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Developing Character-Based Digital Magazine as A Learning Media For Accounting Cycle of Service Company on Accounting Students

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*Character-Based Media,
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Abstract

This study aims to create character-based digital magazine learning media that is applied to the first semester students majoring in accounting, State University of Malang. The material presented is material in the accounting cycle of a service company. This research is Research and Development (R & D). The data obtained in this study are quantitative and qualitative. Another source of research data from two lecturers as a material expert and instructional learning media expert, 36 accounting students, and 35 accounting education students, Universitas Negeri Malang. Data analysis techniques used in this research is a descriptive analysis of the percentage. Based on the expert assessment of the medium of learning, expert teaching materials, and field testing is limited by the user, the quality of instructional media that have been developed categorized as valid and worthy of use to the learning process with an average score of 93.8% by expert instructional media, 94.1% by material experts, and 82% by the user.

How to Cite

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INTRODUCTION

The development of technology plays such an important role in the education world, especially as a medium for collaboration to access teaching materials or information related to the learning activities. It is in accordance with National Education Standards Agency (BSNP) (2010), which explains that the instructional materials and interactions have been successfully digitized by technological advances. The development of technology in education is expected to provide convenience to the learning process. This is because in the learning process there is a process of information delivery, the delivery of such information can be used as a tool to deliver information or material to the learning objectives. Information delivery tool is called as a learning medium. Smaldino, et al (2012) explains that the media is a means of communication, this term refers to anything that carries information between a source and a receiver. From the definition of the media can be seen that the learning media is a tool that is used lecturers to give information on learning materials to students in a learning affects the learning activities. On the other hand, interesting media can evoke motivation and interest of students, the media can also help students improve comprehension, presents some interesting data, reliable, facilitate the interpretation of data and condense information. This is consistent with the opinion of Rusman (2013) who stated that in order to attract students learning media content must have an artistic look for aesthetics that becomes one of the criteria for assessing the effectiveness of a media.

In fact, technological progress has not been used optimally, especially in the use of learning media. Based on observations of researchers in the field, Introduction to Accounting I, out of four classes for undergraduate accounting education courses in the first semester students at the State University of Malang, lecturers are already using instructional media but not yet optimally utilize the medium of learning in the learning process. It is seen lecturers are still frequent lectures or just with the assignment to students who only focuses on the mastery of materials being offset by the use of technology. The lack of use of technology as a learning medium that leads to learning media less attractive to make student bored, there is even a mobile phone playing time of learning, and to make students more focused on the lecturer. There are several reasons lecturers are not using the media by Sutjiono (2005) stated that using the media is complicated, the media is sophisticated and expensive, lecturers are not skillfully in using the media, media is entertainment while learning it serious stuff, not available in schools, lecturing habit, and a lack of appreciation from their superior.

The lack of use of technology as a learning medium and planting a character value to the student in accounting subjects have a negative impact on the development of affective student. This also results in learning to tend to value the mastery of cognitive and less in the planting of the character values in students. The main focus is the acquisition of cognitive lecturer in accounting subjects. Therefore, it is necessary to integrate the value of character and learning technology into the accounting. This integration can be done by using the media as a tool for learning in the information-laden character values. The media is a digital magazine in the form of the flipbook.

The background for the researcher in choosing Universitas Negeri Malang as an observation place in the development of instructional media is because it is

known as a campus which focuses on education that bears candidates for educators, where prospective educators are required to provide innovation in the field of media to student learning. The researcher chose the first semester of accounting students because they have not had much knowledge of instructional media such as digital magazines based on random interviews with ten accounting students. Those ten students are familiar with instructional media only from Microsoft PowerPoint and printed books, so if the learning media is in the form of the digital magazine is developed among the students of the first semester will provide innovation. Digital magazines charged the value of this character is developed on the student first half when seen from the contents of the characters in it is suitable for students of the first semester for students of the first semester is like a student who still lay with the university that is so broad, so the need for implantation on the character that students do not fall into things that deviate from the rules of religion and national culture. Researchers chose the accounting cycle for services company material in the course Introduction to Accounting I as materials developed for these materials are basic materials that must be mastered by the students of accounting, on the other side of the course Introduction to Accounting I is a prerequisite subjects of Introduction to Accounting II and Advanced Financial Accounting (catalog of Economics Faculty UM, 2014: 79-80), so that students are required to master the material. Accounting digital magazine will help students to master the material presented in a more attractive, to make students the focus of the learning process for a lecturer assisted with interesting packaged media, and facilitate students to learn independently.

