



Increase Layer Technique Hair Cutting with Augmented Reality Media

Nia Kusstianti*, Linda Amelia, Arita Puspitorini, Octaverina Kecvara Pritasari

Beauty Education, Universitas Negeri Surabaya, Surabaya, Indonesia

*Email: niakusstianti@unesa.ac.id

ABSTRACT

Augmented reality learning media is a learning media that adds real reality in the world with virtual objects in the form of 3 dimensions. Trimming the increase layer technique is a haircut that uses an angle lift $> 90^\circ$. Augmented reality learning media in the sub-competence of technical hair cutting increase layer by adding 3-dimensional virtual objects that are like real objects (mannequins) at the time apply haircut increase layer technique. The purpose of the research is to know the quality media and the feasibility of an augmented reality learning media in the hair cutting sub-competence increase layer technique. This type of research is pre-experimental research with the research design "The One-Shot Case Study Design". The subjects of this study were 30 observers. Collecting research data with using the instrument in the form of a questionnaire. Data analysis techniques use the average. Media feasibility results learning has a very decent value category with an average value of 3.43.

Keywords: *Increase Layer, Hair Cutting, Augmented Reality.*

1. INTRODUCTION

Changes in science and technology nowadays that have made education develop very rapidly, there are so many updates have been made in the hope of achieving a goal to be able to improve quality and quantity of education, these changes can also be encourage the development in the teaching and learning process or classroom learning to be more effective and more interesting which aims to improve the quality of education. Efforts have been made to be able to improve the quality and quantity of education, namely by creating a learning atmosphere in the classroom to be more effective and interesting in this effort, it is very necessary to have a learning media that is very interesting and can be easily understood.

Learning media is considered a means which is very helpful in the learning process for understanding the learning material that is being taught in the teaching and learning process, so that in the teaching and learning process is expected to have learning media that is interesting, relevant to the development of science and technology currently, and must also be relevant to competencies that will be taught during the teaching and learning process. The learning media can make the process teaching and learning in the classroom more optimal and improve the quality of education. Rudy

Sumiharsono [1] expressed the opinion that learning media is a intermediary and can carry a message or information that has the purpose of learning, so that learning media can function to accelerate the learning process that Ongoing. Usage and utilization an excellent, appropriate and adequate learning media it is expected to be able to stimulate thought patterns, attention and interest of students, as well as learning information delivered can be conveyed clearly or easily understood.

According to Bilinghurst [2] learning media that is currently often applied in the world of education still applies learning media in the form of books, pictures and power point slides. This learning media can be changed and innovated into a very innovative learning media with a virtual learning media that uses technology, namely augmented reality. The application of augmented reality technology in the world of education is very often used. The application of augmented reality technology in the world of education shows that with augmented reality technology, a person can become more interactive in the teaching and learning process, the world of education is increasingly developing with the existence of this technology because it can bring up new forms of experience in the world of education augmented reality technology can be a means to transition between the real and virtual worlds.

Mustaqim [3] examined about development of augmented reality learning media at Yogyakarta State University. The results show that through Augmented Reality, teachers can create learning media fun, interactive, and easy used. Pramono and Martin [4] studied the utilization of augmented reality as a learning media for the introduction to fruits at the University of August 17, 1945. Usage research augmented reality technology in the world education shows that using augmented reality as a learning media can make learning during the learning process more interactive and effective, students are more enthusiastic in classroom learning so that optimal learning targets can be achieved, students can easily understand a lesson material that is currently taught during the teaching and learning process in the class. Use of technology augmented reality in education in Indonesia is still not widely used, especially in the field of Beauty has not used and utilized an augmented reality technology that is used as a media to convey learning information during the teaching and learning process.

According to Azuma [5] augmented reality is a technology of variation of virtual reality that was developed and in its use the user can directly feel the sensation like entering an application, but augmented reality technology can add a real world with elements of virtual objects [6].

Augmented Reality is a technology that adds real reality in the world with virtual objects in the form of 3 dimensions that make the real world and the 3-dimensional world merge as if there is no barrier between the real world and the 3-dimensional world (Budi Ariftama, 2017:3). Augmented reality technology is classified as 3-dimensional learning media which is an imitation of the original form of an object.

The mechanism of how works augmented reality technology is the user using a smartphone or tablet that has been installed augmented reality application and can be run. Then the user and the device used scans the marker that has provided, then the augmented reality object will appear and can allow the user to interact with the augmented reality object. The following illustration mechanism of how augmented reality works:

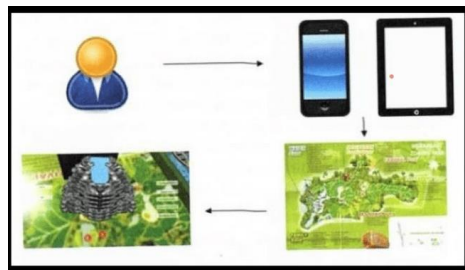


Figure 1 How to Augmented Reality Works [6]

The advantages of using augmented reality are that it can provide information by implementing objects in 3D

that are easy to understand and makes it more interactive. interactive. The process of making augmented reality does not take too much cost, easy to operate or use.

