

Development of Canva Application-Based Learning Media on Excretion System in MTS An-Nur Buuts School, Palu



Almira Rayyah Shadriah Fahru¹, Astija², Mohammad Jamhari³

¹Master of Science Education Study Program, Postgraduate Program, Universitas Tadulako.

^{2,3}Biology Education Study Program, Faculty of Teacher Training and Education, Universitas Tadulako.

ABSTRACT: The research is motivated by the limited adoption of digital learning media and the continued reliance of science instructors on printed materials like as worksheets and less interactive learning media for teaching excretion system topics. Hence, the present study was undertaken with the objective of developing educational digital media utilizing the Canva program, which would be deemed reliable for implementation as a supplementary learning tool for the excretory system curriculum. This study employs the research and development approach utilizing the ADDIE Development Model, which encompasses the Analysis, Design, Development, Implementation, and Evaluation phases. The research employed a questionnaire as the primary instrument to assess the media validation and student feedback about the learning materials that were created. The findings of the media validation test indicated that the percentage result obtained was 75%. This suggests that the learning media that was generated is deemed legitimate for use in scientific education, specifically for teaching the excretion system topic. The assessment exam administered to the pupils yielded a score of 80.6. Based on the obtained percentages, it can be inferred that the generated learning media may be classified as satisfactory.

KEYWORDS: Development, Learning, Media, Canva, Excretion System

INTRODUCTION

The research is motivated by the observed underutilization of digital-based learning media in the field of education, particularly in the context of scientific teaching. Despite the availability of digital resources, science instructors continue to rely on traditional printed learning materials such as worksheets. These materials are often characterized by a lack of interactivity and fail to fully engage students in the study of the excretion system. Hence, the present study was undertaken with the objective of developing educational digital media utilizing the Canva program, which would be deemed reliable for implementation as a supplementary learning tool for the excretory system topic. This study employs the research and development methodology utilizing the ADDIE Development Model [1]–[3], including the analysis and design phases. The incorporation of media in educational settings has significant importance and warrants careful consideration by educators. The utilization of educational media is anticipated to enhance interactivity and efficiency in the educational setting. Effective educational media has the potential to foster autonomous learning among pupils. Learning resources can be acquired through the utilization of educational media [4]–[8]. The presence of media can facilitate the seamless progression of the teaching and learning process. According to a study reported that the conventional procedure for primary education mandates that educators produce or develop instructional materials [9].

In the context of contemporary education, educators and learners are expected to attain proficiency in utilizing technological tools and resources. One potential use of technology is the creation of digital learning resources to facilitate the instructional and educational processes. Media refers to any means by which messages are conveyed from the sender to the recipient, with the aim of stimulating the cognitive, affective, and motivational aspects of pupils, so facilitating the process of learning. In contemporary Indonesia, several technology-based media platforms are frequently utilized by individuals to facilitate the process of learning. These platforms include video lessons, slideshows, animated movies, and various other apps [10]. According to the findings derived from observations conducted at MTS AN-Nur Buuts school in Palu City, it has been seen that science educators continue to employ printed learning materials, such as worksheets and less interactive educational resources. In order to mitigate pupils' diminished interest in science and their lack of attention on studying. One example pertains to excretory system content, since the comprehension of the structure and functioning of the excretory system necessitates the utilization of educational resources. Based on the aforementioned observations, it can be inferred that students would benefit from the incorporation of interactive learning media as a means to enhance their engagement in the learning process and foster a heightened level of interest in the subject matter being taught.

Development of Canva Application-Based Learning Media on Excretion System in MTS An-Nur Buuts School, Palu

The researchers utilized the findings from these observations to create digital learning materials, namely practical instructions and interactive animated movies, using the Canva tool. The Canva application is an internet-based design software that offers a range of tools and editing features for the creation of diverse visual designs. The utilization of Canva media has the potential to enhance teacher creativity in the development of instructional media, while also streamlining the delivery of educational content. This platform further facilitates enhanced comprehension among students by providing textual or video-based delivery of messages and educational resources. Furthermore, the utilization of Canva's educational media has the potential to enhance students' concentration and engagement in the learning process due to its visually appealing design [11].

METHOD

The study employs the research and development (R&D) approach utilizing the ADDIE Development Model, comprising the Analysis, Design, Development, Implementation, and Evaluation phases [12]–[14].

