5th CoNeScINTech
Conference on Business, Social Sciences and Technology

Volume 5 No 1 (2025)

Received : June 09, 2025
Accepted : June 18, 2025
Published : August 22, 2025

Conference on Business, Social Sciences and Technology
https://journal.uib.ac.id/index.php/conescintech

2D Animation on Being New Parent

Jimmy Pratama[1], Kelvin[2]
jimmy.pratama@uib.ac.id, 2131051.kelvin@uib.ac.id
[1,2]Faculty of Computer Science, Universitas Internasional Batam, Batam, Indonesia

Abstract

The transition to parenthood is a multidimensional challenge that often causes emotional and practical stress for new parents, particularly in understanding proper infant care. This study aims to address these issues by developing a 2D animated educational video titled "Being a New Parent". The video serves as an engaging visual medium to educate young couples about essential baby care practices, including hygiene, feeding, diaper changing, bonding, and sleep management. The animation was developed using the Multimedia Development Life Cycle (MDLC) method, consisting of six stages: concept, design, material collection, assembly, testing, and distribution. Production involved professional software including Adobe Illustrator for asset design, Adobe After Effects for animation, and Adobe Premiere Pro for final editing and audio integration. The final product is a 2-minute and 8-second video distributed via YouTube. Evaluation through interviews with new parents revealed that the animation effectively increased understanding of parenting basics, though suggestions for more detailed and context-sensitive content were noted. The results demonstrate that 2D animation is a powerful tool for digital parenting education, capable of simplifying complex information into a relatable and accessible format for the millennial generation.

Keywords:

2D Animation, New Parent, Parenting Education, MDLC, Visual Media

Introduction

The rapid development of technology has significantly influenced various sectors, including education and human life assistance. In the field of parenting education, multimedia, particularly 2D animation offers a powerful tool for delivering engaging and informative content. Becoming a new parent is a life-changing transition that presents numerous emotional, psychological, and practical challenges. Despite having access to education and financial stability, many new parents in Indonesia still experience parenting-related stress. According to (Amalia et al., 2022). 77.6% of Indonesian mothers report parenting stress, highlighting that this issue transcends socio economic boundaries.

Visual-based educational media, especially 2D animated videos, have become one of the most effective learning methods in the digital age. Combining audio and visuals, 2D animation offers dynamic and interactive storytelling that enhances understanding and retention. For new parents particularly those from the millennial generation who are highly accustomed to digital content this approach can be a highly effective medium for learning basic baby care skills such as hygiene, feeding, sleeping, and bonding.

This study aims to design and develop a short 2D animated video as an educational tool for new parents. Using the Multimedia Development Life Cycle (MDLC) method, the video is produced through a structured process that includes conceptualization, design, material collection, assembly, testing, and distribution. The animation is created using professional software such as Adobe Illustrator, After Effects, and Premiere Pro, ensuring a high-quality and scalable visual output.

By delivering accurate and emotionally relatable content, this project seeks not only to inform but also to emotionally support new parents in their early parenting journey. The result is expected to serve as both a visual guide and a motivational tool that addresses common parenting concerns in a modern, accessible format.

Literature Review

Numerous studies have demonstrated the effectiveness of 2D animation as a medium for education and social messaging. For example, (Amalia et al., 2022) examined the relationship between parenting stress and supportive parenting during the COVID-19 pandemic. Their findings revealed that even well-educated and financially stable mothers experienced significant levels of parenting stress, underlining the need for more accessible and supportive educational interventions.

(Lenda & Deu, 2024) developed a 2D animated video addressing beauty standards from multiple perspectives using the Multimedia Development Life Cycle (MDLC) method. Their research highlighted the value of visual storytelling in communicating social messages and promoting self-acceptance through qualitative data collection and artistic interpretation.

Similarly, (R. A. Setiawan & Pratama, 2023) investigated the impact of 2D animation on educating teenagers about the dangers of online gambling. Using the MDLC method and the UTAUT2 model for analysis, they concluded that 2D animation, when well-designed, can significantly influence behavioral intentions and improve message retention.

