Development Of Animation-Based Educational Games For Learning Media In Kindergarten

Serli Marlina[1], Nofri Hendri[2,*], [2]Septriyan Anugrah [3]

[1] Early Childhood Education, Fakultas Ilmu Pendidikan, Universitas Negeri Padang, Indonesia
[2&3] Education Technolgy, Fakultas Ilmu Pendidikan, Universitas Negeri Padang, Indonesia
[3] Fakultas Ilmu Pendidikan, Universitas Negeri Padang, Indonesia
*Corresponding Author: serlimarlina@fip.unp.ac.id

Abstract Amid the rapid development of technology, children's desire to play games is getting higher. Children are more interested in using technology such as smartphones to play games, but these games do not help stimulate children's abilities and make them more antisocial. In this study, researchers designed animation-based educational games as a learning medium to help stimulate children's development, because this study aims to test the effectiveness of educational games as a learning medium in Kindergarten. This type of research is quantitative with an experimental method in the form of quashi experimental. The sampling technique used in this research is cluster sampling technique. The data analysis technique used in this study was to compare the two average values, so it was carried out with the t test (t-test). The results of this study prove that animation-based educational games are effectively used as learning media.

Keywords Animation-Based, Educational Games, Learning Media, Kindergarten

1. Introduction

Education in the era of revolution 4.0 is a program designed to create smart and creative education. The aim of education is to increase and equalize education, by expanding access and utilizing technology. Education 4.0 produces 4 aspects that are very much needed in this millennial era, namely collaborative, communicative, critical thinking, creative thinking. Early childhood education must also be improved, in accordance with the demands of the times. Especially in the use of instructional media, because media is a very important part of achieving learning objectives.

Educational game based on education is a learning media that uses technology in accordance with the demands of the industrial revolution 4.0. This game is a medium used to stimulate children's development. Educational games are very interesting to develop. The most advantage of instructive recreations is the visualization of genuine issues. The Massachussets Organized of Innovation (MIT) has demonstrated that diversions are exceptionally valuable for moving forward the rationale and understanding of players towards a issue through a diversion extend called Scratch. Clark and Choi (2015), Clark (2016) found that instructive recreations can back the instructive handle. Instructive recreations are prevalent in a few angles when compared to ordinary learning strategies. Donald (2016) found a basic advantage is the nearness of development that can move forward memory so that children can store subject matter for a longer time compared to standard direction procedures.

To produce a quality generation, education must be carried out from an early age, in this case starting from the Kindergarten level, in kindergarten children are stimulated by playing media. With this background, research will be carried out to create animation-based educational games that contain learning to recognize symbols, counting, matching pictures and arranging random words. This game can be used as an alternative medium for teaching and learning in kindergarten teachers in changing conventional learning methods to learning game simulations, so as to develop children's creativity, because in this animation-based educational game it is very attractive to children because it has elements of challenge, accuracy, reasoning and ethics..

The reality in the Kindergarten School in the city of Padang is that there has been no development of an animation-based educational game as a learning medium in kindergartens. Teachers tend to use conventional media so that it makes learning conditions less attractive to children, boring and children often don't focus on learning. The teacher should have the ability to design learning media so that stimulation of children's development can develop properly. Amid the increasingly rapid technological developments, the desire of children to play games is getting higher. Children are more interested in using technology such as smartphones to play games, but these games do not

help stimulate children's abilities and make children more likely to be anti-social. Based on this phenomenon, researchers are interested in developing animation-based educational games as learning media in kindergartens.

This study aims to test the effectiveness of educational games as a learning medium in kindergarten. This research is very important, because this game can help teachers optimize the learning process in stimulating children's growth and development in the Industrial Revolution Era 4.0.

Educational Games For Kindergarten Children

Games that include curriculum content or other educational material are called educational games (Michel, 2016). Educational games are games that cultivate students' problem solving skills (Acquah & Katz, 2020). Educational games are used today in many fields such as science, medicine, mathematics and language teaching to gain problem solving and strategic thinking skills (Persico et al., 2019).