The participants in this research study consisted of science teachers and 8th grade students who were provided with educational material about the excretory system. The total number of participants was 20. This study has many phases, specifically:

- The analysis step involves doing an examination to identify the fundamental issues in media development. During this phase, data collection involved conducting observations and interviews with science instructors at MTS An-Nur Buuts school in Palu City. The findings of this research serve as the foundation for identifying the early stages in the creation of suitable educational materials.
- Design Stage: Following the identification of problems during the analysis stage, the subsequent phase involves the execution of the design stage. The objective of this design phase is to provide educational media for science learning on excretion systems, utilizing the Canva program as a design platform. The design phase encompasses the selection of an appropriate format for the educational material. This entails the creation of learning content, the selection of instructional methodologies and learning resources, the organization and design of Canva content, the development of Canva video designs, the incorporation of pictures, written text, and the utilization of diverse backdrops.
- Development Stage: The objective of this stage is to create educational material utilizing the Canva program, which has been refined via the incorporation of expert feedback. The last phase involves doing expert validation to authenticate the learning material that has been developed. The outcomes of this validation serve as valuable input for enhancing the quality of the generated educational materials.
- The implementation stage, namely the product testing, was conducted at MTS An-Nur Buuts school in Palu City subsequent to the completion of the learning media modification process. At this juncture, employing a questionnaire to evaluate the educational media items that have been produced, targeting both students and scientific educators.

The study was exclusively carried out during the implementation phase (trial) as a result of time limitations.

RESULTS AND DISCUSSION

The findings of the conducted analysis on scientific education at MTS An-Nur Buuts school in Palu City indicate a need for enhanced digital learning resources that are engaging, interactive, readily available to pupils, and capable of facilitating the learning process. The present study focuses on the utilization of the Canva program for the creation of educational media, namely animated movies, to enhance the learning experience pertaining to the excretory system. Once the learning medium has been developed, it undergoes a validation process by the lecturer. Once the animated video has undergone validation, it is subsequently subjected to revision. Subsequently, the outcomes of this revision were put into practice inside educational institutions in order to gauge the reactions of students towards the learning materials that had been created, utilizing an evaluation tool in the form of a questionnaire. The findings are assessed for validation in order to ascertain the degree of validation according to the criteria [15] is outlined in Table 1.

Table 1. Percentage of validation criteria

Percentage (%)	Criteria
81-100	Very Valid
61-80	Valid
41- 60	less valid
21- 40	Invalid
0-20	Strongly Invalid

Table 2. Analysis of Teacher Assessment of Canva Application-Based Learning Media on Excretion System Material in Science Subjects at MTSAn-Nur Buuts School, Palu City.

No	Rated aspect	Score	Percentage (%)
1	Appearance of learning media as a whole is interesting	4	80
2	Learning objectives are clearly formulated in learning media	4	80

Development of Canva Application-Based Learning Media on Excretion System in MTS An-Nur Buuts School, Palu

3	Presentation of material on learning media is arranged systematically	4	80
4	Language in learning media is easy to understand	3	60
5	Learning media can foster student learning interest	4	80
6	The use of images is very relevant to the material and can help students' understanding	4	80
7	Practice questions on learning media can foster students' thinking skills	3	60
8	Learning media can be studied by students independently or in groups	4	80
		30	600
	Mean	3,75	75

The average value of the percentage of learning media is 75%, which means that the learning media developed is Valid.

The teacher assessment formula employed in this study is outlined as follows:

$$P = F / N \times 100$$

Information:

P = Percentage validity

F= Average score of data collection

N = Maximum value.

Table 2 presents the findings of the assessment analysis conducted by the Science subject teacher at MTS An-Nur Buuts school in Palu City. The study yielded an average score of 3.75 and a percentage result of 75%. These results indicate that the generated learning media are deemed legitimate for implementation in the topic. The topic of this science lecture is the excretion system. The evaluation of the criterion for validity is referenced in Table 1. According to a study revealed that the criteria for learning media validity are reported to be within the range of 61-80% [16]. This legitimate category may be substantiated by the observation that aspects, when evaluated on average, receive a score of 4, corresponding to an 80% rating. This indicates that the overall visual presentation of the learning medium is aesthetically appealing. The learning objectives are effectively articulated within the learning media. The organization of content in the learning media is methodical and structured. Additionally, the incorporation of visuals is very pertinent to the subject matter and serves to enhance students' comprehension. The findings align with the study conducted which suggests that the creation of technology-based learning materials may serve as a tool and incentive for learning by facilitating the learning process and enhancing student competencies [17]. Similarly asserted that the redevelopment of learning media can be suitable for implementation in the school learning process, as it fosters a favorable learning environment for students and facilitates the transfer of knowledge. Furthermore, digital-based media enables students to access learning materials conveniently, anytime and anywhere [18]. However, there are still shortcomings in the area of practice questions within the developed Canva learning media. This is due to the presence of only a single practice question number. To address this issue, the Science Teacher at MTS An-Nur Buuts school has proposed a solution. They recommend incorporating multiple practice questions into the media to enhance its effectiveness. In order for this to serve as an evaluative resource for the development of these educational materials. In addition to the instructor, the implementation phase involves active participation from students. The result is presented in Table 3.