(Apriadi et al., 2023) focused on preserving local culture through 2D animation by adapting the folklore “Pak Saloi: Berburu Kijang.” Their animation was developed using Adobe software and was validated through feedback from media and content experts, showing high levels of appropriateness and engagement.

(Syahputra et al., 2023) created a 2D educational animation about menstruation aimed at adolescent girls. By consulting medical experts and using MDLC, they ensured that the information was accurate and suitable for the target audience. Their study proved that animation could effectively communicate sensitive health topics.

In addition, (I. M. D. Setiawan & Permana, 2021) conducted a quasi-experimental study to evaluate the effectiveness of 2D animation in mathematics e-learning. Results showed a significant improvement in students’ comprehension and performance, further validating the role of animation in formal education.

These studies commonly apply the MDLC framework, which comprises six structured stages: concept, design, material collection, assembly, testing, and distribution. This methodology ensures that the animation development process is both systematic and iterative, enhancing quality and effectiveness.

While many existing studies have explored the application of 2D animation in education ranging from topics such as online gambling prevention, cultural storytelling, menstruation awareness, to beauty standards this study introduces a distinct focus: the transitional experience of becoming a new parent. Unlike other works that primarily present factual or didactic content, this research combines practical parenting guidance with emotional support, addressing the psychological and social dimensions of early parenthood.

Furthermore, this study includes real-world validation through qualitative feedback from actual new parents. Their responses not only confirm the clarity and relevance of the animation but also offer valuable insights for content improvement. This feedback-driven approach increases the educational impact and applicability of the animation, setting it apart from studies that do not test their outputs with the target audience. In essence, this project contributes a novel multimedia product that is empathetic, accessible, and grounded in user experience, making it a unique asset in the field of parenting education.

Research Methods

This study adopts a qualitative approach combined with the Multimedia Development Life Cycle (MDLC) methodology to develop and evaluate a 2D educational animation video aimed at new parents. The MDLC framework guides the systematic development of multimedia content, while qualitative methods are employed to assess user perceptions and content effectiveness.

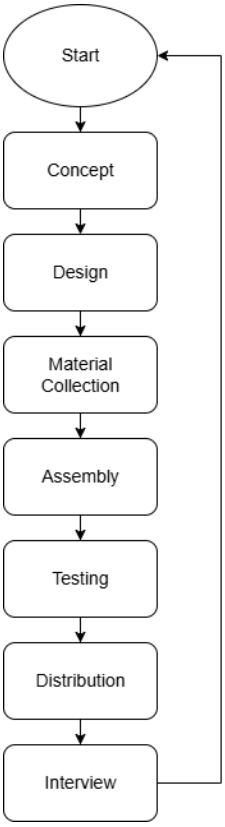


Image 1. Method Flow

A. Multimedia Development Life Cycle (MDLC)

The MDLC method consists of six sequential phases designed to ensure the efficient and structured production of multimedia applications (Setiawan & Pratama, 2023). These phases are:

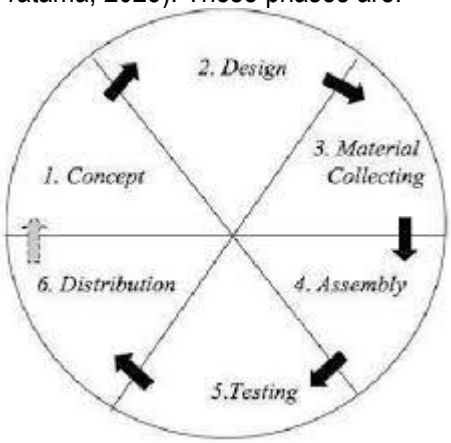


Image 2. Multimedia Development Life Cycle (MDLC)

