Multimedia and Critical Thinking on Arabic Guided Writing Learning

Muhamad Kamal bin Abdul Hakim
Jakarta State University, Indonesia
m.kamal.ah@unj.ac.id

Abstract

The aim of the study is to determine the effect of multimedia through film and digital games with pictorial stories in groups of students who have high and low critical thinking patterns on guided writing learning activities in the Arabic Language Education Study Program, Jakarta State University. The study was conducted on the third-semester students of the 2018/2019 school year with a total sample of 44 students, which were divided into two groups: 22 students for the experimental group and 22 students for the control group. The research approach uses quantitative research with a 2x2 factorial experimental method. Data collecting technique used tests for writing and questionnaire critical thinking. The data analysis technique used a two-way ANOVA. The results of the two-way analysis are known that there are significant effects of multimedia and critical thinking patterns on learning activities of Arabic workshop writing. The implication of study refers to the process of teaching creativity in the classroom using multimedia and increasing of critical thinking because writing needs higher critical thinking and the teacher has to identify of multimedia's needs in writing learning.

Keywords: Arabic, critical thinking, writing, multimedia

A. Introduction

Arabic writing learning is one of the skills that are considered difficult for students because students must have the ability to write with correct grammatical and writing structures in accordance with components in writing. Moreover, the process of writing learning at the university level is not only oriented to produce products but also processes. Therefore, writing for students is a process of writing for the benefit of everyday life. As Murray said that writing is an intellectual development and the power of analysis in accordance with their respective fields of expertise so that writing skills are able to provide ideas and creativity that can be used for the benefit of everyday life such as work, educational processes, and so on (Murray, 2012). This opinion is in line with what Sokolik statement that writing is a combination of activities between processes and products. Olson described the process as referring to the unification of ideas

from beginning to end and into writing ready to be published, this process is useful for novice writers. Writing has many steps, it is not only based on the logic that evokes different imagination (Linse, 2005).

From these theories, they have relevance to the achievement of Arabic writing learning that they want to achieve. However, the results of observations on the third-semester students of the 2018/2019 academic year showed that the results of Arabic guided writing learning had not yet reached the set standards. This means that when it viewed from the results of the final score of writing courses in the third semester, it is known that the number of students with a score range of 46-50 (D) is 18 students, the score ranges of 51-55 (C-) are 12 students, the score ranges are 66-70 (B-) as many as 6 students, the score ranges are 77-80 (B +) as many as 6 students, and a score ranges 81-85 (A-) as many as 2 students. The data concluded that students who graduated with grades that did not meet the minimum standard of C (range 56-60) were 30 students or 68.19% and students who had graduated with a minimum standard score of C were 14 students or 31.81%.

As a result of further observations and interviews, many students experienced difficulties in writing both assignments and final assignments. Though writing skills are one of the language skills that must be mastered by students in learning a particular language. In Arabic writing skills learning are written in *Kitabah*'s course (writing). The problem faced by students is the mastery of Arabic vocabulary is still small, the mastery of the structure of Arabic is still low, and students have difficulty in building meaningful relationships in each sentence. Thus, students need intensive guidance while Arabic writing learning. While the process of Arabic writing learning Arabic does not provide guidance. From the results of interviews with students that Arabic writing learning activities are considered to lack maximum guidance. Even though the learning method is in accordance with the student context. The application of the contextual learning method is equipped with learning media so that the concept of learning in the classroom is considered to be unpleasant and passive students. In addition, the mindset of students is also underdeveloped. In fact, writing requires the concept of critical thinking.

Moreover, writing learning in higher education has been related to the study of interpretation, analysis and the development of the results of the analysis. This requires the ability and knowledge of a higher level compared to students in secondary schools. Every learning in higher education must be realized with real work in everyday life. Therefore, students must have more critical and creative thinking patterns.