Games are often seen as having a negative influence on children. However, this is not the case, games have positive functions and benefits for children, among others, children get to know computer technology, lessons follow directions and rules, practice solving problems and logic, train motor nerves and spatial skills, establish communication between children and parents when playing together , while providing entertainment. In fact, for certain patients, playing games can be used as a healing therapy (Henry: 2011). Education is a process carried out by a person to find his identity, which is done by observing and learning which then gives birth to actions and behavior.

Educational games are very interesting to develop. There are several advantages of educational games compared to conventional educational methods. One of the main advantages of educational games is the visualization of real problems. The Massachussets Institute of Technology (MIT) has proven that games are very useful for improving the logic and understanding of players on a problem through a game project called Scratch. Clark and Choi (2015), Clark (2016) found that educational games can support the educational process. Educational games have advantages in several aspects when compared to conventional learning methods. Donald (2016) found a significant advantage is the existence of animation that can improve memory so that children can store subject matter longer than conventional teaching methods. This simulation-based educational game is designed to simulate existing problems in order to obtain the essence or knowledge that can be used to solve these problems. The following general usage examples can be used for educational game use; kids can learn alphabet and read through educational games. The writing game that students play to learn to write is one of the most sold games in the Indonesian market. (Sabirli & Coklar. 2020).

The advantage of using Games in Education is that the use of games in education plays an important role in engaging students with a hands-on approach. Helps students remember what they have learned when encouraged to participate actively. Acquire visual and computer literacy skills. apply this knowledge in real-world situations because they are encouraged to think outside the box. Helping to attract students' attention as this is considered a fun way of learning. teaches other skills such as critical thinking, problem solving, sportsmanship, interaction and collaboration with others (Zirawaga & Olusanya & Maduku. 2017)

Early childhood education in formal education is in the form of Kindergarten (TK), Raudatul Athfal (RA), or other equivalent forms. Article 28 paragraph 1 explains that "Early Childhood Education is held before basic education". The Kindergarten Program is education provided for children aged 4 - ≤6 years. The education obtained is expected to be able to guide students to meet expectations, including in terms of maintaining the harmony and integrity of the Unitary State of the Republic of Indonesia. Kindergarten education is an important foundation to lay the foundation and internalize the values of social life, religion, morals, culture and others to children. Therefore, educational games play a role in helping to internalize the values of social life and stimulate children's development.

There are various relevant studies regarding the description of the characteristics of early childhood education, especially kindergarten children, including Bredecam and Copple, Brener, and Kellough (in Masitoh et al, 2005: 1.12 - 1.13) as follows: (1) Unique children. (2) Children express their behavior relatively spontaneously. (3) Children are active and energetic. (4) The child is egocentric. (5) Children are curious and enthusiastic about many things. (6) Children are explorative and adventurous. (7) Children are generally rich in fantasy. (8) Children still get frustrated easily. (9) Children still lack consideration in their actions. (10) Children have short attention spans. (11) Childhood is the most potential learning period. (12) Children are more attracted to friends. From these unique characteristics of children, the educational games used certainly pay attention to these characteristics so that children's development remains at their age and can meet their playing needs.

Animation as a Learning Media for Children for Kindergarten

According to Daryanto (2011: 5) learning media are anything that can be used to convey messages (learning materials) so that they can stimulate students' attention, interests, thoughts, and feelings in learning activities to achieve learning objectives. Pringgawidagda (2002: 145) states that learning media is a tool used as a channel to convey learning material to students. In the learning process, this information can be in the form of a number of skills or knowledge that students need to master. Learning media can increase the effectiveness of communication and interaction between teachers and students. Hamaling in Asyad (2011: 15) suggests that the use of learning media in the teaching and learning process can generate new desires and interests, generate motivation and stimulation of learning activities, and even have a psychological impact on students. When the learning process takes place the use of media will motivate

children to learn and provide learning stimulation so that children are interested in taking fun lessons.