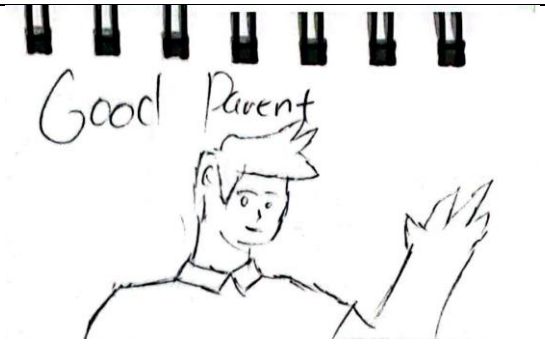
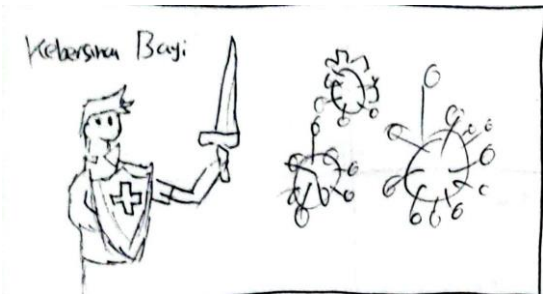
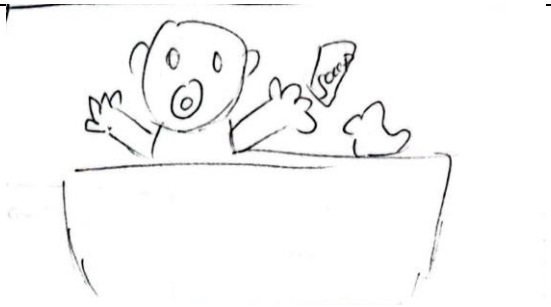
1. Concept

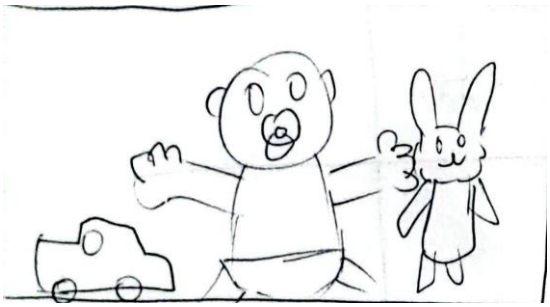
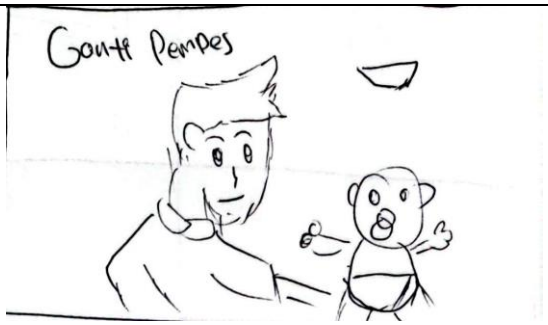
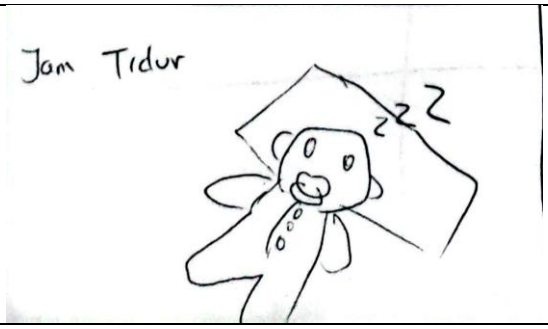
In this phase, the researcher defines the core objective of the project—to create a 2D animation video that provides practical guidance on baby care for young and first-time parents. The video focuses on five key aspects: baby hygiene, bonding and interaction, diaper changing, feeding schedules, and sleep management.

2. Design

This stage involves the development of the animation script, character design, and storyboard. Characters were illustrated in a semi-flat vector style using Adobe Illustrator, with separated body layers to facilitate animation. The storyboard was created to visualize the narrative sequence and plan camera movements, transitions, and scene durations.