The critical thinking ability is very useful and helps in writing and speaking activities, as revealed by Browne and Keely (2007), namely (1) react critically to the essay or a web site, react critically to an essay or evidence presented in a textbook, magazine, or on a website. (2) the judge of the quality of a lecture or speech assesses the quality of lectures or speeches. (3) the form of argument. (4) write essays based on a reading assignment. (5) participate in class. According to Dunn, Halonen and Smith (2008) that there are three categories in writing activities related to critical thinking, namely basic tasks, processes, and outcomes. From the concept, it concludes that critical thinking is the basis of the actions of students in conducting guided learning activities in Arabic. Through the process of critical thinking, students can develop their writing in accordance with the data they have and the learning experience that has been gained since the educational process. In the Çavdar study, it has been testing the completion of writing tasks to improve writing skills. The results of the study show that the

design of good writing assignments can improve critical thinking patterns (Çavdar & Doe, 2012).

Another problem of Arabic guided writing is about the activity of writing. It is still a lack of creativity. It means that learning activity is monotonous and the learning method is not appropriate with the students' needs. During this time, the lecturer only implemented contextual learning methods in the classroom without providing intensive guidance for each student. The application of these learning methods is less directed at developing student learning experiences with real life.

In addition, the teacher did not use multimedia during the learning process, such as the use of technology or conventional media. Moreover, the existence of technology has become one of the most important tools in supporting the implementation of learning methods. This is the challenge faced by teachers to integrate technology in writing learning. The results of research from Williams & Beam (2019) show that writing learning integrated with technology can increase knowledge and use of literacy. Students are able to design, produce and present a variety of texts. In addition, the use of technology also motivates students to complete writing assignments and improve social interaction. Especially in the 21st century has provided challenges in involving technology during the learning process. It has also been proven that media uses technology makes it easy in the learning process of writing (Mina, 2019). The use of technology for writing learning is one of the unique ways for students. Games are one of the different ways to teach Arabic writing. Lecturers can provide modifications to the game in developing a guided writing learning process. This means that the game provides the opportunity for lecturers to provide stages of writing learning in a continuous manner. The game increases writing learning because it has a diverse system with different genres. Not many writing teachers use games to teach how to write because there is no exposure to concepts in textbooks about teaching writing through games. The results of teaching effectiveness are the results of case studies on writing instructors who do creativity (Shultz Colby, 2017). Other studies have illustrated the advantages of using blogs in writing learning and resulting in students' ability to obtain vocabulary for writing (Fellner & Apple, 2006). The proven success that multimedia is a support during the learning process is one form of recommendation for teachers to continue to be creative in learning and teaching Arabic writing.

Some of the successes of multimedia research have shown the effectiveness of learning. From the results of a study Liu concluded that teaching multimedia is an effective medium that has a positive impact, namely: 1) an authentic learning environment is created, 2) easy skills combined with other language skills, 3) students have control over their learning process, and 4) the importance of media focus on content (Liu, 2012), similar research has been carried out by Nuttariya, Sumalee, Issara, & Charuni (2012), mobile applications for learning (Nuttariya et al., 2012), and a combination of collaborative approaches with interactive multimedia on the ability of thinking patterns (Khan & Masood, 2015). The review of the previous research indicates that there is still a lack of investigation in the implementation of multimedia and relationship with critical thinking. Thus, this research is aimed to explore the variation of multimedia using students' critical thinking. It means that the process of multimedia implementation needs higher critical thinking because the choosing of multimedia used a variety of website that was fun for the student.

From the preliminary data, researchers understand more deeply that the process of Arabic writing learning has a problem. Even though the use of learning methods has fulfilled the learning context needs so far. However, the results of observations are known that learning media are less varied are obstacles in the effectiveness of the use of learning methods. Students are also lacking the desire to improve their thinking during the writing process. Thus, solving problems that arise in guided learning activities in Arabic writing learning uses multimedia variations and grouping critical thinking patterns into guided learning activities in Arabic. Thus, the formulation of the problem in the study is "how is the influence of multimedia and critical thinking patterns on Arabic guided writing learning activities?"

B. Literature Review
1. Multimedia
Mayer stated that multimedia is a presentation material in the form of words or images (Mayer, 2001). In addition, in a book entitled The Cambridge Handbook of Multimedia Learning, Mayer defined multimedia learning as a tool for learning words (oral or printed text) combined with images in the form of illustrations, photos, maps, graphics, animations or videos (Zheng, 2009). According to Lieshout, et al., the notion of multimedia refers to the use of different types of media (electronics), such as text, sound and images. Development in the information and communication technology domain has enabled computers to present information in the form of multimedia, but now multimedia refers to media that facilitate access and search for global sources as well as forms of peer interaction, tutors and experts around the world.

