

## DEVELOPING DIGITAL LEARNING MEDIA IN ACCOUNTING

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### **Abstract**

This research is the development (research and development) which aims to develop a digital book (e-book) based flipbook for courses in Accounting Computers. This study design was used Borg and Gall (1983) which has been modified by an analysis of needs, planning and development of teaching materials, expert validation, revision, field trials to produce the final product, product refinement and dissemination of research. Research was conducted on students of public universities in East Java who have been or are taking computer courses accounting. Validation is done by one person as an expert lecturer matter and one lecturer as an instructional media. After going through a series of validation tests and experts, resulting flipbook-based textbooks are packaged in compact disk which will be distributed to students and faculty. Expert validation results show that this flipbook based digital book has met the criteria of "very decent" to be used as a media of teaching and learning are used in computer accounting course.

**Keywords: digital media, flipbook, learning material**

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## INTRODUCTION

Nowadays, information and communication technology (ICT) is one component that is essential in all aspects of life. No exception also in the academic world. The rapid development of ICT can currently be seen in the teaching and learning process in which ICT helps simplify the delivery of content to students. National Education Minister Regulation No. 2 of 2010 on the strategic plan 2010-2014 of the Ministry of National Education that the need for mastery and application of science and technology in order to face global demands have an impact on the increasing role of ICT in various aspects of life including education, the increasing need to share information and knowledge of the use of ICT, as well as the development of the Internet which eliminates borders and time for communication and access to information.

Bawaneh (2011) states that the use of information technology becomes an integral part of the learning process at the university. This shows that the use of technology in universities has become imperative that the support infrastructure is very important. Furthermore, Lamanauskasetal. (2011) states that one of the missions of educational institutions today are no longer focused on the dissemination of information but how to create learning "perceivable" and "learnable". One strategy is to "modern teaching / learning" where modern learning is learning-based digital (digital teaching / learning).

Previous research has been conducted to determine the effect of the use of technology in teaching and learning on student achievement (Beglau, 2005; Phye & O'Connell, 2007; Martin, Strother & Reitzes, 2009; Shapley, Sheehan, Maloney & Caranikas-Walker, 2010 ). Research conducted by Tabor and the Minch (2013) found that the higher the students access to digital media affects the way students in university classes and exams. This shows that the use of digital based teaching materials are preferred as compared to traditional teaching materials. Results of the study suggest that the use of teaching materials / digital-based media is integrated into the curriculum. Furthermore, Irafahmi and Andayani (2012) developed a computer-based teaching materials for vocational Accounting. This research was carried out by developing a model Borg and Gall (1983) to produce teaching materials on Accounting that are relevant to the needs of business practices. The results showed that the use of computer-based teaching materials proved to be more successful in increasing student achievement compared to conventional methods.

This is also confirmed by Lamanauskas et al. (2011) that digital teaching / learning is one way to improve the educational process.

Integration of ICT in teaching and learning is now a requirement to familiarize learners (students) familiar and friendly technology that educators (lecturers) must always strive to create learning that is not monotonous and unpleasant. One way is to create teaching materials are packaged in digital form but packaging a digital-based teaching materials must be adapted to the conditions and the development of ICT currently more prevalent among students. A phenomenon that occurs among adolescents in Indonesia today is the trend of reading digital books (e-books). Furthermore, Zuchdi (2008) says that there are two things to note about the trend of reading digital books among young people (students) are the type of books that students are interested in and form of books. Trends and interest in reading are now more focused on something that is both technology and communication (ICT).

In fact, in developing countries, especially Indonesia, the reading habit is still very low when compared with developed countries. In developed countries, reading has become a habit and people already have a high awareness of the importance of reading habits as the world's information window. Indirectly, this may indicate that the quality of human resources in developing countries is still very low. There are many causes of low frequency of reading interest among the public. One of them is costly. Cost to consume books, journals, newspapers, magazines and other print media are still very expensive. It's also occurs among students. Field observations found that in the course of Computer Accounting students have not read the lecture material and do not carry a book of literature during the lecture. As a result of passive students in following the lectures and students just waiting for an explanation from the lecturer. Many of the causes behind this phenomenon one of which students do not have books because the price of the book is relatively expensive especially books published abroad, especially for students with a background of parents who are less able, partly lazy student carrying books because of the heavy, complicated and impractical. It is not denied that the existing teaching materials for courses in Accounting Computers today are mostly textbooks printed version.

