

EFFECTIVENESS OF INTERACTIVE LEARNING MULTIMEDIA FOR DIANA NORMAL DELIVERY CARE (MULTERIANA) ON IMPROVING STUDENTS' INTERESTS AND SKILLS

Diana Oktavia Nz. Gea¹⁾, Ma'mun Sutisna²⁾, Suparni³⁾, Yanti Herawati⁴⁾, Hidayat Wijayanegara⁵⁾, Roni Rowawi⁶⁾

Email: geadiana5@gmail.com¹⁾, mamun.sutisna@polban.ac.id²⁾, suparni@gmail.com³⁾, yantiherawati@stikesdhs.ac.id⁴⁾, hwnegara@gmail.com⁵⁾, ronirowawi@gmail.com⁶⁾

^{1,3,4,5)}Program Studi Magister Kebidanan STIKes Dharma Husada Bandung

Jl. Terusan Jakarta, No. 75

²⁾Politeknik Negeri Bandung, Jl. Gegerkalong Hilir Bandung

⁶⁾RS Immanuel Bandung, Jl. Raya Kopo No. 161

Article Information

Received:
September 07, 2024

Revised:
June 02, 2025

Accepted:
June 10, 2025

Abstract

The learning process requires media that align with technological advancements to enhance effectiveness and innovation. One such tool is the MULTERIANA Application, designed to support improved learning outcomes. This study aimed to analyze the effectiveness of the MULTERIANA Application in increasing student interest and skills at the Harapan Keluarga Midwifery Academy. The research used a pre-experimental design with a one-group pretest-posttest approach. The population included all fourth-semester female students, with a total sample of 57 participants selected through total sampling. Data were analyzed using the Wilcoxon test. The results showed a significant effect of the MULTERIANA Application on student interest in learning APN (midwifery care in normal delivery), with a p-value of 0.000. Similarly, the application significantly improved students' skills in practicing normal delivery care, also with a p-value of 0.000. Based on the WebQual 4.0 assessment, the application was rated 54.6% effective before the intervention and improved to 76.3% afterward, indicating enhanced effectiveness. In conclusion, the MULTERIANA Application successfully increased both interest and skills in midwifery students. It is recommended that this application be used as a learning medium in delivery care courses to help students practice APN more effectively and independently.

Keywords: APN, Interests, Multeriana, Skills

@2025PoliteknikHarapanBersama

Correspondence:

Diana Oktavia Nz.Gea. Program Studi Magister Kebidanan STIKes Dharma Husada Bandung. Jl. Terusan Jakarta, No. 75.
geadiana5@gmail.com

1. Introduction

Learning media in the learning process is an alternative to help the teaching and learning process which is an intermediary between the subject and object of learning, this will clarify the meaning and message of learning. Learning media used at the introductory stage of the learning process will be able to help the effectiveness of the learning

process and the delivery of learning materials. Therefore, with the existence of learning media, it is expected that the teaching and learning process will take place optimally so that the purpose of the teaching and learning process is conveyed to students [1].

Learning media can also be a means of improving the learning process by displaying text, images with

additional sound so that it can clarify the learning material. Educators must be good at choosing good, correct, and careful forms of learning media, so that the learning media used during the learning process is used appropriately and in accordance with learning objectives. The learning media used by educators is expected to be able to achieve learning objectives optimally as a tool to make it easier for educators to convey learning materials, and students can easily understand the material given [1,2].

Android and computer-based learning media currently use the development of media resulting from technology. Media resulting from technology functions to channel messages from the source to the recipient of the message. The message to be conveyed is poured into visual communication symbols so that the delivery of messages in the teaching and learning process can run effectively and efficiently [1,3].

One of the innovations produced to facilitate students in learning normal delivery care is an android-based application called the MULTERIANA Application. The android and computer-based application that has been created by researchers is designed differently from the APN learning media that already exists. If the APN learning media available so far at the research site only uses one type of media in the form of text in the form of job sheets, or videos, then the MULTERIANA Application created by researchers uses a combination of several media (multimedia) which is presented in the form of text, images, videos accompanied by audio when viewed from the presentation method and the objectives to be achieved including tutorials (presentation of APN material in stages), drills and practices (Exercises) to help students master the material that has been studied previously.