Multimedia and ICT (Information and Communication Technologies) have become a different umbrella for a number of different uses of technology that can be used to collect, store, process and distribute information (Lieshout, Egyedi, & Bijker, 2018). Opinion differs from Sethi that multimedia is a combination of many texts, graphic arts, sounds, animations, and videos that are distributed to someone using a computer or other electronic media. Multimedia is the process of presenting different texts in electronic media in an interactive way. Multimedia can use different software, tools, facilities and media (Sethi, 2005).

2. Critical Thinking
Critical thinking ability is very useful and helps in writing and speaking activities. (1) react critically to the textbook, a periodical, or Web site, react critically to an essay or evidence presented in a textbook, magazine, or on a website. (2) the judge of the quality of a lecture or speech assesses the quality of lectures or speeches. (3) form an argument, the form of argument. (4) write essays based on a reading assignment, write essays based on reading assignments. (5) participate in class, participate in class (Browne & Keeley, 2007). Meanwhile, there are four areas of critical thinking skills: (1) effective reasoning, (2) using systems of thinking, (3) making judgments and decisions, and (4) solving problems.

Five educational philosophers have formulated about critical thinking (Stobaugh, 2013). According to Ennis's view that the concept of critical thinking depends on specific skills, such as observation, concluding, generalizing, reasoning, logical evaluation and the like. For him, thinking of myths is an assessment of true statements, but also defined in general as a reflection of logical thinking (Mason, 2008).

3. Writing

Writing is one aspect of productive language skills. It is said to be productive because, by writing, the author temporarily produces ideas in written form. For this reason, the principle of teaching writing is how to make students have sufficient competence in an effort to produce good writing skills in students (Hyland, 2003). According to Ken, writing is a way of sharing personal meanings and writing programs emphasize the power of individuals to build their own views on a topic (Hyland, 2003). According to Heaton, writing skills are complex learning and it is difficult to fulfil mastery which is not only oriented to grammatical or grammar and theory but also elements of concept and development (Heaton, 1989). Creating a writing plan not only involves setting goals, generating ideas, and evaluating them but also necessarily involves translation and transcription to produce a written product: a plan. Thus, creating a written plan involves a complete writing process that produces a text designed to aid the author of the plan in producing another text (Byrnes & Manchon, 2014). Writing skills is a parallel process with learning knowledge making skills. you learn to structure and essay while simultaneously learning to source and document the knowledge that you will need to write the essay (Henning, Gravett, & Rensburg, 2005). It describes the process of writing learning as a process parallel to learning other knowledge skills.

C. Research Methodology
1. Place of Research

This research was conducted in the 3rd semester of the 2018/2019 academic year students who obtained *Istima* courses in the Arabic Language Education study program at the State University of Jakarta.

2. Design and Research Method

This study includes a type of quantitative approach with experimental methods. This study uses a treatment pattern by level 2 x 2 design. This study examines hypotheses that show a causal relationship (Gay, Geoffrey, & Airasian, 2009), with the matrix seen as follows.

Table 1. *Pola Treatment by Level 2 x 2 Design*

Critical Thinking (B)	Multimedia (A)	
	Film and digital game (A_1)	Pictorial Story (A_2)
High (B_1)	A_1B_1	A_2B_1
Low (B_2)	A_1B_2	A_2B_2

3. Research Sample

The research sampling technique used multi-stage cluster random sampling. The steps in the sampling technique are 1) guided writing learning activities carried out in the Arabic Language Education Study Program at the State University Jakarta; 2) Determination of research classes in the third semester as many as 2 classes, namely 1 experimental class and 1 control class that receives multimedia use; 3) the control and experimental classes consist of groups of students who have high and low critical thinking patterns, as well as multimedia

applications through film and games with pictorial stories; 4) The score of determining high and low critical thinking refers to the percentage of 27% of the upper group and 27% of the lower group referring to the concept of the theory of Guilford (Maria Simanjuntak, Tiur Asi Siburian, 2017), each group obtained 22 students who think critically high and 22 students think critically low, both for the experimental and control groups. Therefore, each group consisted of 11 students for those who had a high critical thinking pattern and 1 low critical thinking student.