The previous research on media development which has undertaken by Barokah (2014) created character-based digital media in form of a comic. The advantages of this research that has to utilize technological developments which are then applied in the world of education. Yet, there are weaknesses in the development of instructional media using digital comics because comics are too many characters in the animated cartoon utilized so that exposure of the material has not been too detailed and complex so that students cannot understand the material clearly. Then, another study conducted by Alfiah (2014), these studies produce character-based teaching materials. The excellence in this study already covers character education in teaching materials. However, there is a weakness that is not utilized optimally because researcher still uses textbook teaching materials. Thus, students sometimes got bored while reading a book saturated with too many posts or material exposure. Other studies on the development of instructional media also carried by Rasiman (2014), the study developed a flipbook as a medium of learning in high school for the math lesson. The flipbook can be called as a digital book. The excellence of this research has been utilizing technology in learning and has been innovating in the use of instructional media. However, there is a weakness that only convert printed books into digital books so that the design used is also the same as the printed book that is almost 100% exposure of the material.

The difference of this research conducted by Barokah (2014) concerning the development of digital comics, Alfiah (2014) concerning the development of teaching materials charged character education, and Rasiman (2014) concerning on flipbook development as a learning medium for math in high school is in the study developed is a character-based digital magazine. Thus, in the digital

magazine exposure of the material can be more detailed and complex but not full of writings that contain material exposure, the digital magazine are characters-based cartoon animation that will give you an example and will also convey the values of the characters to students, so do not make the students are bored and on the other hand the students gain knowledge of the values of character. Character values convey in the digital magazine accounting are: (1) to be honest, using the value of honest character because this accounting field related to finance and thus susceptible to corruption, collusion, and nepotism that accounting students need to have an honest character; (2) disciplined, it aims that accounting students formed into beings who adhere to all the rules and ethics in accounting that have been set forth in SFAS (Statement of Financial Accounting Standards) for example in preparing the financial statements; (3) hard work, it teaches students to strive hard in accordance with the norms to achieve the goal is not the easy thing but to get lucky a lot like corruption; (4) independent, character values it teaches students to complete the job without having to rely on others. Furthermore, differences in digital magazines with flipbook are located on view digital magazine, digital magazines are designed as attractive as possible not only 100% of the material in each page but in every page using a design that is quite interesting such as 55% of the material 45% pictures of supporters. Furthermore, students do not need to always use the textbook in learning, they can use a laptop or smartphone because this magazine is digital. Making it easier for students to learn because learning media digital magazines is easy to carry anywhere. Utilization of technology in the learning process becomes quite optimal, other than that the students not only tend to cognitive mastery but also get the planting of the character values that can be applied in everyday life. Character education in the form of the character values that are applied in the educational environment will have a direct impact on student cognitive mastery. Increased control of affective triggers is increasing cognitive overs (Nugraha., Et al, 2013).

The importance of character in the learning activities attracts researchers to develop the character-based digital magazine with honest character, discipline, hard work, and independent value, in the course of Introduction to Accounting I standards competence accounting cycle for a services company. Research and development purposes as follows: (1) Developing character-based digital magazines as a medium of learning in students majoring in accounting at State University of Malang and (2) Knowing the feasibility of subject matter experts, media expert, and accounting lecturer on the feasibility of character-based digital magazines as a medium of learning incompetency standard of accounting cycle for service company in students majoring in accounting, State University of Malang.

METHOD

The model used in the study is research and development model by Borg and Gall (1983) there are ten steps, but researchers using the seven steps of research and development proposed by Borg & Gall (1983) were used as guidelines in the research and development of instructional media-based digital magazine loaded with character values. This is because of the pitch tailored to the circumstances, limitations of time, effort, and cost. Therefore, steps can be shown in chart 1 below:

