



DEVELOPMENT OF INTERACTIVE DIGITAL BOOKS BASED ON LECTORA INSPIRE FOR INDONESIAN LANGUAGE CLASSES

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Abstract:

Media is very important in delivering learning material to media students that can be used such as interactive media, books and the internet. Along with the development of the times and increasingly advanced technology, the development of books and interactive media is very suitable to be developed by the applicable curriculum. The purpose of this study is to produce Interactive Digital Books Based on Lectora Inspire in Research Methods Subjects that are developed according to the elements of validity, effectiveness, practicality, and attractiveness. This study uses a 4-D development model developed by Tiagarajan and Sammel (1974), namely (1) Define, (2) Design, (3) Develop and (4) Disseminate. The results of this study, the average validity reached 86.5% (very valid). The effectiveness is 88.5% (very effective), and the effectiveness of learning outcomes is 90,7% (Graduated), the practicality of the product reaches 91.8% (very good) and the attractiveness of the product reaches 94.2% (very interesting). The conclusion from the results of this study, Interactive Digital Book Based on Lectora Inspire in Research Methods Subjects can be used by lecturers and students as a practical learning resource and effectively improves student learning outcomes.

Key words: *Interactive Digital Books, Based on Lectora Inspire*

INTRODUCTION

Technological development is an indicator of success in achieving the quality of education, especially learning goals and improving human resources (Fajri et al. 2021; Byun, J., Sung, T. E., & Park 2017; Richard 1996). This is our shared responsibility to utilize and provide alternative uses of technology in the world of education. One technology that can be applied in education is learning media. The success of learning is greatly influenced by the completeness of the facilities or media used (Joshi, R., Shete, V. V., & Somani 2014; Saracho 1977). Because the more varied the media used, messages or learning materials will be optimally accepted by students (Smaldino, S. E., Lowther, D. L., Russell, J. D., & Mims, 2008).

The media is very important in the delivery of learning materials to students, with the use of media it is expected that the implementation of education is in line with government programs and national education goals (Taiwo 2009; Aristia, Nasryah, and Rahman 2020; Fauzani 2017; Hasan 2021; Novitasari 2019; Teni Nurrita 2018), and by the curriculum that applies in certain educational institutions. Then the educational objectives can be achieved if learning activities run well and smoothly (Fajri, 2019).

Several media can be used such as interactive media, books and the internet (Widyatmojo, G., & Muhtadi 2017; Abidin 2016; Hamalik 1994; Hasan 2021; Khadijah 2015; Kustandi 2016). With the existence of these media, we more easily study them well (Fajri, 2020). But in reality, we need books that have very good content but are very expensive. Also, it is not uncommon for us to find a science (book) on the internet but there are paid and the average form is only a pdf file. Many books are good,

but the study of material does not fit into the curriculum applied on certain campuses, causing students to be confused about choosing and choosing books to use. Therefore, many students are looking for quality books, affordable prices, especially looking for free ones, studies in books following the curriculum applied in student institutions, easy to obtain an interesting or not boring book display.

The success of learning cannot be separated from the quality teaching materials (books) used, because teaching materials (books) are a means to organize teaching materials and learning resources so that learning is more meaningful (Prastowo 2012; Arsanti 2018; Indrawini, Amirudin, and Widiati 2015; Cahyadi 2019; Gustiawati, Arief, and Zikri 2020; Nuryasana 2020; Perwitasari, Wahjoedi, and Akbar 2018; et al. 2018; Wibowo and Pratiwi 2018). Textbooks are systematically compiled learning materials used by lecturers and students in the learning process (Panen 2001; Ferdianto and Setiyani 2018; Husada, Taufina, and Zikri 2020; Magdalena et al. 2020; Mukhlis, Asnawi, and Rasdana 2020; Yolanda and Wahyuni 2020). Textbooks have a systematic structure and sequence, explain the objectives to be achieved, motivate students to learn, anticipate student learning difficulties in the form of guiding students to study the book, provide exercises and general summaries to students.

Textbooks are currently divided into two categories, namely printed books and digital books (Endah Wulantina & Maskar, 2019; Nurdyansyah & Mutala'iah, 2015; R & Susanti, 2019). Digital books have the advantage of being able to display some material using interactive learning media (Aprilliyah, & Wahjudi 2014; Rina Moga Sari, M. Oky Fardian Gafari 2017). Interactive learning media makes it easy for educators to teach abstract material (Permana, M. S., Johar, D., 2014; Mahliatussikah, 2022; Ulfatuzzahara, 2020). Some interactive learning media are considered able to explain phenomena that occur in nature and present them in the classroom (Wulandari, R., Susilo, H., & Kuswandi, 2016).