4. Research Validation Design

The research design validity activities consist of two parts, namely, 1) control of internal validity, among others, loss of experimentation, maturity, testing, instruments, the effect of regression statistics, location, and application or influence of interaction with selection. 2) Control of external validity including population, and ecology.

5. Research Instrument

The instrument of this study consisted of two parts, namely a test to get the results of guided writing learning in the form of essay tests as bound variables and critical thinking patterns as attribute variables using the multiple-choice test. The following is the instrument of the two variables;

Table 2. Writing Instrument Grid (Brown, 2007)

Components	Indicators	Score
Title	Topic	5
Introductory paragraph	Discussing writing	20
Body paragraph	Main idea and supporting sentences are clearly	30
	Harmony between main idea, data and supporting sentence	20
	Conclusion	
Concluding paragraph	The right spelling	
Spelling	Capitalize position	5
Capitalize writing	Punctuation choosing	5
Punctuation	The right structure of the sentence	5
Structure	Sentence structure consistent	5
Grammar		5

The content validity of the writing instrument uses expert review, while the reliability test uses test-retest with the product-moment correlation technique. The following is a grid for critical thinking instruments;

Table 3. Critical Thinking Instrument Grids (Dunn et al., 2008)

Component	Indicators	Score
Basic tasks	Identify word meanings in paragraphs.	B: 1 S : 0
Process Issues	Identify the main idea in the text Identifies text relationships Identify the message you want to convey	
Outcomes	Identify conclusions in the text according to the learning experience they have	

Reliability testing of critical thinking instruments using the Cronbach Alpha formula. The validity of the instrument was tested using the biserial correlation.

6. Data Analysis Techniques

The data analysis technique in this study is the 2 path variant analysis (ANOVA) technique at the significance level $\alpha = 0.05$ and $\alpha = 0.01$. If the analysis found an interaction, then proceed with the Tuckey Test. Before the data from the research hypothesis test are analyzed, the analysis requirements test first includes the normality test and the homogeneity test. The normality test was carried out using the Liliefors test, while the homogeneity test used the Bartlett test with a confidence level $\alpha = 0.05$.

D. Finding

The results of the writing test data that have been obtained during the experimental process are presented in the following descriptive statistical tables;

Table 4. Recapitulation of Test Score in Arabic Guided Writing Learning Process

	A_1	A_2	B_1	B_2	$A_1 B_1$	$A_1 B_2$	$A_2 B_1$	$A_2 B_2$
Average	78	68	82	64	86	70	79	59
Median	77	67	82	61	85	70	80	57
Mode	72	60	77	62	82	72	77	60
Minimum	63	53	77	53	82	63	77.0	53
Maximum	93	82	93	73	93	73	82.0	60
Variant	83.1	132.2	22.3	49.8	17	10.2	3.6	7.8
Standard Deviation	9.1	11.5	4.7	7	4.1	3.2	1.9	2.8

From table 4, data shows that learning activities guided by language in groups of students who learn using film and digital games have a higher average score that is 78 than the group of students who study with pictorial stories namely 68. This is also seen in the lowest score obtained students at 63 and the highest score at 93. While the group of students who studied with pictorial stories had the lowest score of 53 and the highest of 82. The difference was also seen in the group of students who had high and low critical thinking patterns. The average score of the group of high critical thinking students has the lowest score of 77 and the highest score of 93 with an average score of 82. In the group of students who have a low critical thinking, pattern has the lowest score of 53 and 73, with an average score of 64.

Arabic guided writing learning activities in the group of students who have high critical thinking patterns taught with films and digital games have an average score of 86, the lowest score is 82 and the highest score is 93. While in the group of students who have low thinking patterns and are taught with the same media has a lower average score of 70, the lowest score is 63 and the highest score is 73. In the group of students who study with pictorial stories and have high critical thinking patterns get an average score of 79, the lowest score 77 and the highest score 82. The acquisition of this score is lower than the group of students who have low critical thinking patterns who learn to use learning stories to get an average score of 59, the lowest score 53 and the highest score 60.