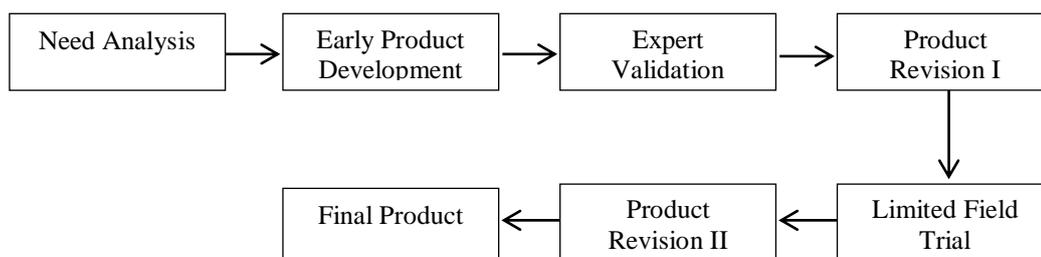


Chart 1. Steps in Research and Development by Borg & Gall that has been modified

Design of a test product on research and development using descriptive design. Subjects to be tested in this study are material experts that is accounting lecturer at Universitas Negeri Malang, a learning media expert who is a lecturer of educational technology at Universitas Negeri Malang, and users, consisting of 35 students of Accounting education at Universitas Negeri Malang and 36 students of accounting at Universitas Negeri Malang. Furthermore, data collection methods used to determine the validity of the method of product development questionnaire development or questionnaires. Thus, the instrument used was a questionnaire with a questionnaire or checklist form (Arikunto, 2006: 152). The questionnaire was used to assess the appropriateness of the instructional media used in learning. Qualitative data do a content analysis of the feedback received from the validator. While quantitative data were analyzed using analysis techniques percentage. Mechanical analysis of the percentage is calculated by the following formula:

$$P = \frac{x}{xi} \times 100 \%$$

Description:

P: Percentage

x: total answer from all respondents
in 1 item

Xi: total ideal answering 1 item

Table 1. Assessment Scale Percentage

Percentage	Assessment
80-100%	Valid
60-79%	Quite Valid
50-59%	Less Valid
< 50%	Not Valid

(Source: Sudjana, 1990:45)

RESULT AND DISCUSSION

The media development is done in several stages. The first stage is a needs analysis. A needs analysis was done by identifying the learning needs of students in the course Introduction to Accounting I. Need analysis was done by observation at the Universitas Negeri Malang Accounting Department. Based on

observations of researchers in the field, in the course Introduction to Accounting I, the four classes are class E, EE, F and FF accounting courses of undergraduate program of accounting education students of the first semester at the Universitas Negeri Malang, lecturers are already using instructional media but not yet exploited optimal learning media in the learning process. It is seen lecturers are still frequent lectures or just with the assignment to students who only focuses on the mastery of materials being offset by the use of technology. The lack of use of technology as a learning medium that leads to learning media less attractive to make student bored, there is even a mobile phone playing time of learning, and to make students more focused on the lecturer. Besides learning to tend to value the mastery of cognitive and less in the planting of the character values in the main students. Focuses lecturers are cognitive mastery of accounting subjects. Based on observations, researchers guessed that digital learning media in the form of magazine charged character value need to be developed to support the activity, student-centered learning, and increase student knowledge about the value of the character.

Here is a SWOT analysis of the use of the digital magazine as an instructional media: (1) Strengths (S) consist of (a) digital magazine is easy to operate independently by students, so it can be used as a means of self-learning, (b) digital magazine is capable of displaying a wide range of other media such as text, images, video, and audio, (c) character-based digital learning magazine can be applied with ease, and has a small size so it is not too heavy for students of computer equipment; (2) Weakness (W) consist of: (a) this digital learning media form can only be used with computers only, (b) digital magazine products can be displayed properly for users with adobe flash player on the computer, (c) there is no facility to answer any questions directly in the media, so the exercises are done manually; (3) Opportunities (O) consist of: (a) facilities and infrastructure are owned by the economics faculty is very supportive for the operation of a digital magazine with the availability of computer labs that can be used for learning activities, (b) A large part of the students have a laptop or PC to be used for the application of digital learning media magazine; (4) Threats (T) consists of: (a) The use of digital learning media magazine can be burdening students, especially for students who do not have a laptop or PC, or perhaps students who have a laptop or a PC but do not have the adobe flash player on the computer.

