and equipped with colour, sound and music. Explanation in the program will clarify the material contained in the e-book, certain topics are marked to find out the subject matter that has additional explanations in the interactive program. When these information units are used an optional link is provided for other information units. Such links can provide nonlinear context-based navigation between information units.

The development of learning resources including e-books was conducted aimed at facilitating students in learning and improving student learning outcomes (Ikawati, et al., 2018). Learning resources can be specifically designed by the teacher for learning purposes or students independently identify the learning resources needed to achieve their learning goals, Lung Hsiang Wong (2012). According to Zurweni et.al, (2017) Development of collaborative-creative learning model using virtual laboratory media can be used to improve the quality of learning in the classroom.

To achieve these learning goals, students can utilize a variety of learning resources that are available in an integrated manner by utilizing existing learning resources and digital learning resources (Chen and Huang, 2012). At present, digital learning resources such as social media are increasingly being used as learning environments and learning resources, (Manca and Ranieri, 2013).

Learning resources largely determine the quality of learning and the achievement of learning objectives, (Poon, 2013). In addition to the types of learning resources mentioned above, (Bruff, 2013) said that digital online video learning resources specifically designed and provided as learning resources can be used for learning and training. Scanlon, et al. also said that the availability of online digital learning resources that can be accessed freely has an impact on the learning model that provides opportunities for students to lifelong learning, (Scanlon, E., et al., 2015). The availability of learning resources that can be freely accessed

digitally as of now has produced various types and ways of learning (Malini Ganapathy, et al., 2015).

Meeting the needs of electronic-based learning resources, an electronic book was developed on the subject of the *Sasak Alus* language local content. The availability of learning resources is closely related to improving the quality of learning, so that there are more and more types and quality of the availability of learning resources, so it can be concluded that the quality of learning is better where the learning resources are maximally utilized. Based on the description above, this study aims to develop e-book learning resources that are suitable to be used as learning resources to improve the quality of learning in local content of the *Sasak Alus* language.

Method

This study aims to produce learning resources for electronic books. Starting from preliminary studies to field trials, this research was carried out for seven months, from March to September 2018. This research was conducted in elementary schools in Central Lombok Regency, West Nusa Tenggara. Judging from its purpose, this research is development research. According to Gall and Borg research development is "Educational research and development (R & D) is a process used to develop and validate educational products. The steps of this process are usually referred to as the R & D cycle, which consists of studying research findings pertinent to the product to be developed, developing the product based on the finding, field testing it in the setting where it will be used eventually, and revising it to correct the deficiencies found in the field testing stage. In indicate that product meets its behaviourally defined objectives" (Gall, Gall & Brog, 2003).

Dick and Carey define development research as "a process used to develop and validate educational products" (Dick and Carey, 2009). Research and development is the process used to develop and validate products that are used to develop and validate educational products.

The procedure or steps of the research carried out, to produce learning products in the form of electronic book-based learning resources, is carried out in systematic steps based on expert opinions that have been tested theoretically and empirically. In this development study, the model used was the Thiagarajan model. The Thiagarajan model consists of 4 stages known as the 4D model (four D model). The four stages are the defining phase, the planning stage (design), the development stage (development) and the dissemination stage (disseminate) (Rosa, 2015). Development is carried out on the subjects of the local content of *Sasak Alus* language.

Judging from the data collection techniques, this research includes qualitative research using a questionnaire that aims to find out the feasibility of the product according to experts about the electronic books developed. Questionnaires are arranged and grouped based on expert test objectives consisting of material experts, media experts, and learning designs. The questionnaire instrument was also used at the product trial stage which consisted of individual trials, small group trials, and field trials. Questionnaires that have been filled out by experts are then analysed using simple statistics to then be interpreted. To complete the data, interviews were conducted with experts and students to get input regarding the products developed.

Development Results

Needs analysis

Preliminary study, there are two forms of activities, namely conducting literature studies and field study. In the literature study, it was conducted with the aim of obtaining data or information about the various results of previous research conducted by previous researchers about the Sasak language and reviewing materials relevant to local content. In this context, the researcher conducted an analysis of; (1) the results of previous studies (2) learning tools for local content (3) the process of determining and determining the types of local content subjects, and (4) implementing local content subjects.

Field surveys were conducted by crossing questionnaires to fifth grade students. The aim is to get data about their responses to the local content learning process. In addition, interviews were also conducted with local content teachers and the Principal to obtain data on the process of determining and implementing local content. In addition, at this stage we also discussed about what material needed to be contained in the learning resources to be developed.

