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The Development of Animation Based Multimedia TOONTANSTIC to Learning Arabic Language at Khadijah High School Surabaya

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Abstract. The various possibilities offered by technology to improve the quality of foreign language learning. Toontastic is an animation digital storytelling tool that teaches kids how to organize and present story ideas through cartoons. This application is a visually based interface uses images, animation, spoken words, and music to tell stories. Implementation of animation as an Arabic language teaching aid is an innovation in creating an atmosphere that can influence student achievement.

In this study researcher used research and development method. Research development is a process to develop or make software and hardware products that can be used in education activity, begins with need of assessment, continued with development process, then finished with with product revision and dissemination. The research aims are (1) How much influence the development of animation-based multimedia on Arabic learning, (2) Knowing student responses to animation-based multimedia on Arabic learning, (3) What factors support development of animation-based multimedia on Arabic learning.

This shows that there is significant improvement in Arabic language according to the groups. The difference prove that the use of animation in learning sessions contribute to the achievement of students in the Arabic language. This study advocate the idea that animation applications can be integrated as part of language teaching aid to positively improve student achievement, classroom learning environment and student motivation.

Keywords :education, learning design, language skills, e-learning

Introduction

Arabic is the only religious language that is simultaneously recognized as an international language. The importance and necessity of being able to speak Arabic has been popularized for a long time (Fiddaroini, 2007). Arabic is the language in the holy book al-Qur'an al-karim which is the holy book of Muslims and with it Islam grows and develops. therefore learning Arabic is a must for Muslims around the world (Anshori, 2014). Arabic in Indonesia, is used as communication, to study Islam and various knowledge. The importance of Arabic is what causes the process of teaching and learning activities to be continuously improved. The development of

information technology has had a major impact on education. Technology is inevitable in education, including learning foreign languages.

Arabic learning orientation in high school is not grammatically oriented, but on oral and written communication skills. Learning language elements consisting of vocabulary, communicative expressions, pronunciation, grammar, and spelling is aimed at supporting mastery and development of language skills and not for the benefit of mastering the elements of the language itself (Makliatussikah, 2010). The teacher must strive to present quality learning, namely by choosing learning methods that are innovative, fun, and easy for students to follow so that the learning material is easily accepted. One of the teacher's efforts that can be done by combining the selection of innovative learning methods using the right media. Learning media in the Dictionary of Education are tools or other materials that present a complete form of information and can support the teaching and learning process, such as print media, films, television, diagrams, computers, and instructors (Lestariningsih, 2016).

Sometimes a teacher has difficulty communicating in the learning process. Therefore, in the learning process, tools or media are needed to convey information (Yasmar, 2017). Learning Arabic actually requires direct student involvement. The study claims that Arabic can be mastered if teachers use sounds, patterns, movements, symbols and multimedia in teaching (Hakim and Akhyar, 2018). Learning media are divided into, (1) Visual media, (2) Audio media, and (3) Audio-visual media. Visual media emphasizes the visual or image aspects, audio media is more on the listening process, while audio-visual emphasizes both. The media used in learning must be adjusted to the objectives of the learning (Mutmainah, 2015).

Google Education has launched a 3D version of Toontastic, almost two years after Mountain View bought the company that created it. The new Toontastic stays true to the original version:

62 it's still a storybook app, except now kids can work with 3D characters and environments. They

63 can animate short three-dimensional movies by customizing characters and placing them in

64 interactive scenarios, or they can use the tool to make projects for school. Google describes the

65 updated Toontastic as some sort of a digital puppet theater. The app is now out on the App Store

66 and on Google Play for phones, tablets and select Chromebooks. This app is free and easy.

67 The author examines the development of film, audio and power point multimedia technology on

68 learning Arabic at Khadijah High School, Surabaya. The use of multimedia can be used to

69 support the learning process, especially Arabic subjects. Learning will be effective and fun if it is

70 supported by learning media that can attract student interest and attention.