While the results of the two-way ANOVA test have shown the effectiveness and success of the established hypothesis. The results of the calculation of the two-path Anova are as follows;

Table 5. Recapitulation of 2-path Anova

Variant source	db	JK	RK = JK/db	Fh = RK/RDK	Ft
Between Line (b)	1	4027.41	4027.41	462.46	4.08
Between Column (k)	1	1020.81	1020.81	11.41	
Interaction (bxk)	1	83.29	83.29	7.93	
Within	40	351.46	8,79	-	-

From table 5, it is known that the calculation results of 2-paths ANOVA to answer the problem of Arabic guided writing learning activities. The first hypothesis is known that F-count/Fh (k) = 11.41 with Ft (0.05) (1.40) = 4.08. So, Fh(k)>Ft then Ho is rejected and H1 is accepted. Then there are significant differences between lines. So, there are differences in Arabic guided writing learning activities between groups of students who are taught using film and digital games with groups of students taught using pictorial stories. This can also be seen from the results of obtaining different average scores. The second hypothesis, in the ANOVA table obtained Fh (bxk) = 7.93, with Ft (0.05 (1.40) = 4.08. It turns out that Fh (k)> Ft, so Ho is rejected and H1 is accepted. Thus, it can be concluded that there is an interaction effect between multimedia diversity and critical thinking patterns towards Arabic guided writing learning activities. This can be seen in the interaction graph below.
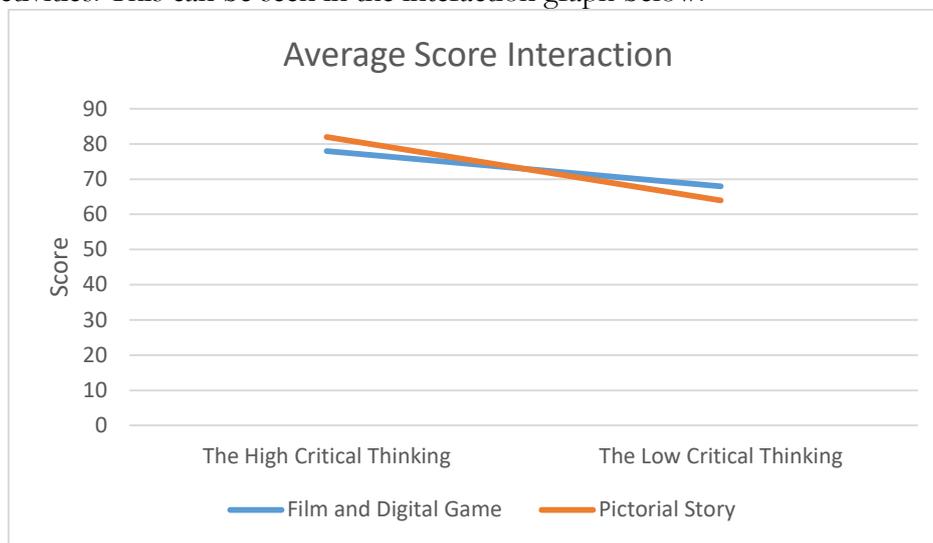

Figure. Interaction between multimedia and critical thinking pattern

From graph 1, it is known that there is a relationship between the use of multimedia, namely film and digital games with critical thinking patterns both high and low, then the data analysis activities are followed by the Tukey test to find out the third and fourth hypotheses. The third hypothesis, the results of testing the Arabic guided writing learning activities using multimedia films and digital games will be compared with the use of pictorial stories, which are aimed at groups of students with high critical thinking. The calculation results show that the Q-count is 9.91, with Q-table at a significant level of %, the amount is 2.87. It turns out that Q-count is greater than Q-table at a significant level of 5%. Thus, Ho is rejected and H1 is accepted so that it can be stated that there are differences in Arabic guided writing learning

activities using films and digital games or pictorial stories in groups of students who have high critical thinking.

The fourth hypothesis, the calculation results obtained by the Q-count is 14.1, with Q- a table at a significant level of 5%, the amount is 2.87. It turns out that Q-count is greater than Q-table at a significant level of 5%. Thus, Ho is rejected and H1 is accepted so that it can be stated that there are differences in Arabic guided writing learning activities using films and digital games or pictorial stories in groups of students who have low critical thinking.