The results of studies, literature studies and field surveys, were then used as the basis for designing syllabus and learning implementation plans (RPP). The results of the syllabus and RPP planning are then shown to experts for their feedback. Input from these experts in the form of suggestions and criticisms, was used as a basis in making improvements to the syllabus and lesson plans developed. The syllabus was confirmed as a foothold in developing lesson plans and learning resources. Based on the results of studies or literature studies and field surveys, this is then the basis for designing the syllabus and learning implementation plans.

Planning

This stage is focused on the preparation of the initial draft of learning resources for electronic books. The initial drafting is designed systematically and procedurally starting from the preparation of syllabus and lesson plans to the preparation of other learning devices. The learning is used as a reference in the development of learning resources.

Development

After the draft learning resource product has been developed, the next step is the assessment process by material experts, media experts, and learning design experts. Suggestions and inputs provided by experts are used as references by developers to make improvements to learning resources.

The expert assessment was carried out using a questionnaire adapted from 'Evaluation and Selection of Learning Resources: A Guide 2008'. The assessment range was 1-4 with an interpretation of 4 = appropriate, 3 = sufficiently appropriate, 2 = inaccurate, and 1 = inappropriate. Each value given is transformed into a percentage with a description of the value 85 - 100 = very feasible does not need to be revised, 75 - 84 = feasible does not need to be revised, 55 - 74 = inadequate need to be revised, and 0 - 54 = not feasible need revision. Besides that, in the questionnaire a special column is provided to provide suggestions, criticisms, and input on the learning resources developed. The following is presented in the form of a table of results of expert evaluations of the learning resources developed.

Table 1: Results of Expert Validation

Expert	Score
Contents Exper	80.5%
Media Expert	81.1%
Instructional Design Expert	83.1%
Average	81,5%

Based on the table above, it can be explained as follows:

- Based on the results of the material expert's assessment of the suitability aspects of the contents / material of e book learning resources developed by the standards of competence and basic competencies, a value of 80.5% was obtained. After the value is converted, it is known that learning resources are worthy of being used.
- The results of the media expert's assessment obtained a value of 81.1%, indicating that the learning resources developed were in the category of proper use.

- The assessment of learning design experts on e book learning resources obtained a value of 83.1%, in the category worthy of use.
- Overall the average value of the learning source validation developed is 81, 56%. This value is in the category worthy of use.

From the results of the validation in table 1, it is known that interactive e-books, for local content subjects in the *Sasak Alus* language, are very suitable to be used as learning resources. The results of the percentage of interactive e-book validation has not reached 100% because there are still shortcomings of interactive e-books, such as the size of letters in the interactive ebook, and the lack of images, animation and videos that support the material. The following is expert advice as a reference for improving the interactive e book.

Table 2: expert advice

No.	Revised item	suggestion
1	Cover media	The name of the promoter and co promoter is included
2	Background	Background deleted
3	Consistency of presentation	The presentation format must be consistent between one material and the other
4	Picture	Images of children who wear a headscarf or wear a cap can be included, because the target is the majority of Muslim users. Customized images (use human images) and images that are close to culture. The image used is checked for copyright.
5	Alphabet	Fonts and font sizes are adjusted to the product target

After validation and revision based on expert input, the interactive e-book was tested on students. The trial process consists of three stages: Individual learners, small groups, and field trials. Individual trials were conducted involving 3 students, a large group trial involved 9 students, and a field trial involved 30 students. The students were selected randomly, where there were students who had high learning outcomes, students who had moderate learning outcomes, and students who had low learning outcomes. After being believed to be heterogeneous, students were asked to provide responses, suggestions and input by filling out the feasibility questionnaire given previously. The results of student responses to the interactive e book can be seen in table 2 below.

Table 3: Results of student responses

No.	Aspect	Results
1	Display	80,5%
2	Material Presentation	80,1%
3	Benefits aspects	81,9%
4	Average	80,8%

Data of the results of student responses (in table 3) to the interactive e-books obtained an average value of 80.8%. This value, after being interpreted into an interactive e-book scale, shows that the e-book is very feasible to use as a learning resource based on student responses.

Conclusions

Local content learning through electronic books for the *Sasak Alus* language was developed using a 4D model created by S. Thigarajan, Dorothy Semmel, and Melvyn I. Sammel which consisted of four steps, namely Define, Design, Develop, and Disseminate. Based on the validation of material experts, media experts and learning design experts on the e book that was developed; the results obtained an average score of 81.56% for criteria worthy of use. Student responses to the interactive e book obtained an average score of 80.8% for criteria worthy of use. So the interactive e book is feasible and ready to be used as a source of learning the local content of the *Sasak Alus* language.

Based on the results of this study, the following suggestions are proposed. Teachers should motivate students to utilize various existing learning resources, including interactive electronic books, in learning the *Sasak Alus* language. For e book students, Sasak books can be used as a learning media individually or in groups to improve *Sasak Alus* language skills. For schools, the provision of various learning resources to improve the quality of the learning process must continue.