Disadvantages of using augmented reality are changes in the sensitive point of view if there is a change in the viewing angle then cannot bring up the augmented reality, requires high creativity and innovation in its manufacture, large memory in making it because it will store many markers according to the material to be taught.

The cosmetology field has several productive learning materials that are taught. Based on interviews with several teachers at Vocational High School learning materials in the field of beauty cosmetology which has a difficulty is the learning material for hair trimming. Trimming hair has several techniques including solid hair trimming technique, graduation hair trimming technique, uniform layer technique, increase layer technique. The hair trimming techniques that have a fairly difficult level of difficulty, namely increase layer technique, so that the hair trimming technique needs a learning media that is easy to understand so that learning process is more optimal.

According to Rostamailis et al [7] Trimming in "Etymology" comes from the word "prune" which means cut. means cut, so that trimming can be interpreted as an action to reduce or cut. Definition of trimming in the world of beauty is identical to hair trimming so that the definition of trimming in the world of beauty can be interpreted as an action to reduce or cut hair.

Hair trimming is an action that is considered very important in hair styling. Hair trimming can also be defined as the act of cutting or reducing the original hair length to expected hair length and changing the original hairstyle or hairdo into a new hairstyle or hairdo according to the desired model or hairdo and the desired and the trend of the hair model or hairdo at that time.

Pritasari and Yesi [8] stated that increase layer technique is a haircut that uses an angle $> 90^\circ$ on all parts of the head during the trimming process. Increase layer hair trimming has a hair texture on the active surface that is stratified.

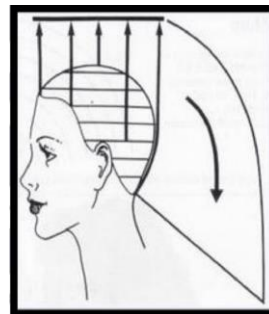


Figure 2 Increase Layer Pattern [8]

The increase layer trimming technique starts by making a centre ear to ear parting, the process of trimming starts at the top which is used as a benchmark for trimming hair with a 90° trimming degree then at the

back following the previous blocking with a 90° degree of trimming.

Based on this description, the researcher has an idea to create a learning media that can make it more interesting and creative, innovative compared with learning media used, usually power point in the form of text and images, the learning media that uses augmented reality technology which is applied to the sub-competency of trimming increase layer technique, this learning media is expected to make the material of hair trimming increase layer technique easy to understand and can make learning more innovative. The problem limitations in this research are research using learning media augmented reality in the field of beauty cosmetology in sub-competency of hair trimming increase layer technique. This research aims to test the quality of media and the feasibility of augmented reality learning media if applied in the field of beauty in the sub-competency hair trimming increase layer technique.

2. METHOD

This type of the research is pre-experimental research with design "The OneShot Case Study Design" using Augmented Reality (AR) learning media. Augmented reality learning media applied in the field of beauty cosmetology, namely the sub-competency hair trimming increase layer technique.

The data collection method of this research is by using data observation activities about quality of learning media and data observation about the feasibility of augmented reality learning media that is applied in the field of beauty in the sub-competency of hair trimming techniques increase layer technique.

The subjects of this study were 5 observers hair trimming subject teachers, 4 observers which are expert lecturers and 21 cosmetology students who have passed the learning media course and the hair trimming course. This research was conducted in April - May 2020 which located in Sidoarjo. Data collection was carried out using an instrument in the form of a questionnaire about the feasibility of learning media.

The research procedures in this study are, first, the researcher made observations at the Vocational High School (SMK) in the field of beauty cosmetology and conducted interviews with subject teachers, Second, the researcher finds a problem, the third researcher has an idea to make a learning media, Fourth, researchers began to make a learning media, Fifth, researchers conduct quality and feasibility tests on quality and feasibility tests on learning media, Sixth, researchers found the results from the quality test and feasibility test of learning media.

Data analysis techniques applied in this research is quantitative descriptive technique which aims to determine the average feasibility of learning media.