The second stage is the initial product development. The results of the needs analysis that has been carried out provide an overview in developing instructional media needed to overcome the problem in the Accounting Department, Universitas Negeri Malang in the course Introduction to Accounting I, namely the form of character-based digital learning media magazine on the subject of the character value accounting cycle of service company. The developed product consists of: (1) Cover, the cover consist of the title of a book, illustrations for book picture, the book and the author of the books. To show that this is character-based learning media, then the cover included as image 1,

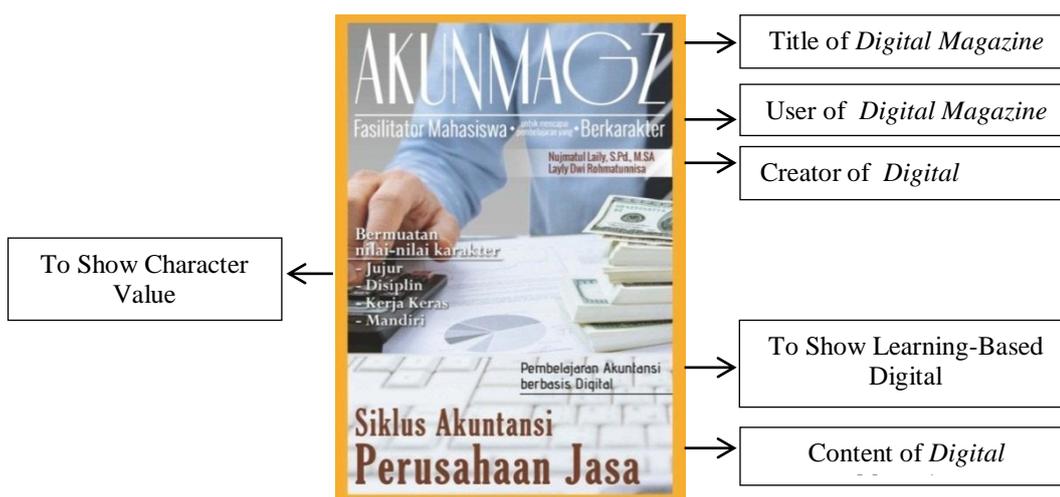


Image 1. Cover of Digital Magazine

(2) Table of Contents, the table of contents lists of titles each this part of the book along with the page numbers. The purpose of the table of contents is to allow users to search for parts of the book you want to view, (3) Learning objectives the learning objectives of this magazine indicates that in accordance with the digital learning material on the syllabus used by the lecturer in the course Introduction to Accounting I, (4) Mapping Concept, mapping concept is the view of the section that contains the concept of the material in each chapter. The purpose is to facilitate the preparation of students to understand the concept of the material, (5) Character Info, info code contains the character values submitted to the students. The character value is given to the students which they are expected to know the knowledge of the values of character and implementing the character values contained in the digital magazine, (6) Material Description, description of the material contains a description of material accounting cycle of service company consisting of: (a) the basics of accounting, (b) the recording phase, (c) conclusion stage, and (d) reporting stage. Description of the material presented is also made with a more attractive appearance with images, charts, and illustrations to make students interested in learning, and (7) Evaluation, this evaluation contains evaluation questions in worked essay form in a group or individually. This evaluation included in each end section and a comprehensive evaluation at the end of the digital magazine. Interest formulation that pinpoints whether or not the learning objectives achieved.

The third stage is to validate learning media and materials experts. Results of the assessment of media experts on product development shown in Table 2.

Table 2. Validation from Learning Media Expert

No	Assessment Aspect	Percentage	Description
1	A. Feature Quality		
	1. Accuracy of the character selection figure	100%	Valid
	2. Image attractiveness	100%	Valid
	3. Accuracy type of the selection alphabet	100%	Valid

4.	The accuracy of selection alphabet size	75%	Quite Valid
5.	Selection of color and background of each image	100%	Valid
6.	Conformity text color with the background.	75%	Quite Valid
7.	Compliance proportions of the image, illustrations, and media display	100%	Valid
8.	The layout and page layout	100%	Valid
	Mean	93,8%	Valid
B. Software Engineering			
1.	Creative in casting or ideas	75%	Quite Valid
2.	Ease and simplicity in operation	100%	Valid
	Mean	87,5%	Valid
C. Implementation			
1.	Media can be used anywhere and everywhere by the students	100%	Valid
2.	Material presentation ease up the students to have independent study	100%	Valid
	Mean	100%	Valid
Mean for all Aspects		93,8%	Valid

Data validation results by instructional media expert above can be seen some of the aspects that include: (1) the quality aspect views gained 93.8%, which means the percentage of valid or worthy use, (2) the engineering aspects of software that earn a percentage of 87.5% which means valid or feasible to use, and (3) the aspect of adherence to earn a percentage of 100% which means valid or feasible to use. The results of the validation study media in the form of digital magazine media expert instructional obtain the average percentage of votes all aspect of 93.8%, thus, products developed is said valid or feasible to use.