Given this phenomenon, lecturers are required to always be creative and innovative to create a fun learning activities by integrating ICT in learning so that students will be more motivated to learn. The development of digital-based textbooks (e-books) can be a solution for a lecturer to stimulate students to learn. Digital books (e-books) in Indonesia has developed quite rapidly. This is based on content and display digital books (e-books) are more attractive and interactive enough so that teens are more motivated to use digital books (e-book) compared to the printed version of the book. Students as consumers, consider the transformation in the marketing of printed books into digital form is something interesting. Before the advent of digital books, students must buy textbooks at a price relatively expensive and sometimes less attractive. Printed books were sold in the market are usually packed with transparent plastic so it can not see the content of books purchased and sometimes appears disappointment if the book is not in accordance with what is desired (Zuchdi, 2008).

This study comes as an effort to find ways while offering solutions to the problems faced by students with developing digital-based teaching materials, namely e-book that is packaged in a flipbook using software sigil. Software sigil is a software editor for epub that is open source. The teaching materials developed using software sigil for two reasons: first, researchers have sufficient skills and knowledge about the sigil and second, the software is easier / user friendly compared to other software. Product results of this study in the form of an e-book for courses computer accounting where the books are packaged in digital form more attractive, more practical, more economical, and easy to carry anywhere because digital books can be opened / read on mobile phone, tab, laptops and devices, other electronic e-book that can be read anytime and anywhere. In addition, e-book displays search method said quickly if we want to find certain words (include searching tool), can also be fitted text size viewer, where the size of the letters in the e-book that can be set and e-book can be created interactively contain sound, video or animation.

## **RESEARCH METHOD**

This research is the development (research and development) which aims to develop a digital book (e-book) for the course of Computer Accounting using software sigil. This study design was used Borg and Gall (1983) which includes the following stages: research and data collection,

planning, development of draft initial product, field trials beginning, revision I, field trials, revision II, the test field implementation, improvement of product, dissemination and implementation. In this research study design modification of Borg and Gall (1983) into 7 stages: analysis of needs, planning and development of teaching materials, expert validation, revision, field trials to produce the final product, product refinement and dissemination of research results.

This research was conducted at the State University of East Java, amounting to 8 college. Universities that do not have accounting departments are not included in this study. Sampling using purposive sampling method due to be sampled are all students who have taken or are taking computer courses accounting.

## **RESULT AND DISCUSSION**

Computer Accounting subjects presented in 3 SKS aims to provide insight to the student in preparing the company's financial reporting services, trade and manufacturing using MYOB software. MYOB (Mind Your Own Business) is an accounting data processing computer software that processes data recording accounting transactions performed by entering transaction data into the computer, then the computer will process into the financial statements. This computer application programs used as an automated bookkeeping easy application and is capable of displaying the complete financial reports, quickly and accurately.

The results of observations conducted by researchers at universities X coincides with the beginning of the meeting lectures for computer accounting course. Initial meeting of lectures is used by college lecturers to explain the contract based computer accounting course syllabus. In the contract lectures (an explanation of the syllabus) is, it appears that the computer accounting course with a load 3 credits aim to provide insight to the student in making the company's financial reporting services, trade and manufacturing using computers and MYOB. Computer accounting course syllabus used in organizing and guiding faculty lecturers during the course of the semester also it's explain about teaching materials and teaching methods used by lecturers. Teaching materials used are teaching materials / textbooks printed and learning media are used

only LCD and laptops only. This is not in line with the objectives of KKNi which requires students to be expert using technology.

Further observations on the practice of teaching computer courses in Accounting and syllabus content analysis results produced some findings that; 1) competence which is expected to be achieved from this course that students can arrange corporate data files and make financial reports for the company's services, trade and manufacturing with 18 versions of MYOB program based transactions / cases that have been prepared by the lecturer; 2) The reference used by most colleges in teaching this course is teaching materials / textbooks printed or modules for learning is teacher centered where professors and students actively explain just listen, take notes and explanations faculty practice; 3) Lecturer do not recommend digital media (e-book / flipbook / video tutorial audio / visual) as the main reference and supplement for this course. This is because the less innovative faculty / do not have the ability in the field of IT; 4) The teaching methods used by lecturers are lectures and demonstrations in accounting laboratory space. This is the implication of the lack of competence of lecturers in the field of IT impact on the methods used by lecturers still conventional lectures and tutorials; 5) There are colleges uses the module. The use of modules is considered more appropriate for computer accounting course is very technical and procedural nature; 6) practice and simulation preparation of financial statements for the company's services, trade and manufacturing using computers and MYOB program which has the highest component in learning; 7) lack of students have textbooks / instructional materials printed by reason expensive, and impractical to carry anywhere.