Table 3. Analysis of learning media assessment in student trials.

No	Rated Aspect	Amount	
		Mean	Percentage
1	In your opinion, is the content of this learning media interesting?	3.95	79
2	Do you think the content of this learning media is easy to understand?	4	80
3	How clear is the image in this learning media?	3.85	77
4	Is the clarity of the writing in this learning media understood?	4.25	85
5	Do you think the pictures on this learning media are interesting?	4.45	89
6	Do you think this learning media as a whole is interesting?	3.9	78
7	Can the learning media help make it easier for you to understand excretory system material?	3.8	76
	<i>Total</i>	28,2	564
		4,02	80,6

The average percentage of learning media is 80.6%, meaning that the learning media developed is good..

During the deployment phase, an additional study was conducted to evaluate student assessment of Canva-based animated video learning media pertaining to the excretion system topic. The evaluation is conducted by the dissemination of questionnaires comprising a total of seven inquiries. The survey was completed by a sample of 20 participants, specifically grade 8 students at

Development of Canva Application-Based Learning Media on Excretion System in MTS An-Nur Buuts School, Palu

MTS An-Nur Buuts school in Palu City. This group was chosen since they were currently studying the excretory system as part of their grade 8 curriculum. The findings of the trial evaluation study on students are shown in Table 4. The study yielded an average score of 4.02 and a corresponding percentage of 80.6%. Based on the obtained percentages, the learning media that was designed may be classified as satisfactory. As it pertains to Table 3. Based on the research conducted that it has been suggested that the criteria for evaluating student responses to learning media are considered satisfactory when they fall within the range of 61-80% [10]. The analysis of student responses to a questionnaire on learning media products utilizing the Canva application reveals positive findings across various aspects. The assessment of media attractiveness indicates an average percentage of 79%, while the ease of understanding learning media content receives an average percentage of 80%. Additionally, the clarity of images and writing is rated at 85%, and the effectiveness of the learning media in facilitating comprehension of the excretory system material is evaluated at an average percentage of 76%. According to a study done, it has been shown that utilizing animated video products created through the Canva program may effectively enhance student motivation and improve learning outcomes [19]. These findings suggest that such resources are well-suited for integration into educational practices. This study has resemblance to a previous study done whereby it was shown that the use of a learning animation film had a noteworthy impact on the academic achievements of students [20]. There exists a notable disparity in the thematic learning results of students prior to and subsequent to their use of learning animation movies. The present study is constrained by time limitations during the trial phase, which hinders a comprehensive assessment of the extent to which the efficacy of instructional media evolves in the educational setting.

CONCLUSION

The utilization of Canva application-based digital video animation learning media for teaching excretion system material is deemed valid, as it demonstrates a 75% success rate. Furthermore, student feedback regarding the Canva application-based digital video animation learning media is predominantly positive, with an 80.6% approval rate. In the pursuit of advancing educational media, it is imperative to assess the efficacy of incorporating Canva application-based learning media inside the instructional and learning procedures.