One of the media that is interesting and can be used by teachers in the learning process is the instructional animation media. According to Suheri in Adyani, et al (2015), animation is a technique of displaying sequential images in such a way that an illustration of movement appears in the image displayed. Furoidah (2009) in Adyani, et al (2015) explains that animation learning media has the ability to describe something that is complex or complex and is difficult to explain using only pictures or words. Animation learning media can also be used to explain material that is not visible to the eye. Based on the user's freedom in controlling the animation media used, animation media can be divided into two types, namely non-interactive animation media and interactive animation media. Non-interactive animation media is one type of animation media where the user acts passively and sees scene by scene only sequentially, while in interactive animation media the user can actively select the desired scene. Users can even play with the simulations and games provided. Educational games are an attractive choice of learning media because of the tendency of children who really like games so that they can be utilized by integrating games in interactive animated media to produce interesting learning media and can increase children's learning motivation. Games play an important role in building students' self-confidence. As an educational tool, games are constructive because they bring to life teaching methods that are usually considered boring and boring. (Boyle, 2011).

Therefore, in designing educational games digital technology is needed, and there are things that need to be considered in designing media, namely identifying four dimensions of teacher attitudes towards the use of digital technology, which consist of: 1. Teacher's previous experience in using technology, 2. Availability of technology digital work in today's workplace, 3. Beliefs about the effects of technology on children's learning and development, and 4. Professional development activities related to technology skills. Kelly (2014) in Gjelaj (2020).

2. Research Methods

This type of research is quantitative with experimental methods (quasi-experimental). This study wanted to determine the effectiveness of the tested variables by showing them empirically in a controlled setting. (Neuman. 2014). The experimental method is a research method used to find the effect of certain treatments on others under controlled conditions (Sugiyono, 2011). . The form of experimental research used was quasi-experimental.

Research sample. This sample was selected after obtaining permission from the principal. This study involved all children studying at Asyofa Kindergarten, Padang. With a total of 24 children. Because the number of children is only 24 children with the same age range, namely 5 to 6 years, all children were sampled in this study consisting of classes B1 and B2. Each there are 12 children.

This study uses an instrument to measure the effectiveness of the game as a learning medium. Retrieval of data through direct observations made while the learning process is in progress using educational games.

3. Research Result

The data described in this study consisted of two groups, namely data about the results of educational games using animation-based educational games called the experimental group and data about the results using educational games called the control group.

Data Description of Educational Game Pretest Results based on animation to stimulate child development

The data described in this study consisted of two groups, namely data about the results of the animation-based educational game pretest on the stimulation of child development before being given treatment to the experimental group and the control group.

Data on the results of the Educational Game Pretest based on animation on stimulation of child development in the Experiment Class

The data obtained from class B1. The number of children is as many as 12 people. The teacher introduces animation-based educational games to children. Children are asked to try animation-based educational games. In this activity the children are very enthusiastic about playing it and some are just paying attention because they don't understand and have not been given treatment. After obtaining the results of child development, it appears that the highest score for child development achieved by children is 68 and the lowest score is 56.