Based on the observation and analysis of the syllabus appear that the lecturers are still using conventional teaching and not use the learning resources/media ICT-based learning when the competence of graduates will mastery of information technology mandated in KKNi where the undergraduate program at the level of the qualifying sixth (level 6) are required to be able to apply, assess, design, utilizing science and technology and solve problems. Based on the KKNi appears that one of the college graduates' competence is the ability to harness science and technology. Therefore, learning in Higher Education should be directed to the ICT-based learning so that the learning process that occurs is student centered learning environment that fosters active, responsive and fun.

Given these findings, the recommendations in instructional materials in accordance with conditions on the ground areas follows: 1) The teaching materials include the accounting cycle for services, trade and manufacturing; 2) teaching materials prepared by applying the MYOB software version 18; 3) teaching materials with examples of transaction cycle for corporate services, trade and manufacturing by using MYOB or based tutorials; 4) teaching materials packed in the form of video/audiovisual; 5) teaching materials and video/audiovisual packaged in the form of e-books as an alternative solution for printed teaching materials are expensive/less affordable by students and less attractive; 6) teaching materials that have been packaged in the form of an e-book is converted into a flipbook for a more attractive appearance, accompanied by animation that are not boring.

Characteristics of the teaching materials is one factor to consider when developing teaching materials/textbooks. Characteristics of the users of teaching materials include gender, age, learning style/style of learning and teaching materials for desired. The results showed that the majority of respondents were women 72 respondents (81.8%), while as many as 16 men (18.2%). Data sex survey respondents can be seen in Table 1 below.

**Table 1. Gender Research Respondent**

	<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Woman	72	81.8	81.8	81.8
Man	16	18.2	18.2	100.0
Total	88	100.0	100.0	

The average age of students who attend computer courses accounting is between 20-21 years can be categorized as a teenager. The questionnaire results showed that the average student more like a digital-based teaching materials compared with printed teaching materials is more practical, cheaper and more attractive. Majority of the student's learning style is the audio-visual learning style is the style of learning that are not only learning through visual relationship (vision) but also audio (hearing) as a way to achieve maximum learning results. With this type of learning style of this it would be very appropriate if the teaching materials used in the lecture is the teaching

materials adapted to the learning style of the students so that the quality of student learning will increase.

Teaching materials desired by the students is also one of the factors that need to be considered. The result showed that only 1% who use more than one textbook, 17% who have a reference book, 16% were using two books and at most 66% who do not even have textbooks in following the course of Computer Accounting. This shows that the students lack of preparation in following the course of Computer Accounting. Furthermore, the average length of student learning is less than an hour for the course Computer Accounting by 48%, while only about 13% were studied over two hours. It can be caused due to the lack of teaching materials owned by the students so that students are lazy to search or browsing the internet on a computer course materials accounting that affect the intensity of student learning.

The lack of textbooks and the limited-time students to learn computer accounting course cause difficulties for students. This is evident from the results of questionnaire analysis which states that 89% of students had difficulty in accounting computer classes to the course, by 9% and 2% said rarely never had trouble. This can be considered because of lack of materials / textbooks owned by students caused by the lecturer did not provide a reference or teaching materials / textbooks printed and digital versions to the students so that the students only get the material from explanation of the lectures in class. In addition, the results also showed that the learning resources that are used by the students of 47% said that the students learn the course Computer Accounting of books borrowed from the library as a lecturer does not provide teaching material particular, 40% of students browsing the internet to find material once finish the tasks given by lecturers, 11% of students read ebook obtained from browsing the Internet, and the remaining 2% reading other literature. Based on these data it can be concluded that the particular ebook teaching materials used in teaching materials is still very low so it is necessary to develop a digital-based teaching materials to help facilitate students in learning because students can learn anywhere and anytime with the ebook.