In addition to the use of quality textbooks, it must be supported by the use of quality media, such as hardware or software. The use of interactive media is one solution to be able to improve student acceptance, understanding and learning outcomes. With the incorporation of digital books and interactive media, it is hoped that students will be able to understand and accept the learning process well by the lecturers.

The development of media in the form of software is one of them, Lectora Inspire. Lectora inspire is a multimedia software that can be used in making interactive and interesting learning media (Zimmermann, W. 1991; Akbarini, Murtini, and Rahmanto 2018; Latifah, Yuberti, and Agestiana 2020; Mahliatussikah 2022; Nursidik and Suri 2018; Shalikhah 2016; Yuli Kurniawan 2021). In this Lectora Inspire program, the material to be taught can be presented in the form of an attractive display, accompanied by pictures and short videos that can represent the delivery of the values of the material presented (Kurniawan & Mumpuni, 2021; Mandasari, D., Kholilur, R., Riza, 2020; Nasution et al., 2018; Otoluwa et al., 2019; Shalikhah, 2016b). Thus, this media can be used in learning without leaving the material that must be delivered by the lecturer (Irwandani et al., 2019; Mahliatussikah, 2022; Mudinillah, 2019; Audia et al., 2021). The Lectora inspire application can be used to develop digital content of teaching material (digital books) and test materials in the form of dynamic multimedia, easy (use-friendly) and quality without requiring design, art, and graphic expertise, as well as high programming ways to follow the dynamics of technological development in the system learning (Irwandani et al., 2019; Lukman et al., 2022; Mudinillah, 2019; Syawaluddin et al., 2019; Ummi, 2018; Muthaharoh, F. Aan, S, P., Trian, P, 2019).

The Research Method course is a compulsory subject that must be taken by Nurul Jadid University students. Research Methods courses are considered very difficult for students. The causes of these difficulties include; 1) Lack of books or references on Research Method materials within the Nurul Jadid University Campus; 2) Bookstore / Gramedia that provides the Research Method book is not near the campus location; 3) Books that can be ordered online / bought directly, but the price is very expensive and the material does not comply with the provisions of the Curriculum and RPS used by lecturers in Nurul Jadid University; 5) The Research Method course discusses the Techniques of Writing Scientific Papers, and the description of the discussion is

arranged in the applicable curriculum at Nurul Jadid University. So it requires many sources (references) to adjust to the curriculum. 6) References in the Nurul Jadid University Library are still very minimal.

Based on the entire description above, a study was conducted to develop an interactive digital book using the Lectora Inspire application. Thus, the title in this study can be drawn is "Development of Interactive Digital Books Based on Lectora Inspire for Indonesian Language Classes at Nurul Jadid University".

RESEARCH METHODS

This research is a type of development research, which is a needs analysis and can test the effectiveness of the products produced to function in the wider community. The product produced in this research is Interactive Digital Book Based on Lectora Inspire Research Method Course.

The development design model in this development research uses the 4 D model (four D model) by Thiagarajan and Semmel (Thiagarajan, sammel, 1974). This design model consists of four stages, namely the stages of defining, planning, developing and disseminating. Research on the results of this development is not disseminated to other campuses, therefore the use of the stages in this development model is limited to 3 stages only: (a) defining; (b) planning; and (c) development, as for the fourth stage, namely the distribution was not carried out because researchers have limited time and money so that it is only done in the Nurul Jadid University environment.

Table 1. Research instrument design

Data Type	Respondent	Observed	Instrument
Product Validity	Material experts, language experts and educational technology experts	Validity of Interactive Digital Books Based on Lectora Inspire Research Methods Course	Validation Sheet
Product effectiveness	Students and lecturers	Achievement of learning objectives through the use of Interactive Digital Books Based on Lectora Inspire Research Methods	Evaluation Sheet (Test affective, cognitive and psychomotor domains (Sujono, 2008b)(Sujono, 2008a)(Sujono, 2008c)) and observation sheet
Product Practicality	Students and lecturers	Ease of use Interactive Digital Books Based on Lectora Inspire Research Methods	Questionnaire sheet
Product Interesting	Students	Student's preference for the use of Interactive Digital Books Based on Lectora Inspire Research Methods	Questionnaire sheet

The table below breaks down the four parts of the criteria for data analysis methodologies in testing goods in the form of interactive digital books based on Lectora Inspire for the Indonesian Language course:

Table 2. The conversion of a product feasibility/validity

No	Percentage	Information
1	75,01% - 100,00%	True/ very valid (can be used without revision)
2	50,01% - 75,00%	True enough/ valid (can be used with minor modifications)
3	25,01% - 50,00%	Invalid (cannot be utilized)
4	00,00% - 25,00%	very untrue (forbidden to use)

Table 3. The conversion rate for product efficacy

Percentage	Information
80% ≤ Ps ≤ 100%	Very effective
60% ≤ Ps ≤ 79%	Effective
40% ≤ Ps ≤ 69%	effective enough
Ps ≤ 39%	Ineffective