Table 1. Storyboard

Image	Explain
	The animation begins with a home setting to establish the narrative context. This setting emphasizes that the parenting journey typically begins at home, a familiar and emotional environment for new families.
	A father figure appears to introduce himself and explain the purpose of the animation. He sets the tone by addressing the challenges of becoming a new parent and invites viewers to learn about essential baby care routines.
	This scene highlights that maintaining a baby's hygiene is crucial for preventing the spread of germs and bacteria. It lays the foundation for later scenes that demonstrate specific hygiene practices.
	The animation shows the baby being bathed, along with narration explaining that newborns should be bathed 2–3 times per week depending on their activity and needs. Gentle techniques and safety considerations are illustrated.

	This scene emphasizes the importance of spending quality time with the baby through play and interaction. It demonstrates how bonding helps develop emotional security and strengthens the parent-child relationship.
	The animation provides a visual guide for changing diapers. It stresses the importance of this routine as part of maintaining the baby's comfort and health.
	The scene shows the importance of washing both the parents' and baby's hands after diaper changing. It reinforces clean habits that help prevent rashes and infections.
	This part discusses the importance of ensuring the baby receives proper nutrition. It explains feeding schedules and highlights the need for consistency in feeding to support healthy growth.
	The scene explains the necessity of adequate sleep for infant development. It informs viewers that newborns require 16 to 20 hours of sleep per day, typically divided between naps and nighttime sleep.

	The animation ends with the main character summarizing the key takeaways. A “Thank You” message appears, signaling the conclusion of the video and leaving viewers with a positive emotional impression.

3. Material Collecting

Educational content was gathered from reputable parenting journals and medical references. Audio narration was generated using AI-based text-to-speech technology for clarity and consistency. All visual elements, characters, backgrounds, and props were prepared during this phase.

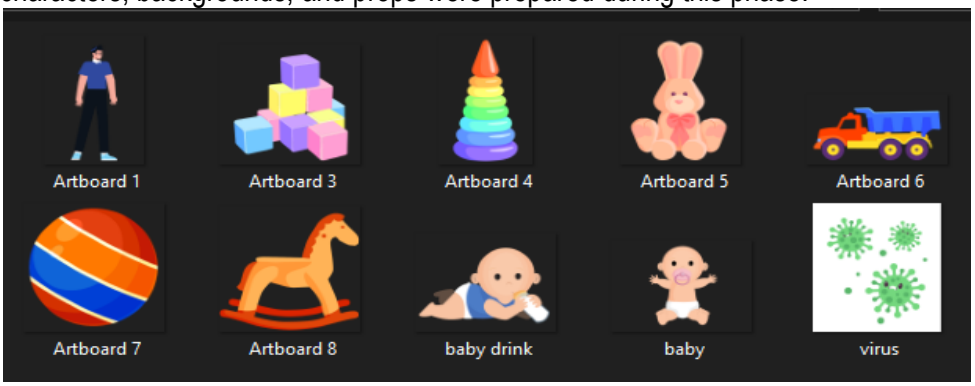


Image 3. Animation’s asset

4. Assembly

In this phase, all assets were combined to produce the animation. The animation process was executed using Adobe After Effects, applying keyframe animation, character rigging, and motion graphics. The final video was edited and compiled in Adobe Premiere Pro, where background music, narration, and transitions were added.

Image 4. Animated 2D video design process

5. Testing

Before publication, the video was tested with a group of young parents to evaluate clarity, accuracy, and audience engagement. Feedback was collected through online interviews and used to assess the effectiveness of the animation as an educational medium.

6. Distribution

After successful testing, the final version of the video, with a total duration of 2 minutes and 8 seconds, was uploaded to YouTube to reach a broader audience. The distribution platform was chosen for its accessibility and popularity among digital-native parents.