The results of the expert validation of learning materials shown in Table 3.

Table 3. Validation by Material Expert

No	Assessment Aspect	Percentage	Description
1	A. Learning Aspect		
	1. Compliance with the learning objectives competencies	100%	Valid
	2. Compliance with the material of learning interest	100%	Valid
	3. Compliance with the media form the material characteristics	100%	Valid
	4. Completeness of the material in the media	75%	Quite Valid
	5. Easiness understanding of the material in the media	100%	Valid
	6. Easiness understanding illustrations in the media	100%	Valid
	Mean	95,8%	Valid

B. Material/Content Presentation		
Aspect		
1. Concept appropriateness which is described through the accounting expert's statements	100%	Valid
2. Material is organized well	100%	Valid
3. Correctness and accuracy in using accounting terms	75%	Quite Valid
4. Character value is Quite supporting in the media	100%	Valid
Mean	93,8	Valid
C. Evaluation Aspect		
1. Appropriateness of the evaluation with the learning purpose	75%	Quite Valid
2. Appropriateness of evaluation form with the presented concept	100%	Valid
3. Appropriateness evaluation with Students' knowledge	100%	Valid
Mean	91,7%	Valid
4. Language Aspect		
1. Communicative language	100%	Valid
2. There is no ambiguous	75%	Quite Valid
3. Consistency in using the accounting term and foreign language	100%	Valid
4. Accuracy in spelling	100%	Valid
5. Accuracy in using punctuation		
Mean	95%	Valid
Mean for all Aspects	94,1%	Valid

Data validation results by expert instructional material accountancy above can be seen its feasibility of some aspects: (1) the learning aspect that received a percentage of 95.8%, which means valid or worthy use, (2) aspects of the presentation of the material/content that earn a percentage of 93.8% which means valid or feasible to use, (3) evaluation aspects earn a percentage of 91.7% which means valid or feasible to use, and (4) aspects of language that earn a percentage of 95% which means valid or feasible to use. The results of the validation study media in the form of the digital magazine of expert learning materials accounting obtain the average percentage of all aspect of 94.1%, so the developed product is declared valid or fit for use.

The fourth stage is to do the first revision. The first revision is done after getting the feedback received from the expert. The purpose of revising the first is to improve the quality of teaching materials developed. Other than that, criticisms and suggestions are used to evaluate and improve the product so that used as accounting learning media. The result of first revision subsequently tested in the field that involves students as the medium of learning.

Table 4. Critics and Suggestion from the Material Expert and Learning Media Expert

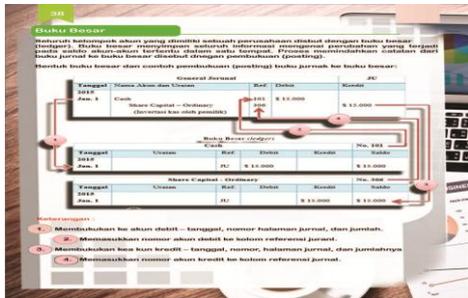
Learning Media Expert	
No	Critics and Suggestion
1	Layout should be matched with the writing in order to be coherent
2	Too small font.
3	Some comic words are less informal.

Material Media Expert	
No	Critics and Suggestion
1	There is no such critics and suggestion as a material expert. The <i>digital magazine</i> is feasible to be tried out or developed without any further revision.

The results of the first revision based on comments and suggestions by learning media experts and material experts can be seen in Table 5 below.