E. Discussion

The acquisition of student activities in Arabic guided writing, it can be concluded that students who have high critical thinking have the Arabic writing ability learning higher. So, the use of films and digital games facilitates students to imagine and create when developing writing. This is because high critical thinking students have different ways of understanding a story or when developing a story. As it is known that the film presents a continuous message, so students who think broadly are able to imagine in developing stories. However, for students who have low critical thinking skills, it is difficult to interpret the stories that have been accepted to be developed into continuing stories and new stories. This is because low critical thinking students rarely carry out analysis activities on various problems. So, their learning experience is also less than optimal and less developed.

Students who are taught using pictorial stories in groups of students who have high critical thinking skills do not have difficulty in interpreting pictorial stories. Likewise, students with low critical thinking skills. However, in detail, the scores obtained by students show that pictorial stories are easier for students with high critical thinking. Although there are significant differences. Because overall the distribution of scores obtained by students who have a low critical thinking pattern is better when compared to the use of film or digital games. This is also because illustrated stories provide an easy-to-understand sequence for students who are weak in interpreting stories

In addition, during the treatment process, often the lecturers provide regular guidance in turn to each student group. Lecturers often explain the sequence in making the right and effective writing. The concept is taught simply through direct practice. So, this provides a clear visual for students. The lecturer guides students starting from the activity of determining the main ideas of the main thinking through the concept of mind mapping. The implementation of mind mapping makes it easy for each group of students to determine a big theme and describe the big theme into more specific parts to become the main idea. Furthermore, the learning activities are directed by the lecturer in the second stage through free writing. Students are asked to write stories based on mind mapping that has been made regardless of any use of grammar, cohesion or coherence between sentences and paragraphs. The lecturer guides students during writing to focus on the story they want to convey. In the next stage, the lecturer directs students to the editing process of the writing that has been made. This process is carried out for the use of grammar, vocabulary, eating, the level of cohesion and coherence. These stages provide convenience for students in learning.

From the stages of Arabic guided writing learning through regular multimedia diversity, it has provided opportunities for students to develop ideas, in making Arabic writing. This has been proven in research conducted by Qamariah (2017). In addition, activities like this make

students more active and help each other. This means that students who have a high critical thinking pattern can be a companion for students who have high critical thinking patterns. In addition, these learning activities also direct students to organize themselves during the teaching and learning process in the classroom (self-regulated learning).

Therefore, regulating has managed to learn, the accuracy of the use of learning media in the appropriate learning approach, self-regulation of students, recognizing the personality and way of thinking of students gives a big impact on changes in student abilities. As in the research that has been done that multimedia is understood as a variety of learning media that use technology has had an impact on Arabic guided writing learning activities through grouping critical thinking patterns. As Ahmad Zaki & Md Yunus (2015) have done, in their research, it was known that there was a change in the ability of students to write academically through a discussion process both in class and through a mobile application. Likewise, that has been found in this study. The results of this study have made a real contribution to the regulation of guided writing learning activities in an Arabic writing class. Each stage during the Arabic writing learning activity, the lecturer provides intensive guidance and utilizes students who have higher ability to become mentors for students who have weaker abilities. In addition, films, digital games or pictorial stories are used intensively at each stage of writing learning. This has become a real contribution to the development of the use of multimedia in the contextual learning approach that has been used so far. In addition, the learning process also becomes more fun and not boring, especially writing is a difficult learning activity for students. Because this activity involves the imagination and creativity of students to develop ideas. So critical thinking patterns have a very important role during the process of Arabic writing learning.

From the findings of the data found several differences in this study with previous research. The multimedia implementation used is focused on the needs of students in the learning process of guided writing in Arabic. In the present era, students have smartphones that can be used for various learning activities in the classroom or outside the classroom. Mobile learning has the advantage of being able to be used within and between contexts and can also be seamlessly integrated into broader learning experiences that include other forms of learning (Lee et al., 2016).

Some of the activities used in the use of smartphones are watching movies and playing games. This is a novelty in this study because previous research only referred to multimedia diversity such as Salleh, Tasir, & Shukor (2012) focused on the implementation of web-based simulation to enhance students' critical thinking. The students' opinion showed that the learning contents, the media on the network and the design were suitable for supporting knowledge construction and the model can enhance students' cognitive skills and critical thinking (Petchtone & Sumalee, 2014). Whereas in the research that has been done is focused on games that are usually done by students as well as various kinds of short films obtained from Youtube and forms of illustrated stories. This means that students are directed to use images that only have a little description into a new story. Thus, it helps students to build critical thinking. Many studies have proven various multimedia characters on student achievement in learning. In research Kong (2015) found that the teachers and students valued the pedagogical way of providing guidance for students' group sharing for fostering critical thinking skills development. The same research stated that students were instructed to write and edit their essays in the wiki with the assistance of e-moderators with either social roles (SROT) or pedagogical roles

(PROT). The findings indicated that the SROT group performed significantly lower in essay performance than the PROT group (Umar & Rathakrishnan, 2012).