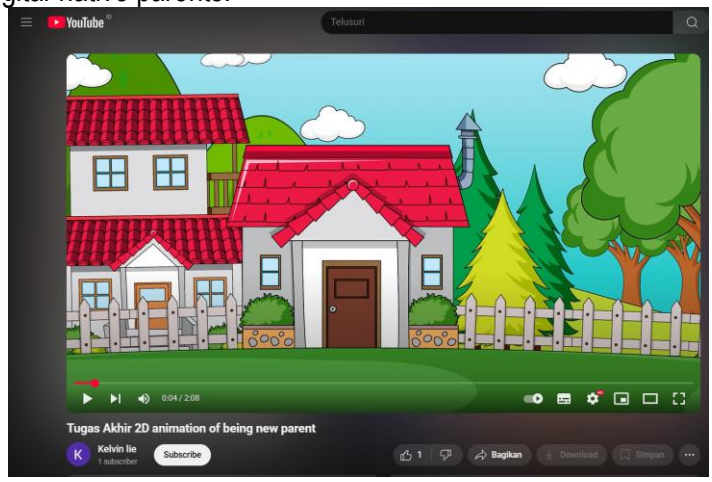


Image 5. Animation video uploaded to youtube

This MDLC-based approach ensures a balance between educational content, visual appeal, and technical quality, aiming to create an informative and emotionally supportive resource for new parents.

B. Qualitative Evaluation

Assess the animation's impact and usability, a qualitative research method is applied during the testing phase. Semi-structured interviews are conducted with several new parents who represent the target audience. The interviews focus on the following aspects:

- Comprehension of the parenting content delivered
- Clarity and appeal of visual elements
- Relevance to their real-life parenting experience
- Suggestions for improvement or additional topics

The responses are analyzed thematically to extract insights into how well the video meets its educational objectives and where refinements may be needed. This feedback is essential for validating the design and ensuring that the final product is not only informative but also emotionally supportive and relatable.

Results and Discussion

The final product of this research is a 2D animated educational video titled *"2D Animation as Visual Education Media for New Parents Using MDLC Method."* The animation is designed to guide new parents through essential aspects of infant care, including hygiene, bonding, diaper changing, feeding, and sleep routines. The video employs a flat vector style with a triadic color palette, ensuring visual appeal and clarity. Narration is provided through AI-generated text-to-speech, enhancing accessibility and comprehension.

Image 6. Scene 1

The animation begins with a calm home setting, introducing the father character who acts as the narrator. This opening sets the tone and context of the video, focusing on the emotional and practical transition into parenthood. It aims to create a relatable and welcoming atmosphere for viewers, especially young couples who may feel overwhelmed by the responsibilities of caring for a newborn. By framing the animation as a guide, the introduction reassures viewers that they are not alone and that guidance is available in an accessible format.

Image 7. Scene 2

This scene focuses on the importance of maintaining baby hygiene. It visually demonstrates the process of bathing a newborn, including safe water temperature, gentle cleaning techniques, and drying methods. The animation emphasizes that regular hygiene is critical for preventing infections and promoting baby comfort. Voice-over narration supports the visual instructions, making the content easy to follow. The simplicity of the scene helps reduce anxiety for new parents who may be unfamiliar or nervous about bathing their baby for the first time.

Image 8. Scene 3

The bonding scene highlights the emotional connection between parents and their baby. It depicts activities such as talking to the baby, making eye contact, and engaging in play. These actions help strengthen the baby's sense of security and attachment. The animation underscores the psychological benefits of bonding, such as promoting cognitive and emotional development. This scene is designed to be heartwarming and emotionally resonant, reminding parents that love and attention are just as important as physical care.

Image 9. Scene 4

This scene provides a step-by-step guide on how to safely and hygienically change a baby's diaper. It includes details such as washing hands, using a clean surface, wiping techniques, and disposal. It also stresses the importance of checking the baby's skin for irritation and applying protective cream if necessary. Visual cues are synchronized with narration to clearly illustrate each action. The goal of this scene is to build confidence among new parents and minimize common mistakes, such as leaving a diaper on too long or not cleaning thoroughly.

Image 10. Scene 5

The feeding scene addresses the importance of nutrition and responsive feeding. It explains how to recognize hunger cues, how often a newborn needs to be fed, and the benefits of breastfeeding or formula feeding. The visual shows the baby being held properly during feeding, which helps in digestion and bonding. It also includes a reminder to burp the baby after feeding. This scene is crucial as it covers both the practical and nurturing aspects of feeding, one of the most frequent and important tasks in early parenting.