2. Methods

The research method used was a pre-experimental design with a one-group

pretest-posttest approach. The research was conducted from July 1 to July 29, 2024. The target population was all female students in the fourth semester of the Harapan Keluarga Midwifery Academy. The sampling technique used total sampling, with a sample size of 57 participants. Data analysis was conducted after performing a normality test, which revealed that the data was not normally distributed ($p = 0.000$), so the Wilcoxon test was used.

3. Results and Discussion

Table 1. Frequency Distribution of Interest Scores Before and After the MULTERIANA Application was Given

Interest	F	%
Before		
Not interested	27	47,4
Interested	30	52,6
After		
Not interested	7	12,3
Interested	50	87,7
Total	57	100

The results of the study in Table 1 show that before being given the MULTERIANA Application, the majority of respondents were interested, as many as 30 people (52.5%), after being given the MULTERIANA Application, the majority of interest increased by 50 people (87.7%).

Table 2. Frequency Distribution of Student Skills Before and After Being Given the MULTERIANA Application

Skills	F	%
Before		
Failed	31	54,4
Passed	26	45,6
After		
Failed	7	12,3
Passed	50	87,7
Total	57	100

The results of the study in Table 2 show that before being given the MULTERIANA Application, the

majority of respondents failed, as many as 31 people (54.4%), after being given the MULTERIANA Application, the majority passed the skills, as many as 50 people (87.7%).

Table 3. The Effect of Using the MULTERIANA Application on Increasing Student Interest and Skills

Variable	n	Mean Rank	P value
Request	57	11,50	0,000
Skills	57	15,50	0,000

Description: Wilcoxon test

Based on Table 3 using the Wilcoxon test, the difference in the average interest is 11.50 and skills are 15.50. There is a p value = 0.000 ($p < 0.05$), meaning that there is an influence of the MULTERIANA Application on interest and a p value = 0.000 ($p < 0.05$), meaning that there is an influence of the MULTERIANA Application on skills. Thus, there is an influence of the MULTERIANA Application on students' interests and skills in practicing APN.

The learning process will run smoothly if accompanied by interest because interest is the main motivational tool that can raise students' enthusiasm for learning within a certain time period [4].

In line with the research results of Bherty P [5], that there is an influence of blended learning on the learning outcomes of midwifery students at STIKes PEMKAB Jombang. In the discussion, students who have good learning motivation will also have good knowledge. One of the benchmarks for student success is a learning method that supports student interest and motivation in the learning process.

Researchers conducted a learning method with the MULTERIANA website-based application, in accordance with the development of the era of media use for appropriate and interesting learning methods in

accordance with learning methods in the era of generation Z and post generation Z. Generation Z is a generation known as iGen or the internet generation, a generation born in the digital era they will grow up with smartphones, social media, and the internet that dominate everyday life. Post generation Z or known as the alpha generation, this generation grew up amidst the ongoing development of technology, including the presence of artificial intelligence, virtual reality, and the internet of things. They have been familiar with technological devices since an early age and have become proficient users in using technology [6].

According to Yuniastuti [7], The five senses that transmit the most knowledge to the brain are hearing and eyes (approximately 75% to 87%), while 13% to 25% of human knowledge is obtained and transmitted through the other five senses. The MULTERIANA application is in the form of visuals and audiovisuals that can provide stimulation through the eyes and ears, so the information received can provide optimal results. This media can be one way to increase student interest in paying attention to the material. This material can increase student interest in learning during learning because students can see directly after listening [8].

In line with the opinion of Sunaeni et al [9]. Audiovisual media contributes greatly to the information and persuasion aspects in behavioral change, this is due to the stimulus of the sense of hearing and the sense of sight of approximately 75-87% in transmitting information to the brain. Based on the theory of the cone of experience (learning pyramid) from Edgar Dale on audiovisual media, it also states that as much as 50% of a person learns from what he sees and hears.