Students have the perception that digital-based teaching materials is very important for them. It is evident that the majority of 72% of students said that the existence of an ebook is important



for students to help students learn because during the lecturer does not provide textbooks, especially based digital textbook. The existence of digital books can facilitate student learning because of the ease to carry anywhere and can be read at any time by the student because of digital books can be saved and loaded in the phone. The availability of infrastructure to support the use of digital teaching materials (flipbook) is very important because digital teaching materials can only be used with the help of a laptop/computer/mobile phone and 83% of students said that having a laptop while the remaining 13% have a laptop and computer.

Development of product is the stage to make and create the product after a needs analysis. At this stage of the needs analysis produced the product specifications will be developed based on the results of the analysis of the syllabus, observation of teaching practice, the characteristics of the user who will use the product, and product characteristics desired by the user. This development phase is the stage to develop a product that is textbook-based flipbook. There are several stages in the development of this flipbook based textbook: first, to develop teaching materials for the course Computer Accounting on the subject of service companies and trading companies using MYOB version 18 which will produce a print version of the textbook. Secondly, make a video tutorial for service companies and trading companies. Third, create animations as a supplement in video tutorials and flipbook. Fourth, converting materials / textbooks printed version into a digital version that is textbook-based flipbook. Fifth, textbooks that have been converted in the form flipbook then validated by a validator 2 is one matter expert and one of the experts in instructional media so that the end result of this development is a digital book that is packaged in a flipbook.

After the development process of textbook-based flipbook completed the next step is validation experts who aim to get advice and feedback on the products developed. The first validator is a lecturer of accounting for validating the content material. The goal is to ensure that the material is made in a flipbook based digital book has been in accordance with the competence in the course of Computer Accounting and the material presented are also valid. Overall results of validation of the material showed that the material presented in digital book (flipbook) is in accordance with the competence of the subjects accounting computer, which can be described as follows: (1) Coverage of teaching materials (content of the material and the case presented) is in

accordance with the competence of course computer accounting. Competencies expected of this course the student is able to prepare financial statements for services companies and trade by using MYOB version 18; (2) views of completeness and ease of teaching materials are to be understood accordingly. This means that all of the content material should be presented in teaching materials are complete and easy to understand language used by the students; (3) the material presented has also been a systematic and logical. This shows that the presentation of the material in the flipbook has a coherent and clear plot; (4) The case presented is complete consist of the case for service companies and trading companies; (5) the level of difficulty of cases presented in teaching materials accordingly, which means that cases given able to foster critical thinking of students, (6) the instruction execution cases have also been appropriate, that is to say the instructions in the execution of matter / case has been presented clearly and do not give rise to ambiguity.

Validation of the media by expert conclude that flipbookbasedtextbookhas several advantages: (1) the useflipbookthat is packaged in aCD is veryeasy to use. Studentsand faculty caneasilycopyanduseflipbook. This media can be openedandoperatedby using the mediaplayer, flashorGOMplayer; (2) the operation of theflipbookis alsovery easy asa simplenavigation keyoptionto facilitatestudents and facultyto use thisflipbook-based textbook; (3) displayflipbookvery interestingbecause it comes withfunnyvideosandanimationsthat are tailored tothe subjectcompanyand change tradeservicesso that studentsnotonlyread thecoursematerial, but studentscan also seeexamples ofvideotutorialsin completingthe accounting cycle forservicesandtrading companies. Withthisflipbookis expected to facilitate the studentsunderstand the materialandincreasestudentlearning motivationof students.

## **CONCLUSION AND SUGGESTION**

This research aims to develop a digital book-based flipbook using models Borg and Gall (1983). The results of the needs analysis showed that students had difficulty in learning computer courses in Accounting in the absence of teaching materials supplied or recommended by the lecturer. Students only obtain the material from class lecturers explanation. Difficulties in obtaining student teaching material impact on the level of laziness students in learning. In addition, the results of the needs analysis also showed that the instructional materials Computer

Accounting borrowed in libraries majority still print-based so students want the book-based teaching digital because of its simplicity that it can be taken anywhere and read at any time since digital books can be saved and loaded in the phone. In general, the results show that the expert validation flipbook based digital book is very feasible for use as media and teaching materials on the subjects of computer accounting.

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