REFERENCES

- 1) Nurdianti, "Pengembangan media pembelajaran berbasis weblog untuk meningkatkan sikap siswa terhadap biologi dan internet Nurdianti Universitas Muhammadiyah Makassar Pendahuluan," vol. 1, no. 1, 2020.
- 2) Rahma Nur Liana Sari, "Penyusunan Media Belajar Mandiri Berbasis Blog the Arrangement of Web Blog for Self-Directed Learning on," *J. Pendidik. Biol.*, vol. 5, no. 8, 2016.
- 3) W. Amthari, D. Muhammad, and E. Anggereini, "Pengembangan E-LKPD Berbasis Saintifik Materi Sistem Pernapasan pada Manusia Kelas XI SMA," *BIODIK*, vol. 7, no. 3, pp. 28–35, Sep. 2021, doi: 10.22437/bio.v7i3.13239.
- 4) A. A. Asmawati and N. Naswandi, "Pengembangan Media Pembelajaran Biologi Berbasis Macromedia Flash pada Konsep Sistem Reproduksi Manusia," *Bionature*, vol. 13, no. 2, pp. 83–88, 2012.
- 5) E. Astuti and H. Nurcahyo, "Development of biology learning media based on adobe flash to increase interest and conceptual understanding," *J. Phys. Conf. Ser.*, vol. 1241, no. 1, 2019, doi: 10.1088/1742-6596/1241/1/012050.
- 6) N. K. Suni Astini, "Tantangan Dan Peluang Pemanfaatan Teknologi Informasi Dalam Pembelajaran Online Masa Covid-19," *Cetta J. Ilmu Pendidik.*, 2020, doi: 10.37329/cetta.v3i2.452.
- 7) E. A. Gomez, D. Wu, and K. Passerini, "Computer-supported team-based learning: The impact of motivation, enjoyment and team contributions on learning outcomes," *Comput. Educ.*, vol. 55, no. 1, pp. 378–390, 2010.
- 8) S. Muryoah and M. Fajartia, "Pengembangan Media Pembelajaran Berbasis Android dengan menggunakan Aplikasi Adobe Flash CS 6 pada Mata Pelajaran Biologi," *Innov. J. Curric. Educ. Technol.*, vol. 6, no. 2, pp. 22–26, 2017, doi: 10.15294/ijcet.v6i2.19336.
- 9) Ahmad, "Analisis Kebutuhan Pengembangan Media Powerpoint Interaktif Sebagai Media Pembelajaran Tematik Kelas V SD," *J. Elem. Sch.*, vol. 8, no. 1, pp. 75 – 81, 2021.
- 10) H. R. Widarti, D. A. Rokhim, and A. B. Syafruddin, "The Development Of Electrolysis Cell Teaching Material Based On Stem-Pjbl Approach Assisted By Learning Video: A Need Analysis," *J. Pendidik. IPA Indones.*, vol. 9, no. 3, pp. 309-318., 2021.
- 11) N. Siti and Sukmawati, "Penggunaan Media Interaktif berbantuan Canva Pada Pembelajaran IPA Materi Siklus Air Dengan Pendekatan Saintifik," *J. Educ. Soc. Anal.*, vol. 3, no. 1, pp. 37–43, 2022.
- 12) N. Dwitianti, S. A. Kumala, and F. Widiyatun, "Using the ADDIE model in development of physics unit conversion application based on Android as learning media," *Form. J. Ilm. Pendidik. MIPA*, vol. 10, no. 2, pp. 125–132, 2020, doi: 10.30998/formatif.v10i2.5933.
- 13) C. M. Budoya, M. M. Kissaka, and J. S. Mtebe, "Instructional design enabled Agile Method using ADDIE Model and Feature Driven Development method," *Int. J. Educ. Dev. using Inf. Commun. Technol.*, vol. 15, no. 1, pp. 35–54, 2019,

Development of Canva Application-Based Learning Media on Excretion System in MTS An-Nur Buuts School, Palu

[Online]. Available: <https://www.learntechlib.org/p/209737/>

- 14) E. Widyastuti and Susiana, "Using the ADDIE model to develop learning material for actuarial mathematics," *J. Phys. Conf. Ser.*, vol. 1188, no. 1, 2019, doi: 10.1088/1742-6596/1188/1/012052.
- 15) M. Jannah and J. Julianto, "Pengembangan Media Video Animasi Digestive System Untuk Meningkatkan Hasil Belajar Siswa Mata Pelajaran Ipa Kelas V," *J. Penelit. Pendidik. Guru Sekol. Dasar*, vol. 6, no. 2, pp. 124–134, 2018.
- 16) P. P. H. Gita and Zulherman, "Pengembangan Media Video Animasi Berbasis Aplikasi Canva untuk Meningkatkan Motivasi dan Prestasi Belajar Siswa," *J. Basicedu*, vol. 5, no. 4, pp. 2384 – 2394, 2021.
- 17) A. P. Sari, S. Wahyuni, and A. S. Budiarmo, "Pengembangan e-modul berbasis blended learning pada materi pesawat sederhana untuk meningkatkan keterampilan berpikir kritis siswa SMP," *Educ. J. Pendidik.*, vol. 1, no. 2, pp. 622–629, 2022.
- 18) W. S. Sembiring, W. Sudatha, I.G, and A. H. Simamora, "E-modul IPA memfasilitasi siswa menengah atas belajar mandiri," *J. Teknol. pembelajaran Indones.*, vol. 11, no. 1, pp. 26–39, 2021.
- 19) J. I. Ramos, A. A. P. Cattaneo, F. P. C. M. Espadeiro, and R. G. de Jong, "Pedagogical models for the facilitation of teacher professional development via video-supported collaborative learning. A review of the state of the art," *J. Res. Technol. Educ.*, vol. 54, no. 5, pp. 695–718, 2022.
- 20) P. J. R. Ponza, I. N. Jampel, and I. K. Sudarma, "Pengembangan Media Video Animasi pada Pembelajaran Siswa Kelas IV di Sekolah Dasar," *J. Edutech Undiksha*, vol. 6, no. 1, pp. 9–19, 2018.



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.