71 **Materials and Methods**

72 The advancement of animation technologies makes the process of creating customized animated

73 videos more accessible to educators. The production process typically involves the following

74 steps. Firstly, the instructor prepares a script and storyboard drawings in accordance with

75 pedagogical needs, and the video producer creates cartoon characters (using Adobe's Character

76 Animator and Photoshop), animated sets, props and other visual assets from a combination of

77 hand-drawings, computer-generated objects and photographs. Secondly, voice acting is recorded

78 using Character Animator, a software that uses facial-mapping and lip-syncing technology to

79 map a cartoon character's facial expressions following those of the actor. Voice-overs are

80 recorded separately. Thirdly, the producer edits the visual footage, graphics, background and

81 foregrounds to create a seamless three-dimensional sequence, before adding audio recordings,

82 sound effects, music and captions. Finally, the completed video is exported as an MP4 file and

83 reviewed by the instructor for continuity and accuracy, before it is posted on the course's online

84 learning platform (Liu and Elms, 2019).

85 This app will inspire teacher to create their own cartoons for teaching. Just draw a picture and

86 animation is ready. However, to create a cartoon is very easy – it just need to press the "record"

87 and move the character on the screen. Next, with the help of the game, the tale comes to life.

88 After finish all the steps, the app will transform all the animation and show cartoon. In addition,

89 it can share it with friends and family on the Internet. This attachment develops an artistic and

90 language skills in children, shows the key principles of storytelling. Various drawing tools

91 transform the child's drawings, using virtual play sets. Here we will find the pirates, princesses,

92 distant galaxies, and a lot of different characters.

93 The Development of Animation Based Multimedia "TOONTANSTIC" to Learning Arabic

94 Language consist of some stages. They are Plan, Development, and Evaluation. Because of the

95 researcher limitation of time, in this research only used some the sub-stage of the plan stage,

96 those are: need analysis, material survey, and determine learning objectives. Then, the

97 development step is the step to develop the product. Finally, the evaluation step in this case try-

98 out the product step consists of formative and summative evaluation. Formative evaluation is a

99 24 data collecting process that the goal is to improve and increase the quality of the developing

100 product. In this research, the formative evaluation means expert validation. While summative

101 evaluation, in this case try-out the product is an evaluation to give final evaluation to the product

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105 Then, the each step can be explained in detail as follows:

106 a. Plan stage

This stage started from need analysis. The need analysis conducted by doing preliminary observation in X class of Khadijah High School Surabaya. The researcher joined during Arabic teaching learning and observed the activity in the class. This observation emphasized on teacher's teaching media. The result was both students and teacher need a media that can make teaching and learning process run effective and efficient, that is by developing multimedia-based animation.

b. Development stage

After conducted the plan stage, the next step is development stage. This stage is developing the product process. The product that developed in this study is Arabic multimedia-based animation toontastic for X grade of Senior High School in topics of second semester by using Google Aplication that is toontastic. The type of research which developed is experimental research using Pretest-posttest control group design (Sugiyono, 2012) as shown in the follow :
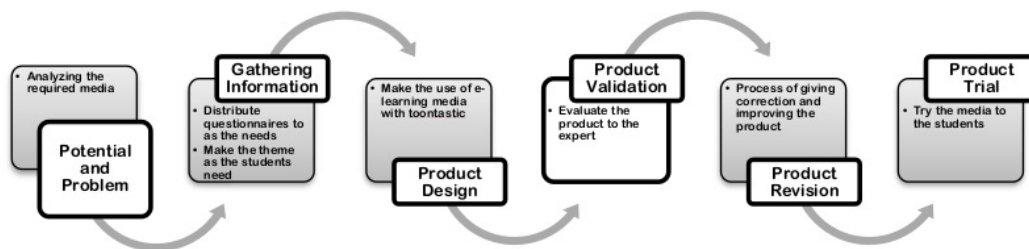
Figure 1. Framework of research design
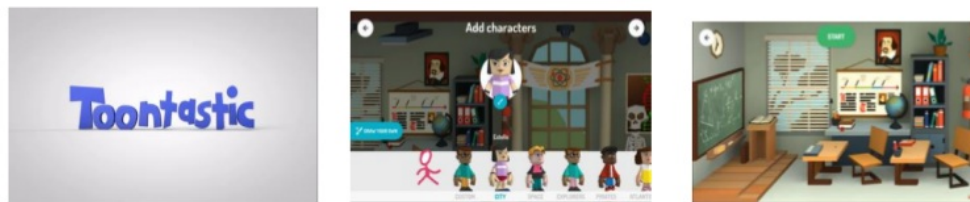
Figure 2. Screenshots of the courseware