F. Conclusion

The results of the data analysis concluded that multimedia consisted of films, digital games, and pictorial stories had a large influence on Arabic guided writing learning activities both for groups of students who had high or low critical thinking patterns. This can be seen also in the acquisition of different average scores for each treatment and different critical thinking groups. The results of the two-way ANOVA analysis have also concluded that there is a clear interaction between multimedia and critical thinking patterns in Arabic guided writing learning activities. In addition, this study has utilized peer learning activities in developing a learning atmosphere so that the process of regular learning tutoring occurs. This is due to the limited learning time. If the lecturer conducts intensive guidance during the writing process, both individuals and groups do not meet the time needs.

This research has real implications. Theoretically, the research provides valuable input for Arabic lecturers who teach writing courses to always innovate and integrate existing theoretical concepts in improving the quality of teaching and learning in the classroom, both from the use of learning approaches and learning media. In addition, lecturers also understand how to use approaches and learning media that are appropriate for students who have different critical thinking methods. While practically, this research has provided input to lecturers and consortiums of study programs to always innovate or make changes in the use of the content, learning approaches, or learning media as outlined in the syllabus. So that, the other lecturers can create the Arabic writing learning process.

BIBLIOGRAPHY

Ahmad Zaki, A., & Md Yunus, M. (2015). Potential of Mobile Learning in Teaching of ESL Academic Writing. *English Language Teaching*, *8*(6), p11. https://doi.org/10.5539/elt.v8n6p11

Brown, D. (2007). *Teaching by Principles, An Interactive Approach to Language Pedagogy* (Third). New York: Pearson Education.

Browne, M. N., & Keeley, S. M. (2007). *Asking the Right Question, A Guide to Critical Thinking*. New Jersey: Pearson.

Byrnes, H., & Manchon, R. M. (2014). *Task-Based Language Learning Insight from and for L2 Writing*. Amsterdam: John Benjamin Publishing Company.

Çavdar, G., & Doe, S. (2012). Learning through Writing: Teaching Critical Thinking Skills in Writing Assignments. *PS: Political Science and Politics*. American Political Science Association. https://doi.org/10.2307/41433696

Dunn, D. S., Halonen, J. S., & Smith, R. A. (2008). *Teaching Critical Thinking in Psychology A Handbook of best Practices*. Singapore: Wiley-Blackwell.

Fellner, T., & Apple, M. (2006). Developing writing fluency and lexical complexity with blogs. *The JALT CALL Journal*, *2*(1), 15–26.

Gay, L. ., Geoffrey, E. M., & Airasian, P. (2009). *Educational Research Competencies for Analysis and*

Applications Ninth edition. United State of America: Pearson.

Heaton, J. B. (1989). *Writing English Language Test New Edition*. New York: Longman.

Henning, E., Gravett, S., & Rensburg, W. van. (2005). *Finding your way in Academic Writing Second Edition*. Pretoria: Van Schaik Publishers.

Hyland, K. (2003). *Second Language Writing*. Cambridge: Cambridge University Press.

Khan, F. M. A., & Masood, M. (2015). The Effectiveness of an Interactive Multimedia Courseware with Cooperative Mastery Approach in Enhancing Higher Order Thinking Skills in Learning Cellular Respiration. *Procedia - Social and Behavioral Sciences*, *176*, 977–984. https://doi.org/10.1016/J.SBSPRO.2015.01.567

Kong, S. C. (2015). An experience of a three-year study on the development of critical thinking skills in flipped secondary classrooms with pedagogical and technological support. *Computers & Education*, *89*, 16–31. https://doi.org/10.1016/J.COMPEDU.2015.08.017

Lee, H., Parsons, D., Kwon, G., Kim, J., Petrova, K., Jeong, E., & Ryu, H. (2016). Cooperation begins: Encouraging critical thinking skills through cooperative reciprocity using a mobile learning game. *Computers & Education*, *97*, 97–115. https://doi.org/10.1016/J.COMPEDU.2016.03.006

Lieshout, M. Van, Egyedi, T. M., & Bijker, W. E. (2018). *Social Learning Technologies The Introduction of Multimedia in Education*. New York: Routledge.