The purpose of creating the MULTERIANA Application is to be a means of independent learning for female midwifery students, to improve students' knowledge and skills in

carrying out normal delivery care, to develop more interactive learning media so as to arouse students' interest in learning normal delivery care through the presentation of interactive learning multimedia, to make it easier for students to learn the practical steps of normal delivery care.

The results of this study are in line with Lutfiasari D's research [10], that the use of problem based learning methods on partograph filling skills in semester III students in the Midwifery Study Program, University of Kediri. In the discussion, the learning outcomes with the problem based learning approach are more effective in providing students with room to discuss and solve the cases they face. The results of this study are also in line with the results of Marsilia's research [11]. that there is a correlation between emotional intelligence and the competence of normal delivery care (APN) for D-III midwifery students at STIKes Mitra Ria Husada.

Table 4. Effectiveness of Using the MULTERIANA Application Based on the WebQual 4.0 Formula

MULTERIANA Application	WebQual 4.0 Score	Information	P
Pretest Intervensi	54,6%	Quite effective	0,021
Posttest Intervensi	76,3%	Effective	

Description: WebQual 4.0

Based on Table 4, the calculation of the WebQual 4.0 Formula before the intervention was given was 54.6%, meaning it was quite effective, while after the intervention was given it was 76.1%, meaning the use of the MULTERIANA Application was effective for students at the Harapan Keluarga Midwifery Academy. The results obtained were p-value = 0.021 ($p < 0.05$), which means that the MULTERIANA Application is effective in increasing student interest at the

Harapan Keluarga Midwifery Academy in 2024.

The advantages of the MULTERIANA application are that it is more innovative with a combination of several media, accompanied by explanations through text, images, video and audio, can be used as an independent learning media by students, attracts students' interest in using it because students can interact directly with the available navigation buttons, this MULTERIANA application is a development of learning media. The multimedia learning program will give students the opportunity to be more free and more individual with their learning materials and students can determine the speed of the program and repeat the material freely until they understand the learning material. In addition, the multimedia learning program can create a learning atmosphere that is not boring and always attracts attention [12].

In addition to the advantages of the MULTERIANA application, there are also disadvantages, namely that the MULTERIANA application is a website-based application that requires a stable internet connection in order to continue using the application comfortably and requires a good security system, both from the server side, the website and the connection used. This is because website-based applications are very vulnerable to being infiltrated by viruses, hackers, or malware originating from the internet. Therefore, this security factor is very important to be considered by website-based application developers [13,14].

In line with the research results of Fitrahminarsih N [15], There is an influence of website-based learning media on the perineum suturing skills of DIII midwifery students.

In line with the research results of Halapiry J [16], that the design of learning media for midwifery care for toddlers based on android in improving students' skills for early detection of growth at the age of 6-12 months. In the discussion that students need tools in the

learning process that are flexible, interesting and can be used anytime and anywhere so that they can improve students' learning motivation, knowledge and skills. The feasibility test conducted by Halapiry J [16], Website-based learning media uses the Technology Acceptance Model (TAM) method of testing, namely the level of usability and suitability of website-based learning media applications is very suitable for use by midwifery students.

4. Conclusion

The MULTERIANA application has an effect on increasing the interest of midwifery students in practicing normal delivery care at the Harapan Keluarga Midwifery Academy in 2024, the MULTERIANA application has an effect on the skills of midwifery students in practicing normal delivery care at the Harapan Keluarga Midwifery Academy in 2024 and the MULTERIANA application is effective in increasing the interest and skills of students at the Harapan Keluarga Midwifery Academy in 2024.

5. Acknowledgments

Thanks to Dr. Siti Sugih Hartiningsih, S.Si., M.Kes as the head of STIKes Dharma Husada Bandung, the head of the Health Center and Staff of Gunungsitoli District, Mr. Yafeti Nazara, S. Kep, M.Kep, NsPM as the Advisor of the Harapan Keluarga Foundation of Nias, Mrs. Bd. Dina Hura, SST, M. Keb as the Director of the Harapan Keluarga Midwifery Academy, family and relatives who have helped complete this scientific work.