2.1. Analyse the quality of the learning media.

Analyse the score of each aspect on the augmented reality learning media on the sub competency of hair trimming increase layer technique obtained in filling out the questionnaire which is filled in by respondents by using the calculation of the average value or mean. The following is the calculation technique average or mean value based on the opinion of Sudjana [9].

$$\bar{x} = \frac{\sum xi}{n}$$

Description:

\bar{x} : Average value
 $\sum xi$: Total score of each aspect
 n : Number of observers

Criteria for Data Analysis Results as follows:

Table 1. Criteria for Media Quality Analysis [9]

Average score	Description
3.26 – 4.00	Very good
2.51 - 3.25	Good
1.76 – 2.50	Good enough
1.00 – 1.75	Not good

2.2. Media Feasibility Analysis

The augmented reality learning in the field of beauty cosmetology in the sub-competency of trimming hair increase layer technique. This analysis is obtained from the average score of each respondent's answer from 30 respondents, with the formula:

$$\bar{x} = \frac{\text{Average score of respondents}}{\text{Number of Respondets}}$$

Criteria for Data Analysis Results as follows:

Table 2. Criteria for Media Feasibility Analysis [10]

Average score	Description
3.26 – 4.00	Very feasible
2.51 – 3.25	Feasible
1.76 – 2.50	Feasible enough
1.00 – 1.75	Not feasible

3. RESULT AND DISCUSSION

3.1 Results of Making Augmented Reality Learning Media on Sub-Competencies Hair Trimming Increase Layer Technique

3.1.1 Logo Display on the front

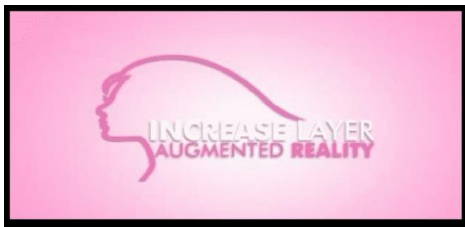


Figure 3 Logo Display on the Front [11]

3.1.2 Play screen Display



Figure 4 Play screen Display [11]

3.1.3. Main Menu Display



Figure 5 Main Menu Display [11]

3.1.4. Material Menu Display



Figure 6 Material Menu Display [11]

3.1.5. Camera Play AR Display



Figure 7 Camera Play AR Display [11]

3.2. Result of Learning Media Quality Analysis

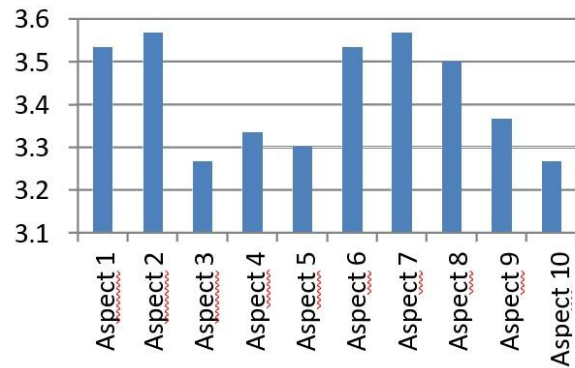


Figure 8 Quality of Learning Media [11]

Diagram of the quality of augmented reality learning media on sub-competencies of hair trimming increase layer technique is the average result of the assessment of the respondents who have 10 aspects assessed by respondents as follows:

- 1) Aspect 1 attractiveness (opening) in augmented reality learning media on the sub competency of hair trimming increase layer technique, which gets an average value of 3.53 and the assessment criteria in this aspect are very good.
- 2) Aspect 2 information in the form of text or writing in augmented reality learning media on the hair trimming increase layer technique, gets an average score of 3.56 and the assessment criteria in this aspect are very good.
- 3) Aspect 3 similarity of the 3-dimensional shape with the real objects on augmented reality learning media on the sub-competency hair trimming increase layer technique get an average score of 3.26 and assessment criteria in this aspect are very good.
- 4) Aspect 4 quality of 3-dimensional form in augmented reality learning media on the sub competency of hair trimming increase layer technique gets an average score of 3.33 with very good assessment criteria, meaning that the 3-dimensional quality of the media are very good and clear.
- 5) Aspect 5 form of animation in augmented reality learning media on the sub competency of hair trimming increase layer technique gets an average score of 3.30 with very good assessment criteria.
- 6) Aspect 6 suitability of content in augmented reality learning media on the sub competency of hair

- trimming increase layer technique gets an average score of 3.53 with very good assessment criteria.
- 7) Aspect 7 suitability of content in explaining tools, materials, linen on augmented reality learning media on sub-competencies hair trimming increase layer technique get an average score of 3.56 with very good assessment criteria.
 - 8) Aspect 8 suitability of content can help students understand the tools, linen materials in augmented reality learning media on the sub competency of hair trimming increase layer techniques gets an average score of 3.5 with very good assessment criteria.
 - 9) Aspect 9 suitability of augmented reality content can train students' understanding of augmented reality learning media on the sub hair trimming increase layer technique gets an average score of 3.36 with a very good assessment criterion.
 - 10) Aspect 10 suitability of augmented reality content in applying hair trimming increase layer technique gets an average score of 3.26 with a very good assessment criterion.