For more details, it can be seen in graphic form in graph 1 below:
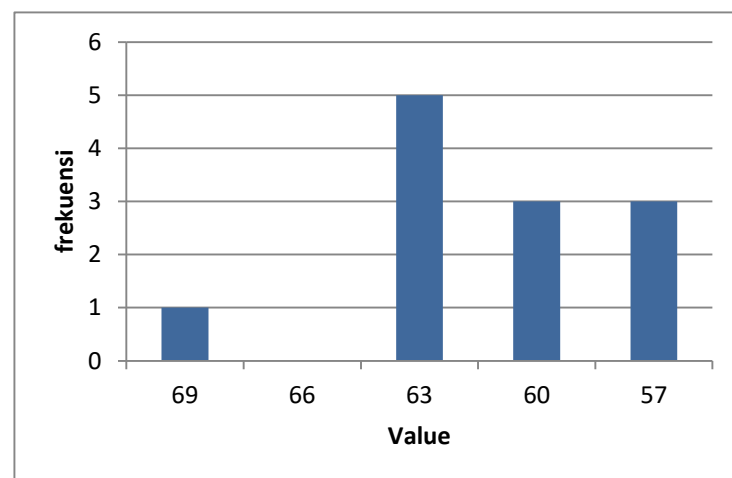
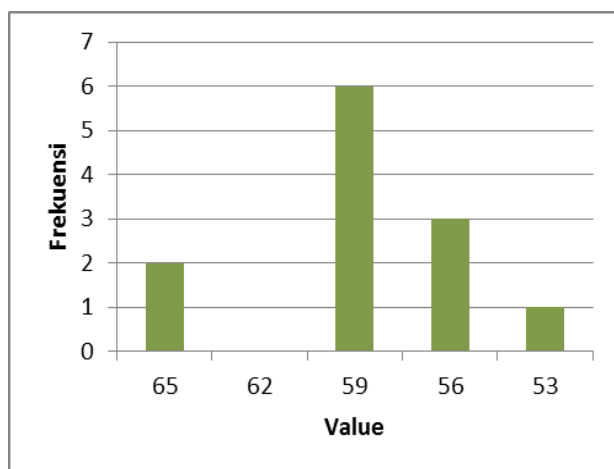Graph 1. Data on Pretest Value of Experiment Class

In the graph above, it can be explained that the value of the interval class from the range of values 56 - 58 with the midpoint of 57 has 3 children, the interval class value from the range of values 59-61 with the midpoint of 60 has 3

children, the value of the interval class from the range of values 62 - 64 with the midpoint of 65, the number of children is 5, the value of the interval class from the range of values 65 to 67 with the midpoint of 66 has the number of children as many as 0 people, and the value of the interval class from the range of values 68 - 70 with the middle point 69 have 1 child.

Based on the explanation above, it can be concluded that the interval that has the highest absolute frequency at the pretest stage lies in the range 62 - 64 with the midpoint 66, because it has more children than the other range of values, namely 5 people.

Data on the results of the Educational Game Pretest based on animation on stimulation of child development in the Control Class.

The data obtained from class B1 with 12 children. Teachers introduce modern games to children. Children are asked to try educational games. After obtaining the results, the highest score achieved by the child was 64 and the lowest score was 52.

Graph 2. Data of Control Pretest Value

Based on the graph above, it can be explained that the value of the interval class from the value range 52 - 54 with the midpoint at 53 has the number of children as many as 1 person, the interval class value from the range of values 55 - 57 with the midpoint 56 has the number of children as many as 3 people Interval class from a range of values 58 - 60 with a midpoint of 59 has a number of children as many as 6 people, the value of the interval class from the range of values 61 - 63 with the midpoint of 62 has the number of children as many as 0 people, and the value of the interval class from the range of values 64 - 66 with the midpoint 65 has 2 children.

Based on the explanation above, it can be concluded that the interval that has the highest absolute frequency in the pretest stage lies in the range of values 61 - 63 with the midpoint of 62, because it has more children than the other value ranges, which is 6 people.

To see the comparison of the pretest results (initial ability)

before being given treatment in the experimental class and the control class, it can be seen in the following table:

Table 1. Recapitulation of Pretest Results in the Experiment Class and Control Class

Variable	Class	
	Experiment	Control
Score	12	12
The highest score	68	64
Lowest score	56	52
Total value	736	708
Average	61,3	59
SD	3,7	3,3
SD^2	14,2	11

Based on the table above, the experimental class with 12 children received the highest score of 68 and the lowest score of 56. From the scores of the experimental class children, the overall score was 736, with an average value of 61.3, the standard deviation of 3.7 and the variance value is 14.2.

Meanwhile, the control class with 12 children received the highest score of 64 and the lowest score of 52. From the value of this control class, the total value was 708, with an average value of 59, a standard deviation of 3.3 and a variance value of 11.

Based on the description in table 10, it can be seen that the results of children's social ability in the experimental group are higher than the control group. For more details, it can be seen in the following graph 3.