6. References

- [1]. Pagarra H, Syawaluddin A, Krismanto W, Sayidiman. Media pembelajaran. Makasar: Badan Penerbit UNM; 2022.
- [2]. Wiryanti M, Syarif S, Ahmad M, Prihartini D, Wahyuni S. Pengaruh media pembelajaran berbasis WEB terhadap peningkatan keterampilan praktikum asuhan kala II persalinan mahasiswa D III Kebidanan. Jurnal Keperawatan Muahmmadiyah. 2020; 1(1): 77-81.
- [3]. Wirakusumah F.F., Setiawati P. E., Husin F, Lestari W. B., Herawati D. M. D., Kodijah N. Pengembangan media pembelajaran praktikum untuk meningkatkan keterampilan Asuhan Persalinan. J IJMC. 2015; 2(3): 62–64.
- [4]. Rohmawati NR, Maghfiroh ES, Rokhmawati IR. Analisis pengaruh kualitas situs web kampus merdeka terhadap kepuasan penggunaan dengan metode webqual 4.0. J IPTEKKOM. 2022;6(8):3716–25.
- [5]. Berty P C, Purwanti R, Rahandayani S, Mulyaningsih A. Pengaruh Blenden Learning terhadap Hasil Belajar Mahasiswa Kebidanan STIKes Pemkab Jombang. J Ilmu Kebid. 2021;7(2): 80–85.
- [6]. Pakpahan M. Promosi kesehatan dan perilaku kesehatan. Jakarta: Penerbit Yayasan Kita Menulis; 2021.
- [7]. Yuniastuti RH, Jannah M, Indriani A. Efektivitas penggunaan media card dalam meningkatkan pengetahuan dan sikap remaja putri tentang menstruasi. J Issues Mid. 2023;7(3):135–46.
- [8]. Suharsimi A. Dasar-dasar evaluasi Pendidikan. Jakarta: Bumi Aksara. 2017.
- [9]. Sunaeni, Abduh AIM, Isir M. Efektivitas media audio visual dalam meningkatkan pengetahuan tentang seribu hari pertama kehidupan remaja putri. Manuju: Malahayati Nursing J. 2022;4(3). pISSN 2655-2728 eISSN 2655–4712
- [10]. Lutfiasari D, Prasetyanti K. Penggunaan metode pembelajaran problem based learning terhadap keterampilan pengisian partograph pada mahasiswa semester III di Prodi Kebidanan Universitas

- Kediri. J Ilmu Kesehat. 2017;6(1): 5–8.
- [11]. Marsilia DI. Korelasi kecerdasan emosional dengan kompetensi asuhan persalinan normal (APN) mahasiswa D III Kebidanan STIKes Mitra RIA Husada. J Ilmu Kesehat dan Keb. 2018; 7(2): 1–20.
- [12]. Sugiyono. Metode penelitian kuantitatif. Bandung: Alfabeta ; 2020.
- [13]. Hendrawan IG, Wibawa, Pramatha C. Pengembangan Sistem Penilaian Kualitas Website Berbasis Metode Webqual. J Pengabdian Informatika. 2023;1(2):525–32.
- [14]. Effendi I. Pengaruh pemberian pretest dan posttest terhadap hasil belajar mata diklat pada siswa SMK Negeri 2 Lubuk Basung. J Ilmiah Pendidikan Tek Elektro. 2016.1(2):81–8.
- [15]. Fitrahminarsih N. Pengaruh media pembelajaran berbasis web terhadap keterampilan penjahitan rupture perineum derajat II mahasiswa D III kebidanan. Tesis. 2020. Unversitas Hasanuddin. Makasar.
- [16]. Halapiry J. Desain media pembelajaran asuhan kebidanan balita berbasis android dalam meningkatkan keterampilan mahasiswa untuk mendeteksi dini pertumbuhan usia 6–12. Tesis. 2021. Unversitas Hasanuddin. Makasar.