c. Evaluation stage

The evaluation stage consists of formative and summative evaluation. The aim of formative evaluation is to improve and increase the quality of the product. In this research, formative evaluation is expert validation. There are two experts in this validation, they are teaching material and teaching media expert. The result of the validation is used to revise the product.

This research has been carried out in Khadijah high school Surabaya, East Java, Indonesia. The span of research time ranges from March 1-31, 2020.

The subject of this study in product validation was expert of Arabic teaching media lecturer and Arabic teacher of Khadijah High School Surabaya. Furthermore, the subject in small group evaluation was 10 students of X grade student. Then, the subject in trial field (whole class) is consists of 24 students of X grade student.

Try-out of the product in this research is used to evaluate the quality or attractiveness of the product. The type of data from the result of that evaluation is both qualitative and quantitative. Qualitative and quantitative data are gotten from some evaluations, comments, and suggestion from expert of teaching media, expert of material, and also student's evaluation about the product in the questioner instrument. Some comments from expert of teaching media and teaching material used to revise the design of product before the product is used in whole class. While the responds of students used to investigate the quality or attractiveness of the product when use in teaching and learning process.

Then the instrument that used in this research was questionnaire. This questionnaire is used to evaluate the quality or attractiveness of this media by doing validation from expert of teaching media and teaching material and also evaluation from X grade students. This questionnaire was developed from criteria of teaching media evaluation based on some experts. Then, the writer

made the grille of questionnaire into some criteria, those were educational criteria, layout criteria, and technical criteria. The questionnaires are written in Indonesia to avoid misunderstanding between the researcher and the respondents.

From the questionnaire validation above each item on it classified in 5 scale and each scale have a certain score, they are very good that will give score 5, good will give score 4, fair will give score 3, poor will give score 2, and very poor will give score 1. Further more the indicator category for each item called high (H) if the score greater-than or equal to 3 ($\geq$3) and called low (L) if the score less-than 3 (<3)

Finally those data will change into percentage of data, the formula will like follow:

$$Percentage\ (\%) = \frac{Score\ (n)}{Score\ maximal\ (N)} \times 100\%$$

After that, the data transform into qualitative data with high percentage is 100% and low percentage is 0%. The next is the data will describe qualitatively. Range is maximal score minus minimal score, and the result is 100%, also large of interval (100% divided 5 scale) equal 20%.So, based on the count up above, range percentage and the qualitative category will see as follow :

*Table. 1 Range Percentage and Qualitative Criteria*

Percentage	Category
81 % - 100 %	Very Good
61 % - 80 %	Good
41 % - 60 %	Fair
21 % - 40 %	Poor
0 % - 20 %	Very Poor

Result and Discussion

The development of interactive multimedia learning is carried out in several stages, collecting problems that occur based on the results of interviews, observations, and documents. Analysis of Student Characteristics. The characteristics of class X students of Khadijah High School Surabaya are around 15-16 years old, the characteristics at that age are that students are active when involved in learning, students tend to learn that is fun and not boring. However, when they face boredom in learning, students tend to chat with their friends. In Arabic, students already know the names (vocabulary) of objects around them, such as; classes, desks, books, and so on. However, they cannot use the vocabulary as material to use Arabic as a means of communication because their mastery of vocabulary is limited to objects around them. Facilities in schools such as laptops, LCDs, internet, sound systems and others have not been fully utilized as a means to support the Arabic learning process. To minimize student boredom in learning and efforts to use facilities at school, an interactive multimedia was developed.