Table 4. Conversion of a product's usability and applicability

Percentage	Criteria	Information
80% - 100%	Very good	Use is permitted without revision
60% - 79%	Good	Use is permitted with revision
50% - 59%	Not good	Cannot be applied
< 49%	Not good	Cannot be applied

Table 5. Product interesting

Percentage	Criteria	Information
80% - 100%	very interesting	Product likability to conversion rate without revision
60% - 79%	interesting	Use is permitted with revision
50% - 59%	less attractive	Cannot be applied
< 49%	not attractive	Cannot be applied n

Completeness According to student learning outcomes, 75% of students receive or obtain a score of 70 out of 100, equivalent to 2.75 out of a possible 4.00. Good learning assessment must consider the affective, cognitive, and psychographic domains (Fajri 2015, 2020; Sujono 2006, 2008a, 2008b, 2008c).

RESULTS AND DISCUSSION

The layout of interactive teaching materials explains how the various sections of digital books relate to one another overall. It also serves as a road plan for creating additional teaching materials and includes the following elements:

1. State your teaching goals clearly
2. Has guidelines for pupils.
3. Uploading the content, or in this instance, the lesson's subject,
4. Load activities following the information.
5. Include activities pertinent to the lesson's content and daily living.
6. Include test problems.

Creation of an interactive digital book with Lector Inspire that covers a topic relevant to Indonesia and includes cover sections, lesson plans, resources, activities, or evaluations. The content section provides information in Indonesian about the definition of scientific work, its traits, its purpose and format, the method of writing abstracts, reliable sources of information, how to write proposals and research reports, and how to discuss scientific presentations. The section that closes includes the

instructional materials' summary, practice questions, and other attachments. The backgrounds, images, videos, animations, and illustrations included in Lectora-based instructional materials can spur students' interest in and motivation for learning.

Instruments for the feasibility testing of interactive digital books, which researchers created, were also ready at this planning stage. The study's validation method was an evaluation checklist for linguists, material experts, and design specialists. Developing the questionnaire matrix and the questionnaire itself takes priority at this point. The outcome of this stage is an evaluation of interactive digital book aspects and material aspects of the quality found in interactive digital books of Indonesian language content that are created in the form of digital modules. An effectiveness questionnaire with the objectives of lecturer teaching activities and student activities while engaging in learning was developed to determine the efficacy of this interactive digital book. It is essential to examine the usefulness of interactive digital textbooks in implementing knowledge, specifically using questionnaires for instructors and students as part of the product assessment and application of interactive digital books based on Lectora Inspire. The researchers created a questionnaire about the appeal of interactive digital books to pupils to determine the attractiveness of instructional materials.

1. Lectora Inspire-based draft of an interactive digital book. Developed in the shape of teaching materials based on the needs of the development of teaching materials. A teaching material cover, a teaching material content section, and a teaching material assessment section make up the structure of this instructional resource.
2. Lectora Inspire-based interactive digital book cover. The title of the teaching material, the university logo, the Dikti logo, and the author's name are all included on the teaching material cover. Additionally, this cover has images that are pertinent to the topic. This demonstrates the demand for teaching resources that both students and lecturers want.
3. Complete interactive digital books based on Lectora Inspire. The instructional materials are divided into five main menus. The menu consists of the semester exams, bibliography, lecture contracts, lesson materials, and information about the author. Pressing the link will open a new submenu on the teaching contract menu. Course descriptions, broad lecture objectives, detailed lecture objectives, and subject-matter meetings are some of your choices. Pressing it will open a new submenu on the teaching resources menu. The submenu is made up of lesson notes that the students will impart. The lecture material includes the definition and traits of scientific work, its purposes and formats, references used when writing scientific papers, systematic abstract writing, writing techniques for scientific papers, writing techniques for scientific journal articles, writing proposals and research reports, and as scientific presentation material.
4. Dynamic Lectora-based digital bookend. A summary, assessment or practice questions are included at the end, along with several reliable references from books, journals, and other official letters. The evaluation seeks to ascertain the student's comprehension of the course content in the Lectora Inspire Based Interactive Digital Book.

The results of this research and development are interactive digital books based on Lectora Inspire Research Methods. The instrument used in testing this product is divided into four aspects, namely validity/feasibility, effectiveness, practicality/applicability, and attractiveness. And the trial of this product is applied to students of the First Semester Nurul Jadid Mathematics Education in the academic year 2022/2023.