REFERENCES

- Amry, A. B. (2014). The Impact of Whatsapp Mobile Social Learning on the Achievement and Attitudes of Female Students Compared with Face to Face Learning In the Classroom. *European Scientific Journal*, 10 (22), pp. 116-136.
- Bruff, Derek O. Wrapping a MOOC: Student Perceptions of an Experiment in Blended Learning. *MERLOT Journal of Online Learning and Teaching* , Vol. 9, No. 2, 2013, pp. 187-199.
- Chia-Chen Chen dan Tien-Chi Huang. Learning in a u-Museum: Developing a ContextAware Ubiquitous Learning Environment. *Computers & Education An International Journal*, 59, (2012), pp.873–883. Elsevier, Journal homepage: www.elsevier.com/locate/compedu. doi:10.1016/j.compedu.2012.04.003.
- Dick, Walter, Lou Carey and James O. Carey. *The Systematic Design of Instruction*. United State of America: Pearson, 2009.
- Gall, Meredith D., Joyce P. Gall and Walter R. Brog. *Educational Research An Introduction*. Boston: Pearson Education Inc., 2003.
- I.G.A.K. Wardani, Dodi Sukmayadi, Trini Prastati, *Filsafat Pendidikan Dasar*, (Jakarta: Universitas Terbuka), 2015. p.1.11.
- Ikawati, H.,D., Ary Purmadi, Zul Anwar, and Zulfakar. Pengembangan Media Video Permainan Tradisi Untuk Pelestarian Budaya Dan Sumber Belajar, *Jurnal Teknologi Pendidikan*, Vol. 20, No. 3 Desember 2018.
- James Ohene-Djan. 2003. Personalising Electronic Books. *Journal of Digital Information*, Vol 3, No 4.
- Januszewski, A. & Molenda, M. (2008) *Educational Technology: A Definition with Complementary*, New York: Lawrence Erlbaum Associates.
- Lung-Hsiang Wong. A learner-centric view of mobile seamless learning, *British Journal of Educational Technology*, Vol. 43, No. 1, 2012, pp. 19–23.
- Malini Ganapathy, Vivien Chee Pei Wei, Vighnarajah, Chong Jui Jong. Teachers' Perceptions of Creating, Sharing and Using Open Education Resources (OERs) in Universiti Sains Malaysia (USM). *International Journal of e-Education, eBusiness, e-Management and e-Learning*, Vol. 5, No. 2, 2015, pp.62-72.

- Manca, Stefania & Maria Ranieri. Is it a Tool Suitable for Learning? A critical review of the literature on Facebook as a Technology-Enhanced Learning Environment. *Journal of Computer Assisted Learning*, Vol. 29, No. 6, 2013, pp. 487-504.
- Michael J. Hannafin dan Janette R. Hill, *Resource Based Learning*, h. 526. Diakses dari <http://muconf.missouri.edu/WritetoLearn/handouts/36-Westmoreland1.pdf> pada tanggal 28 November 2017.
- Poon, Joanna. Blended Learning: An Institutional Approach for Enhancing Students' Learning Experiences. *MERLOT Journal of Online Learning and Teaching*, Vol. 9, No. 2, 2013, pp. 271-288.
- Rosa, F. O. (2015). Pengembangan Modul Pembelajaran IPA SMP pada Materi Tekanan Berbasis Keterampilan Proses Sains. *JPF*, 3(1), pp. 49–63.
- Rozalia, Maya Ferdiana, Hubungan Intensitas Pemanfaatan Gadget dengan Prestasi Belajar Siswa Kelas V Sekolah Dasar , *Jurnal Pemikiran dan Pengembangan SD*, Volume 5, Nomor 2, September 2017, p-ISSN: 2338-1140, e-ISSN: 2527-3043, pp. 722-731).
- Scanlon, E., Patrick McAndrew, and Tim O'Shea. Designing for Educational Technology to Enhance the Experience of Learners in Distance Education: How Open Educational Resources, Learning Design and Moocs Are Influencing Learning. *Journal of Interactive Media in Education*, Vol. 1, No. 6, 2015, pp. 1-9.
- Shiratuddin, Norshuhada dkk. 2003. Ebook technology and its potential Application in distance Education. *Journal of Digital Information*, Vol 3, No 4.
- Zurweni, Basuki Wibawa, and Tuti Nurian Erwin. Development of Collaborative-Creative Learning Model using Virtual Laboratory Media for Instrumental Analytical Chemistry Lectures. *AIP Conference Proceedings* 1868, 030010 (2017); <https://doi.org/10.1063/1.4995109>.