Series1	Expert 1	Expert 2	Control group	Experimental group
	82.5	72.5	76.04	92.7
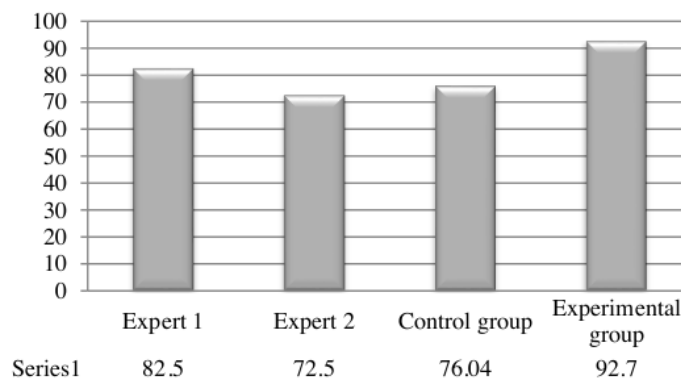
Figure 2. Chart of Development of Animation Based Multimedia TOONTANSTIC

Based on the table and diagram above, the assessment results are obtained Development of Animation Based Multimedia TOONTANSTIC by media experts. Media assessment learning by media experts obtained 82.5% on the validation of media experts can be categorized verry good. The next assessment process is from material experts. Media assessment learning by material experts obtained an overall mean score of 72.5%. Thus the learning media Development of Animation Based Multimedia TOONTANSTIC on expert validation the material can be categorized good.

Figure 2 illustrates the student achievement in control group students and experimental group students. Results showed that control group students was 76.04 percent and experimental group students was 92.7 percent. The data analysis proven that there was an increase in control group students and experimental group students achievements. Thus, the implementation of animation in language learning indeed enhances students' performance.

Although animations are not ideal for all learning situations, they do have great potential. When animations are not beneficial to learning, it is often due to poor design, presentation to the wrong audience, or a topic that is not suitable for animation (where still graphics would be better).

The analysis was carried out by interviewing an Arabic teacher of class X. The interview was conducted to determine the potential or problems that occur in the field, problems regarding the teacher's understanding of the use or application of multimedia based on "toontastic" animation. The interview was conducted with a class X teacher, Mr. Fahmi, at Khadijah High School Surabaya. The results of the interview became a reference in the development of Arabic teaching materials, namely multimedia based on "toontastic" animation, which would later be tested on the tenth grade students of Khadijah High School Surabaya. The teachers argue that it is important to develop a medium that is not only effective but also

204 attracts students' interest and attention. One of the media referred to is audiovisual media.

205 According to the teachers, audiovisual media is very suitable for speaking competence because

206 audiovisual media fulfills the elements of motion, facial expressions, tone of voice, and so on.

207 These things are important elements contained in communication in oral form. So far, audio-

208 visual media in the form of video are available in schools to support Arabic language learning,

209 but they are still in the form of animated language refresher video media aimed at increasing

210 student interest in Arabic. The media has not been specifically presented per learning theme for

211 Arabic speaking skills that meet the elements of motion, expressions,voice, and so on.

212 Before interactive multimedia is implemented in learning activities, supporting media is prepared

213 in using interactive multimedia such as laptops and sound systems, especially for experimental

214 classes. After that the teacher gives directions to students in the experimental class to use

215 interactive multimedia in learning activities. The method that is applied when delivering material

216 with interactive multimedia is the direct method. In interactive multimedia there are exercises

217 that will later be used as an evaluation. This evaluation aims to determine the effectiveness of

218 interactive multimedia arranged in Arabic subjects compared to the media used previously

219 (books, pictures, etc.), to improve Arabic vocabulary before and after using interactive

220 multimedia. evaluation is a test given to students.