Linse, C. T. (2005). *Practical English Language Teaching Young Learners*. McGraw Hill.

Liu, A. (2012). An Exploratory Study on Application of Multimedia Technology in College English Teaching and Learning. *Physics Procedia*, *24*, 2334–2338. https://doi.org/10.1016/J.PHPRO.2012.02.346

Maria Simanjuntak, Tiur Asi Siburian, D. S. (2017). An Analysis Of Character Education Values In Non-Fiction Novel "Habibie Dan Ainun" Created By Bacharuddin Jusuf Habibie And Its Advantages As Literature Reading For Senior High School In Medan, Indonesia - EA Journals. Retrieved May 21, 2018, from http://www.eajournals.org/journals/british-journal-of-education-bje/vol-5-issue11-october-2017/analysis-character-education-values-non-fiction-novel-habibie-dan-ainun-created-bacharuddin-jusuf-habibie-advantages-literature-reading-senior-high-scho/

Mason, M. (2008). *Critical Thinking and Learning*. Singapore: Blackwell Publishing.

Mayer, R. E. (2001). *Multimedia Learning*. Cambridge: Cambridge University Press.

Mina, L. W. (2019). Analyzing and Theorizing Writing Teachers' Approaches to Using New Media Technologies. *Computers and Composition*, *52*, 1–16. https://doi.org/10.1016/J.COMPCOM.2019.01.002

Murray, N. (2012). *Writing Essays in English Language and Linguistics: Principles, Tips, and Strategies for Undergraduates*. Cambridge: Cambridge University Press.

Nuttariya, K.-O., Sumalee, C., Issara, K., & Charuni, S. (2012). Designing Framework of Multimedia Learning Environment to Enhance Problem Solving Transfer. *Procedia - Social and Behavioral Sciences*, *46*, 3421–3425. https://doi.org/10.1016/J.SBSPRO.2012.06.077

Petchtone, P., & Sumalee, C. (2014). The Validation of Web-based Learning Environment Model to Enhance Cognitive Skills and Critical Thinking for Undergraduate Students. *Procedia - Social and Behavioral Sciences*, *116*, 669–673. https://doi.org/10.1016/J.SBSPRO.2014.01.277

Qamariah, S. (2017). Pengaruh Menulis Terbimbing Terhadap Keterampilan Menulis Karangan Deskripsi Siswa di Kelas IV SD. *Jurnal Pendidikan Dan Pembelajaran*, *6*(7). Retrieved from

http://jurnal.untan.ac.id/index.php/jpdpb/article/view/20879

Salleh, S. M., Tasir, Z., & Shukor, N. A. (2012). Web-Based Simulation Learning Framework to Enhance Students' Critical Thinking Skills. *Procedia - Social and Behavioral Sciences*, *64*, 372–381. https://doi.org/10.1016/J.SBSPRO.2012.11.044

Sethi, A. (2005). *Multimedia Education Theory and Practice*. New Delhi: ISPA.

Shultz Colby, R. (2017). Game-based Pedagogy in the Writing Classroom. *Computers and Composition*, *43*, 55–72. https://doi.org/10.1016/J.COMPCOM.2016.11.002

Stobaugh, R. (2013). *Assesing Critical Thinking in Middle and High School meeting the Common Core*. New York: Routledge.

Umar, I. N., & Rathakrishnan, M. (2012). The Effects of Online Teachers' Social Role and Learning Style on Students' Essay Writing Performance and Critical Thinking in a Wiki Environment. *Procedia - Social and Behavioral Sciences*, *46*, 5730–5735. https://doi.org/10.1016/J.SBSPRO.2012.06.506

Williams, C., & Beam, S. (2019). Technology and writing: Review of research. *Computers & Education*, *128*, 227–242. https://doi.org/10.1016/J.COMPEDU.2018.09.024

Zheng, R. Z. (2009). *Cognitive Effects of Multimedia Learning*. Hershey: Information Science Reference.