Image 11. Scene 6

This scene discusses how to create a safe and effective sleep routine for infants. It explains recommended sleep durations, sleep positions (such as putting babies on their backs), and ideal room conditions (like low noise and dim lighting). The animation also demonstrates calming bedtime routines such as singing or gentle rocking. This segment is important for helping parents understand how sleep affects infant growth and how to reduce risks such as Sudden Infant Death Syndrome (SIDS). It promotes the establishment of healthy sleep habits from an early age.

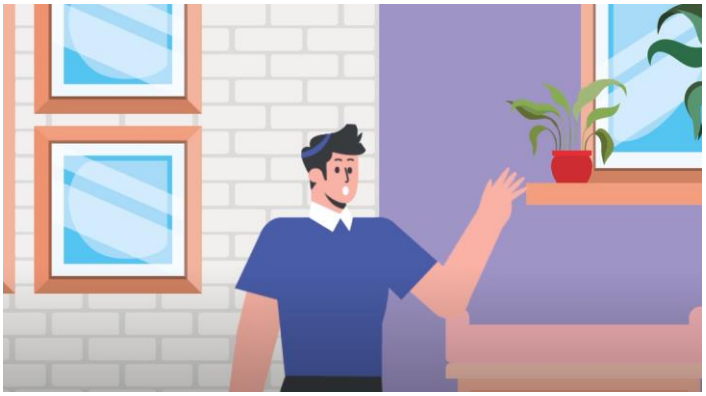


Image 12. Scene 7

The final scene of the 2D animation serves as a summary and emotional closure to the video. It features the main character—the father figure—delivering a warm and affirming message to the viewers. This character reappears in the same visual setting introduced at the beginning, creating a sense of narrative completeness and familiarity.

The character thanks the viewers for watching and expresses encouragement to all new parents, reinforcing the message that parenting is a journey filled with learning and love. A clear “Thank You” text is displayed on screen, accompanied by a soft background soundtrack, evoking a calm and supportive tone.

The video was tested by sharing it with a small group of new parents. Feedback was collected via structured interviews. Most respondents stated that the video helped them understand core baby care tasks more clearly. They appreciated the visuals, concise narration, and calming tone. One respondent mentioned:

“The video is clear and easy to understand. But I think the breastfeeding part could include more detail, and maybe not all babies should bathe every day.”

Such feedback indicates that while the animation is largely effective, there is room for refinement in personalization and content specificity. Viewers also suggested additional topics like managing infant allergies or postpartum emotional changes.

Conclusions

This study demonstrates that 2D animation is an effective and engaging medium for educating new parents about baby care. Developed using the Multimedia Development Life Cycle (MDLC) method, the animation delivers concise, visually appealing, and emotionally supportive content on topics such as hygiene, bonding, feeding, diaper changing, and sleep management. The final video, with a duration of 2 minutes and 8 seconds, was published on YouTube and evaluated through qualitative interviews.

A total of 30 respondents, consisting of new parents and couples preparing for parenthood, participated in the evaluation process. The majority of participants stated that the animation was helpful, clear, and enjoyable to watch. However, 4 respondents indicated that certain scenes were not sufficiently clear or relevant to their parenting context. Specifically, they mentioned that the baby bathing scene and the diaper changing scene lacked important hygiene details, such as the need to wipe the baby's bottom properly after changing. They also suggested adding content on food allergies in infants, which are often overlooked yet critical for early nutrition and safety.

These responses indicate that while the animation effectively covers foundational parenting topics, further improvements can be made to enhance content precision and practical applicability. User feedback plays an essential role in ensuring that the animation meets the diverse needs of its audience.

In conclusion, this project provides a promising model for using 2D animation in digital parenting education. With iterative development and integration of real user input, it has the potential to become a highly effective, scalable, and empathetic tool for supporting new parents in their caregiving journey.