Data Description of Post-test Results of Animated Educational Games on stimulation of child development

The data described below consists of two group data, namely about the final results of animation-based educational games on stimulation of child development after being given treatment to the experimental group and the control group.
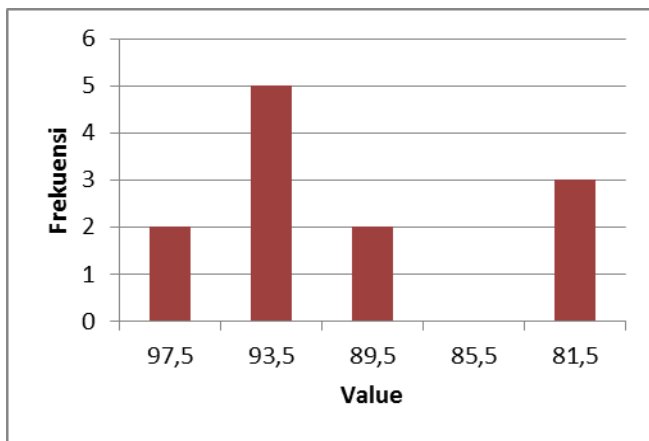
Post-test result data (final result) animation-based educational games on stimulation of children's development in the experimental class

The data obtained from class B1 using animation-based educational games were 12 people. In this activity the children were very enthusiastic about playing it. After obtaining the results of social abilities, it can be seen that the highest score achieved by children is 96 and the lowest score is 80.
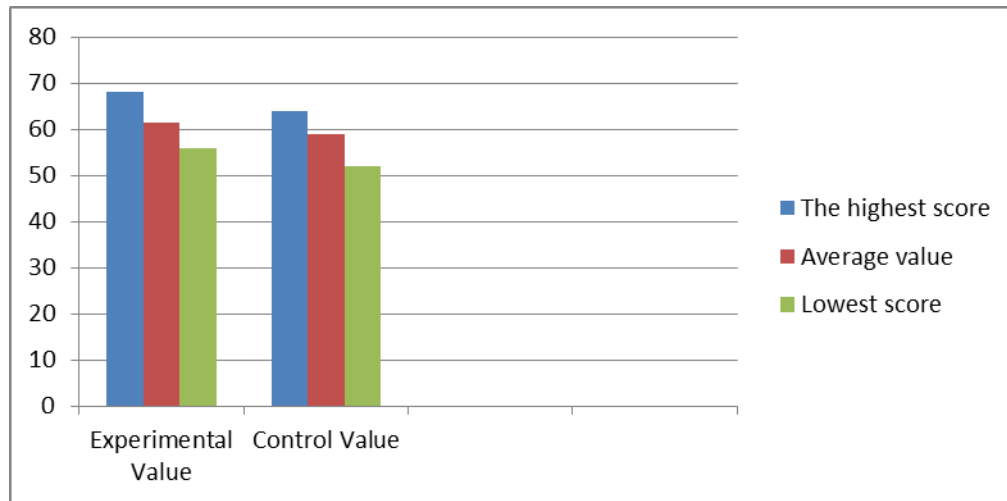
Graph 3. Data on Comparison of Children's Pretest Results in the Experiment Class and Control Class

For more details, it can be seen in graphic form in graph 4 below.
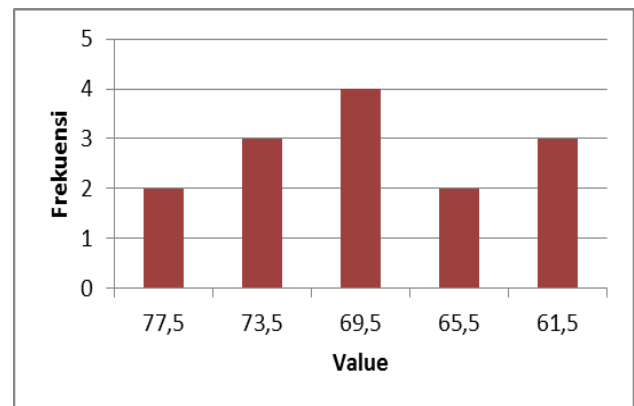

Graph 4. Post-test Value Data for the Experiment Class

Post-test result data (final result) animation-based educational games on stimulation of child development in the control class