Table 5. Results of the first revision

No	Before	After
1	<p>The font is too small when viewed from slideshow</p> 	<p>The font has been enlarged</p> 

<p>2</p>	<p>The comic page uses informal language.</p> 	<p>The language has been formal</p> 
<p>3</p>	<p>The background/layout is too outstanding</p> 	<p>The background/ layout has been smoothening</p> 

The fifth stage is to do limited field trial. A limited field trial was conducted to determine the feasibility and attractiveness of digital learning media magazine of the users, namely students. Implementation of a limited field trial conducted on students of the accounting courses 6th semester as many as 36 students and a student of accounting education 2nd half as many as 35 students at the Universitas Negeri Malang. Based on data from the quantitative assessment of student accounting known that digital learning media magazine overall gain a percentage of 81.6% which means valid or worthy used. So, in general according to the user's perspective is interesting learning media for use in learning activities. Meanwhile, based on quantitative data on student assessment of accounting education study programs can be seen that digital learning media magazine overall earn a percentage of 82% which means valid or worthy used. So, in general according to the user's perspective is interesting learning media for use in learning activities.

There is 20 items assessment used second-semester students of accounting education study program to assess digital learning media magazine, which can be seen in Table 9 below.

Table 6. Validation Result of the Accounting Education Students' Statement

No	Assessed Item	Percentage	Descripti on
1	This digital magazine gives me motivation in learning	87.9%	Valid
2	I can study actively through this digital magazine	81.4%	Valid
3	I prefer studying by using digital magazine rather than listening to lecture	82.1%	Valid
4	The given material can be understood easily	80.0%	Valid
5	I could learn the material easily because the clear hierarchy	77.9%	Quite Valid
6	Through digital magazine, I could master the accounting cycle for service company	78.6%	Quite Valid
7	This digital magazine gives me the idea of how important character value is	80.7%	Valid
8	This digital magazine is able to encourage to be honest	78.6%	Quite Valid
9	This digital magazine is able to encourage me to be disciplined	77.9%	Quite Valid
10	This digital magazine is able to motivate me to work harder	80.0%	Valid
11	This digital magazine is able to make me independent	80.0%	Valid
12	I could read the text easily due to the clarity of the font used	84.3%	Valid
13	I am interested in the well-suited layout and Design	85.7%	Valid
14	I could understand the material through the illustration and proper Animation	83.6%	Valid
15	Interesting evaluation packaging	82.1%	Valid
16	Animated figures that convey character attracted me knowing the character value delivered	82.1%	Valid
17	Illustrations that are packaged as attractive as possible help me understand the material	81.4%	Valid
18	I can use this digital magazine easily	84.3%	Valid
19	This digital magazine can be used anytime and anywhere	86.4%	Valid
20	Operation of the digital magazine is simple and easy to learn independently	85.7%	Valid
Mean		82%	82%

Here is the result of the sum of overall analysis from learning media experts, material experts, and users appear in table 10 below.

Table 7. Conclusion from all Analysis of the Media Validation

No	Assessment Group	Percentage	Description
1.	Mean validation by learning expert	93.8%	Valid
2.	Mean validation by accounting material expert	94.1%	Valid
3.	Overall mean from limited try out	82%	Valid
Mean		90.7%	Valid

Based on Table 10 Summary of overall Learning Media Analysis Validation is high, overall media learning earn a percentage of 90.7% which can be obtained from the validation by expert instructional media, accounting matter experts, and the overall limited user test. It concluded that digital learning media in the form of magazine charged accounting character value with the subject of the accounting cycle service company that has developed is valid and worthy to be used in the learning process of Introduction to Accounting I course on students majoring in accounting.

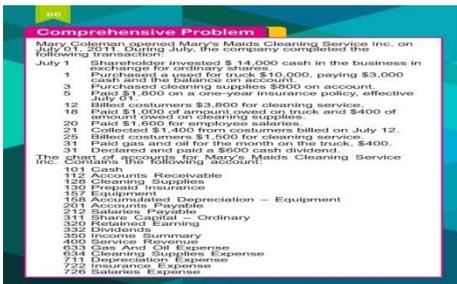
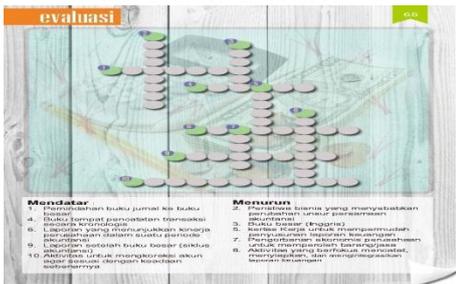
The sixth stage is a product revision 2. Revision of digital learning media magazine conducted if there is still a user according to the invalidity of digital learning media magazine developed. 2nd revision is based on ratings, criticisms, and suggestions unlimited users.