221 One of the reasons animations are now found so widely is that many people believe that

222 animations can help learners come to understand complex ideas more easily. However, the

223 reasons that are cited for this beneficial effect tend to vary considerably. Some people believe

224 that animations can help people learn because they are especially motivating e.g (Rieber, 1991).

225 Animations that have a cognitive purpose can facilitate learning because they provide more and

226 different information than static graphics. They have the potential to help a learner build a more

227 accurate mental model of a system's behavior compared to graphics alone (Schnotz and Rasch,

228 2005).

229 There are many types of animation that can be used for instructional purposes, including:

230   1. 2-D animation: Creating the illusion of motion by the rapid display of a sequence of static

231   images or frames that minimally differ from one another.

232   2. 3-D animation: Creating the illusion of moving objects rendered from 3-D wireframes.

233   Based on mathematical algorithms, the objects can be rotated and moved over time.

234   3. Motion graphics: Moving graphical elements and text across the screen. This is what we

235   create with certain authoring and presentation tools.

236   4. Transformations: Animations that depict changes without movement, such as color

237   transformations (a person blushing) or lines changing from thin to thick (clogged arteries

238   maybe?).

239   5. Stop-motion animation: Photographs of an object shown in a quick sequence to create the

240   illusion of movement. (Malamed, 2016)

241 Toontastic is animation in 3D, we can draw, animate, and narrate cartoons. It's as easy as play.

242 Just move characters around onscreen, tell story, and Toontastic records voice and animations

243 and stores it on device as a 3D video. We can get it on Google Play and free.

244 According to (Ainsworth, 2008) there are six levels of explanations that are relevant to

245 explaining learning with representations and particularly animations.

246   1. The expressive characteristics of animations resulted from the need to represent activities

247   in a specific sequence. This could be advantageous for learners when the dynamic

248   activity represented does need to be understood as one fully determined sequence but

249   problematic when this is not the case.

2. An analysis of cognitive, motor and perceptual consequences of learning with animations showed that while they may make dynamic information explicit, which should reduce the amount of cognitive effort required to learn about dynamic systems, they also introduce significant problems for perceptual processing and memory because of their transient nature.

3. Affective accounts of learning with animations suggest that although learners may often report increased satisfaction and motivation as a result of using animations, this is not invariably the case.

4. The strategies that learners use when studying with animations are crucial for their ultimate understanding. Unfortunately, most of the research indicates that novice learners do not easily develop and apply effective strategies for learning with animations.

5. Similarly, there is little evidence to suggest that learners are helped to achieve effective metacognition by animations and some evidence to suggest instead that animations may produce an illusion of understanding that can interfere with successful learning.

6. Finally, evidence concerning the rhetorical functions that animations can serve in supporting social learning is mixed with some researchers reporting increasing effective communication and some decreased.

Interactive learning multimedia is a learning medium that is expected to increase understanding quickly because it is supported by interesting learning and makes students active. So, when learning Arabic vocabulary students use interactive multimedia to increase enthusiasm in learning Arabic because it is packaged in an interesting and not monotonous way so that it is hoped that they can remember vocabulary related to the material contained in interactive learning multimedia, where vocabulary mastery is someone's key. to be skilled in language

Conclusion

The results of research and development on the development of interactive multimedia learning Arabic using toontastic animation can be concluded that this multimedia can be used as a method in learning Arabic. Student assessment of multimedia interactive learning Arabic using toontastic animation is considered very good and the average student is interested in learning to use multimedia. There is a need for the development of teaching materials in learning Arabic to make it easier to understand. In this case, as many as 94% of students agreed that they needed the development of teaching materials in Arabic learning so that it was easier to understand, only 6% of students answered that they did not need the development of teaching materials in learning Arabic at school.

Acknowledgement

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