References

Amalia, R. P., Abidin, F. A., & Lubis, F. Y. (2022). STRES PENGASUHAN, PENILAIAN IBU TERHADAP COVID-19, DAN PENGASUHAN SUPORTIF. *Jurnal Ilmu Keluarga Dan Konsumen*, *15*(1), 51–62. https://doi.org/10.24156/jikk.2022.15.1.51

Apriadi, A., Mitha, M., Noferianto Sitompul, & Salahuddin, S. (2023). ANIMASI 2D CERITA RAKYAT PAK SALOI "BERBURU KIJANG" DENGAN MENERAPKAN METODE MDLC. *Pixel :Jurnal Ilmiah Komputer Grafis*, *16*(2), 49–57. https://doi.org/10.51903/pixel.v16i2.1387

Audi, A., Saputra, I. M. A. A., & Pramayasa, I. M. H. M. (2024). PERKEMBANGAN GAYA ANIMASI DUNIA DAN INDONESIA. *Anima Rupa*, *1*(2), 72–78. https://doi.org/10.59997/animarupa.v1i2.3589

Khiyaroh, I. (2024). PENGARUH MEDIA SOSIAL TERHADAP POLA PARENTING ORANG TUA TERHADAP ANAK. *Darajat: Jurnal Pendidikan Agama Islam*, *7*(1), 36–42. https://doi.org/10.58518/darajat.v7i1.2778

Lenda, L., & Deu, I. (2024). Perancangan Video Animasi 2D Mengenai Standar Kecantikan Dari Berbagai Perspektif Dengan Menggunakan Metode MDLC. *INTECOMS: Journal of Information Technology and Computer Science*, *7*(1), 71–80. https://doi.org/10.31539/intecoms.v7i1.8015

Maharani, B. A. M., Farhan Bagustya Pradana, Moch. Kholil, & Rafika Akhsani. (2024). Pembuatan Animasi 2D In The Zoo Menggunakan Adobe After Efect dan Adobe Illustrator. *Jurnal Ilmu Komputer Dan Multimedia*, *1*(1), 16–28. https://doi.org/10.46510/ilkomedia.v1i1.8

Ririn Rahmawati, & Ina Sholihah Widiati. (2024). Perancangan Video Pembelajaran Animasi 2D Mata Pelajaran IPA Proses Fotosintesis di Sekolah Dasar Negeri 04 Sukoharjo. *Jupiter: Publikasi Ilmu Keteknikan Industri, Teknik Elektro Dan Informatika*, *2*(5), 104–118. https://doi.org/10.61132/jupiter.v2i5.533

Rofik, A., Mariono, A., & Sumarno, A. (2024). Pengembangan Media Video Pembelajaran untuk Meningkatkan Pengembangan Storyboard Mata Kuliah Animasi 2 Dimensi dan 3 Dimensi. *Jurnal Pembelajaran, Bimbingan, Dan Pengelolaan Pendidikan*, *5*(1), 4. https://doi.org/10.17977/um065.v5.i1.2025.4

Setiawan, I. M. D., & Permana, I. K. P. (2021). Dampak Media Pembelajaran Daring Berbantuan Video Animasi 2D pada Mata Kuliah Matematika. *Jurnal Imiah Pendidikan Dan Pembelajaran*, *5*(3), 484. https://doi.org/10.23887/jipp.v5i3.38649

Setiawan, R. A., & Pratama, J. (2023). Bahaya Perjudian Online Menggunakan Animasi 2D Dan Penerimaannya Menggunakan UTAUT. *INTECOMS: Journal of Information Technology and Computer Science*, *6*(2), 1109–1121. https://doi.org/10.31539/intecoms.v6i2.8004

Syahputra, B., Deli, D., & Gabriella, C. (2023). PERANCANGAN ANIMASI 2D MENGENAI MENSTRUASI UNTUK REMAJA PUTRI DENGAN METODE MDLC. *Rabit : Jurnal Teknologi Dan Sistem Informasi Univrab*, *9*(1), 15–28. https://doi.org/10.36341/rabit.v9i1.4133