To find out the validity of interactive digital books based on Lectora Inspire in the Research Methods course, expert validation analysis was carried out including design experts, linguists, and material experts. The effectiveness data was obtained from the results of lecture activities both from students and lecturers. Practicality data

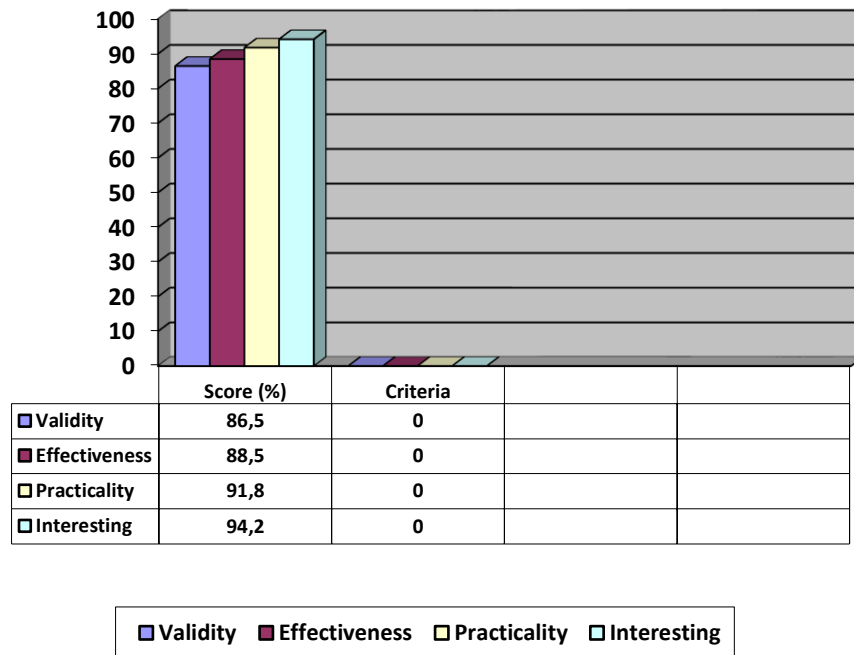
was obtained from the questionnaire responses of students and lecturers, as well as product attractiveness obtained by the results of student responses to the use of interactive digital books based on Lectora Inspire.

Table 6. The results of a trial of interactive digital book products based on Lectora Inspire

No	Rated aspect	Score (results)	Average	Criteria
1	Validity of Interactive Digital Books Based on Lectora Inspire Research Methods Course	82,5%	86,5%	Very valid
	a. Linguist	87,0%		
	b. Material expert	90,0%		
	c. Design expert			
2	The effectiveness of the average observations:			Very effective
	Effectiveness (average lecturer observation results)			
	Effectiveness (average student observation results)	84,5%	86,3%	Graduated
	a. observation results	88,0%		
	1. lecturer			
	2. college student			
	b. The effectiveness of the average Test results(Sukardi, 2010):			
	1. Assessment of cognitive domains	92,0 %	90,7%	Graduated
	2. Affective domain assessment	90,5 %		
	3. Psychomotor domain assessment	91,5 %		
3	Practicality of the average questionnaire results:			Very good
	Practicality (average results of lecturer responses)	90,0%	91,8%	
	Practicality (average student response results)	93,5%		
	a. Lecturer (questionnaire)			
	b. College student (questionnaire)			
4	Interesting from the average student response results (questionnaire)	94,2%	94,2%	Very interesting

Based on the explanation of table 6 above, the general product trial results can be described using diagram 1 below:

Figure 1. Percentage of Lectora Inspire-based Interactive Digital Book Product Trial Results



- Based on Figure 1, it can be explained as follows:
1. The average level of validity from the experts (Linguist, material experts, and design experts) shows that the level of achievement of the percentage of validity is 86.5% with very valid criteria.
 2. The average effectiveness is taken from the average results of observing the activities of lecturers and students getting a percentage of 86.3% with very effective criteria, and effectiveness based on student test results covering the cognitive, affective, and psychomotor domains obtained an average of 90.7% with complete criteria. So it can be concluded that the two indicators of observation results and test results get an average of 88.5% which is stated as very effective criteria.
 3. Practicality based on the results of a questionnaire on lecturers got a score of 90.0% and students 93.5% so that the average practicality level of the two aspects was 91.8% with very good or very practical criteria.
 4. The average level of product attractiveness tested on 28 students got a result of 94.2% with very attractive criteria.

CONCLUSION

Based on the research done on, we can conclude that the development of interactive digital book-based Lectora inspires lecture in the Indonesian language to university students Nurul Jadid, levels feasibility of validation by experts show a level of the very valid with the 86,5 %.The products based on observations to lecturers and students with the very effective 86,3 %.And whether the results of tests were completed with the 90,7 %, the result that averages in the effectiveness of the results of observation and tests the students get 88,5 %. The practicality products based on the results of the survey of lecturers and students received excellent criteria with the 91,8 %. Meanwhile, the attractiveness of the product gets very attractive criteria with a percentage of 94.2%.

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