The results obtained can be seen in graphical form in graph 5 below:

Graph 5. Control Class Value Data

In the graph above, it can be explained that the value of the interval class from the value range 80 - 83 with the middle point of 81.5 has the number of children as many as 3 people, the value of the interval class from the value range 84 - 87 with the middle point is 85.5 has the number of children as many as 0 people the value of the interval class from the range of values 88 - 91 with a midpoint of 89.5 has the number of children as many as 2 people, the value of the interval class from the range of values 92 - 95 with the midpoint of 93.5 has the number of children as many as 5 people, the value of the interval class from the range 96 - 99 with a midpoint of 97.5 have 2 children.

Based on the explanation above, it can be concluded that the interval that has the highest absolute frequency at the post-test stage lies in the range of values 92 - 95 with the midpoint of 93.5, because it has more children than the other value ranges, which is 5 people.

In the graph above, it can be explained that the value of the interval class from the range of values 60-63 with the midpoint at the value of 61.5 has the number of children as many as 1 person, the value of the interval class from the range of values is 64-67 with the midpoint of 65.5 has the number of children as many as 2 people, the value of the interval class from the range of values 68-71 with the midpoint of 69.5 has the number of children as many as 4 people, the value of the interval class from the range of values 72-75 with the middle point of 73.5 has the number of children as many as 3 people, and the value of the interval class from the range of values 76-79 with the midpoint 77.5 have 2 children.

So, it can be concluded that the interval that has the highest absolute frequency in the post-test stage lies in the range of values 68 - 71 with a midpoint of 69.5, because it

has more children than the other value ranges, which is 4 people.

To see the comparison of the value of the post-test results (final results) after being given treatment in the experimental class and the control class can be seen in the following table:
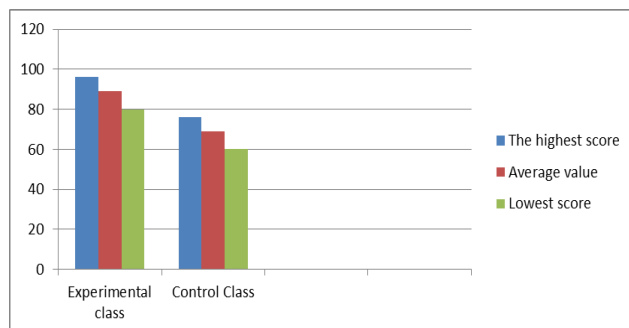
Table 13.Recapitulation of post-test results in the experimental class and control class

Variable	Class	
	Experiment	Control
Score	12	12
The highest score	96	76
Lowest score	80	60
Total value	1068	828
Average	89	69
SD	5,68	4,64
SD^2	32,3	21,6

Based on the table above, the experimental class with 12 children received the highest score of 96 and the lowest score of 80.From the scores of the experimental class children, the overall score was 1068, with an average value of 89, a standard deviation of 5.68 and a value the variance is 32.3 (appendix 15).

Meanwhile, the control class with 12 children received the highest score of 76 and the lowest score of 60.From the value of this control class, the total value was 828, with an average value of 69, a standard deviation of 4.64 and a variance value of 21.6.

Based on the descriptions in table 13, it can be seen that the results of children's creativity development in the experimental class are higher than the control class. For more details, it can be seen in graph 6 below:

Graph 6. Data Comparison of Post-test Results in the Experiment Class and Control Class

4. Discussion

Animated educational games based on stimulation of child development given to the experimental class and the control

class at the pretest stage, the mean score for the experimental class is 61.3 and the average number for the control class is 59. Based on the results of data analysis that has been done, the tcount is equal to 1.520 compared to α 0.05 (ttable, = 2.073) with degrees of freedom dk (N1-1) + (N2-1) = 22. Thus tcount <ttable, namely 1.520 <2.073, it can be said that the hypothesis H1 is rejected or H0 is accepted. So, it can be concluded that there is no significant difference between the results of stimulation of children's development in the experimental class using animation-based educational games and the control class using educational games.