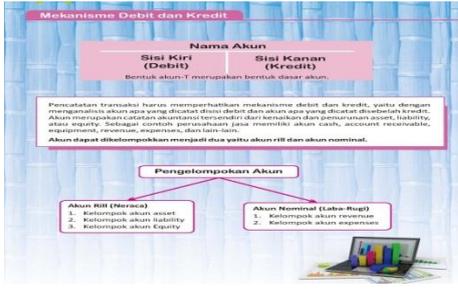
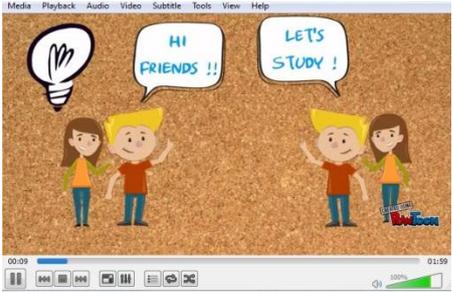
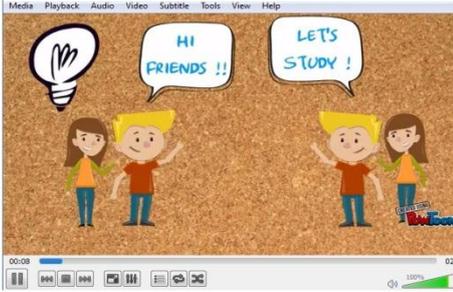
Table 8. Critics and Suggestion from the Users

No	Critics and Suggestions
1	The exercise should better use Bahasa Indonesia in order to ease up the problem solving
2	The design is already interesting, yet, the font should be bigger to be shown in LCD
3	The video is quite interesting. Perhaps, the length should be a bit longer.
4	The media is quite interesting and creative. Maintain to develop it in order that the UM students will be able to make a use of it.
5	Media <i>digital magazine</i> is very interesting and can be used anytime and anywhere in order to increase the learning motivation.
6	This <i>Digital magazine</i> is very interesting yet fewer people make a use of it. It should be published to the public in order to gain popularity among students.
7	The presentation of this <i>digital magazine</i> is interesting and understandable, the content is also quite good with its exercises, good illustration, and its animation. Therefore, this <i>digital magazine</i> should be more developed.
8	Creating more innovation for accounting learning in order that accounting will be easy and interesting subject.

The results of the second revision based on comments and suggestions by users can be seen in table 12 below.

Tabel 9. The second revision

No	Before	After
1	<p>The exercise is using English</p> 	<p>Each material is added with exercise which used Bahasa Indonesia</p> 

<p>2</p>	<p>Font is too small if being used with LCD</p> 	<p>Font has been enlarged</p> 
<p>3</p>	<p>The duration of the video 1 minutes 59 seconds.</p> 	<p>After being revised, The duration of the video is 2 minutes 30 seconds.</p> 

The seventh stage is the last stage which is the final product. The end product of this research is the development of instructional media accounting magazine in digital form for a student charged character value. Based on the results of data analysis expert validation of learning media, learning materials accounting experts, and limited field trial can be concluded that the form of digital learning accounting media magazine loaded with character values to students is valid and feasible for use as a learning medium accounting for students.

CONCLUSION

Media accounting learning outcomes of this development have proved valid when used as a medium in the teaching and learning process, especially in accounting student at Universitas Negeri Malang. It can be seen from the results obtained from the analysis of its high overall validation of learning media expert with the value of the average percentage of 93.8%, a material obtained an average percentage of 94.1%, and a limited field test values obtained an average percentage of 82%.

Based on what has been suggested by researchers that the utilization of instructional media is offset by means of available infrastructure provided by the faculty to support the teaching and learning process. In addition, students are also expected to keep reading books or related learning resources that students' knowledge more widely. Students are also should prepare PC or laptop for use of digital media in the form of character-based accounting learning magazine to study themselves. The use of instructional media should not be separated from the monitoring lecturer, lecturer as facilitator should pay attention to and review the activities of students during the learning process so that the learning process is effective. Lecturer in the use of digital media in the form of character-based

accounting learning magazine, you should still pay attention to the application of the character values in the learning process for considering the application of the value of that character is very important.

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