The results of data analysis on the quality of augmented reality learning media on the sub competency of hair trimming increase layer technique obtained the average value of all aspects 3.42 with very good assessment criteria and the lowest average score is 3.26 in Aspect 3 and Aspect 10. This is due to the similarity of the hair shape in 3 dimensions form does not look real or not like a real object, the hair shape on the learning media looks like the shape of hair in cartoon characters, not like the shape of human hair and Aspect 10 is caused by the hair trimming animation on the media does not explain in detail about how to hair trimming increase layer technique throughout the head shape on the learning media the 3-dimensional form and the animation explains the hair trimming technique of the front and back but not as a whole, in the 3 dimensions and animation there is no explanation related to the trimming technique.

3.3. The Result of feasibility analysis of learning media

The results of the feasibility analysis of learning media are obtained from the sum of the results of the average value of each respondent who then averaged and got a value of 3.43 with assessment criteria that are classified as very feasible. Based on the average value obtained it can be concluded that augmented reality learning media is very feasible if applied to the sub-competency of hair trimming increase layer technique. Wati Rima expressed the opinion that learning media can be said to be good and suitable for use in the teaching and learning process if the media has fulfilled the objectives of learning and in the learning, media is in accordance with the level of understanding (Wati Rima, 2016: 19).

4. CONCLUSION

Based on the results of the study, it can be concluded that:

- 1) The results of the quality of an augmented reality learning media on the sub-competency of hair trimming increase layer technique has a very good value category with the average overall score in the media aspect is 3.42. The lowest average score in the media aspect is 3.26 which is found in aspect 3 about the similarity of the 3-dimensional shape on the learning media. 3-dimensional shape of the learning media and aspect 10 about the suitability of augmented reality in applying the hair trimming increase layer technique.
- 2) 4.2 The results of the feasibility of a learning media augmented reality that is applied to the sub competency of hair trimming increase layer technique has a very feasible value category with an average score of 3.43. This learning media is very feasible to be applied in the beauty field. This learning media can help understanding both of theory and practice.

ACKNOWLEDGMENTS

Praise the author thanks to the presence of Allah SWT who has given His grace to the author so that the author can complete the writing of a scientific article entitled "Learning Media Augmented Reality on Sub Competency Hair Trimming Increase Layer Technique". Thank you to all who have helped complete the implementation and preparation of this scientific article.

REFERENCES

- [1] R. Sumiharsono and H. Hasanah, *Media Pembelajaran: Buku Bacaan Wajib Dosen, Guru dan Calon Pendidik*, CV. Pustaka Abadi, 2017
- [2] M. Billingham, *Augmented Reality in Education*, *New Horizons for Learning*, 12(5), 2002, pp. 1-5.
- [3] I. Mustaqim, *Pengembangan Media Pembelajaran Berbasis Aumented Reality*, *Jurnal Edukasi Elektro*, 1(1), 2017, pp. 36-48. DOI: 10.21831/jee.v1i1.13267
- [4] A. Pramono, *Pemanfaatan Augmented Reality sebagai Media Pembelajaran Pengenalan Buah-buahan*, *Jurnal INTENSIF: Jurnal Ilmiah penelitian dan Penerapan Teknologi Sistem Informasi*, 3{1} 2019, pp. 54-68. DOI: <https://doi.org/10.29407/intensif.v3i1.12573>
- [5] R.T. Azuma, *A Survey of Augmented Reality*, *Presence: Teleoperators and Virtual Environments* 6(4), 1997, pp. 355-385.

- [6] B. Arifitama, A. Syahputra, S.D.H. Permana, Augmented Reality Interaction on Property Developer Using User Centered Design Approach, CSAI '17: Proceedings of the 2017 International Conference on Computer Science and Artificial Intelligence, pp. 19–23. DOI: <https://doi.org/10.1145/3168390.3168424>
- [7] Rostamailis, Tata Kecantikan Rambut jilid 1, Direktorat Pembinaan Sekolah Menengah Kehuruan, 2008.
- [8] O. Pritasari and B. Yesi, Pangkas Rambut Dasar Surabaya: Unesa Unipres, 2016.
- [9] Sudjana, Metoda Statistika, Bandung: CV. Alfabeta, 2009
- [10] Riduwan, Skala Pengukuran Variabel-variabel Penelitian, Bandung: Alfabeta, 2015.
- [11] K. Amelia, Media Pembelajaran Berbasis Web, 2020.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