Based on the results of the numeracy ability given to the experimental class and the control class at the post-test stage, the experimental class average was 89 and the control class average was 69. Based on the results of data analysis, tcount was 9.037 compared to α 0.05 (ttable, = 2.073) with degrees of freedom dk (N1-1) + (N2-1) = 22. Thus tcount> ttable, which is 9.037> 2.073, it can be said that the hypothesis H1 is accepted or H0 is rejected. So, it can be concluded that the stimulation of children's development in the experimental class that uses animation-based educational games is more effective than the control class that uses educational games. This is because animation-based educational games have advantages over educational games.

Technology-based games are widely used (Martín-SanJosé, Juan, Gil-Gómez & Rando, 2014). O'Neil, Wainess and Baker (2005) describe the potential for learning through computer games as "striking". Research results have revealed that children use computers every day to play games (Mumtaz, 2001), and children learn with games that motivate (Virvou, Katsionis & Manos, 2005) and support child-centered learning (Hoda, Henderson. , Lee, Beh & Greenwood, 2014), that playing computer games improves emotional abilities in children (Lisi & Wolford, 2002), that playing games improves their thinking skills (Furió, GonzálezGancedo, Juan, Seguí & Costa, 2013), and that games can stimulate children's attention and memory and support language development (Garaigordobil, 2005). Other references indicate that play has a positive influence on learning.

The results of other studies conclude that serious play is very effective in the learning process. This is due to the fact that they attract children's interest in learning in a simple and dynamic way in the learning process (Noemí and Maximo, 2014). Serious games can provide game literacy and provide solutions in the stimulation process in any thematic area, because serious games are suitable for learning the content to be taught can be developed. Games as technology and video game platforms have purposes other than entertainment and can be used as learning media (Michael & Chen, 2006; Vorderer & Ritterfeld, 2009). The associated virtual experiences appear to be aimed at re-engaging learners.

5. Conclusion

Based on the above studies, it can be concluded that

Animation-Based Educational Game Development is effective for Learning Media in Kindergartens because educational games in accordance with child-centered 21st century learning can motivate children's interest in learning and can stimulate children's development well.

Acknowledgements

REFERENCES

[1] Acquah, E. O., & Katz, H. T. Digital game-based L2 learning outcomes for primary through high-school students: A systematic literature review. Computers & Education, 143. 2020.

[2] Adyani, dkk. Pengembangan Perangkat Pembelajaran Berbantuan Media Animasi Interaktif Berbasis Game Edukasi Untuk Meningkatkan Motivasi Dan Hasil Belajar Siswa. Pendidikan Sains Pascasarjana Universitas Negeri Surabaya Vol. 4, No. 2, Mei 2015 ISSN : 2089-1776.

[3] Boyle, S. Teaching Toolkit: An Introduction to Games based learning. UCD Dublin, Ireland: UCD Teaching and Learning/ Resources. 2011. Retrieved from https://www.ucd.ie/t4cms/UCDTLT0044.pdf.pdf

[4] Clark, R. E. Evaluating the Learning and Motivation Effects of Serious Games. Rosier school of Education Center for Creative Technologies Available online at: http://projects.ict.usc.edu/itgs/talks/Clark_Serious%20Games%20Evaluation.ppt. 2016

[5] Clark, R. E. and Choi, S. (2015). Five design principles for experiments on the effects of animated pedagogical agents. Journal of Educational Computing Research.

[6] Daryanto. Media Pembelajaran. Bandung: PT. Sarana Tutorial Nurani Sejahtera. 2011.

[7] Donald Clark. Game and e-learning. Sunderland: Caspian Learning. www.caspianlearning.co.uk. 2006

[8] Furió, D., González-Gancedo, S., Juan, M.-C., Seguí, I., & Costa, M. The effects of the size and weight of a mobile device on an educational game. Computers & Education, 64 (Supplement C), 24–41. 2013. https://doi.org/10.1016/j.compedu.2012.12.015

[9] Garaigordobil, M. Importancia del juego infantil en el desarrollo humano. Aula de infantil, 25, 37–43. 2005

[10] Gjelaj, Majlinda. Digital Technologies in Early Childhood: Attitudes and Practices of Parents and Teachers in Kosovo. International Journal of Instruction January 2020 Vol.13, No.1 e-ISSN: 1308-1470. www.e-iji.net.

[11] Henry, Samuel. Cerdas Dengan Game, Jakarta: Gramedia Pustaka Utama. 2011.

[12] Hoda, R., Henderson, A., Lee, S., Beh, B., & Greenwood, J. Aligning technological and pedagogical considerations: Harnessing touch-technology to enhance opportunities for collaborative gameplay and reciprocal teaching in NZ early education. International Journal of Child-Computer Interaction, 2(1), 48– 59. 2014 https://doi.org/10.1016/j.ijcci.2014.06.001

[13] Lisi, R. D., & Wolford, J. L. Improving Children's Mental Rotation Accuracy With Computer Game Playing. The Journal of Genetic Psychology, 163(3), 272–282. 2002. https://doi.org/10.1080/00221320209598683

[14] Masitoh dkk. Strategi Pembelajaran TK. Jakarta: 2005.

[15] Martín-SanJosé, J.-F., Juan, M.-C., Gil-Gómez, J.-A., & Rando, N. Flexible learning itinerary vs. linear learning itinerary. Science of Computer Programming, 88(Supplement C), 3–21. 2014 https://doi.org/10.1016/j.scico.2013.12.009

[16] Michel, H.. Characterizing serious games implementation's strategies: Is higher education the new playground of serious games? Institute of Electrical and Electronics Engineers (IEEE). 2016

[17] Michael, D; Chen, S. Serious games: games that educate,train, and inform. Tampa, FL: Thomson. 2006

[18] Mumtaz, S. Children's enjoyment and perception of computer use in the home and the school. Computers & Education, 36(4), 347–362. 2001. https://doi.org/10.1016/S0360-1315(01)00023-9

[19] Neuman, W. Lawrence. Basics of Social Research: Qualitative & Quantitative Approaches. Pearson Education Limited. 2014

[20] Noemí, Peña-Miguel & Maximo, Sedano Hoyuelos. Educational Games for Learning. Universal Journal of Educational Research 2(3): 230-238, 2014. DOI: 10.13189/ujer.2014.020305.

[21] O'Neil, H. F., Wainess, R., & Baker, E. L.. Classification of learning outcomes: evidence from the computer games literature. The Curriculum Journal, 16(4), 455–474. 2005. https://doi.org/10.1080/09585170500384529

[22] Persico, D., Passarelli, M., Pozzi, F., Earp, J., Dagnino, F. M., & Manganello, F. Meeting players where they are: Digital games and learning ecologies. British Journal of Educational Technology, 50(4), 1687-1712. 2019.

[23] Sabirli, Z. E. & Coklar, A. N. The effect of educational digital games on education, motivation and attitudes of elementary school students against course access. World Journal on Educational Technology: Current Issues. 12(3), 165- 178. 2020. DOI: 10.18844/wjet.v%vi%i.4993

[24] Trianto. Mendesain Model Pembelajaran Inovatif-Progresif. Jakarta: Perenada Media Group. 2010

[25] Vitianingsih. Game Edukasi Sebagai Media Pembelajaran Pendidikan Anak Usia Dini. Jurnal Ilmiah Bidang Informasi dan Teknologi Komputer. 2016

[26] Vorderer, P; Ritterfeld, U. Digital games. In Nabi R,Oliver M, eds. The SAGE handbook of media processes and effects. Thousand Oaks, CA: Sage. 2009.

[27] Virvou, M., Katsionis, G., & Manos, K. Combining Software Games with Education: Evaluation of its Educational Effectiveness. Educational Technology & Society, 8(2), 54–65. 2005.

[28] Zirawaga & Olusanya & Maduku. Gaming in Education: Using Games as a Support Tool to Teach History. Journal of Education and Practice. Vol.8, No.15, 2017. https://files.eric.ed.gov/fulltext/EJ1143830.pdf