

Development of Animated Video Learning Media in Increasing Learning Interest of Deaf Students at Special Schools

Sri Alda Rabiasa¹, Dewi Diana Paramata^{2*}, Muhammad Yusuf², Abdul Haris Odja², Supartin¹, Dewa Gede Eka Setiawan¹

¹Department of Physics, Universitas Negeri Gorontalo, Gorontalo, Indonesia.

²Department of Science Education, Universitas Negeri Gorontalo, Gorontalo, Indonesia.

Received: May 09, 2024

Revised: June 19, 2024

Accepted: July 25, 2024

Published: July 31, 2024

Corresponding Author:

Dewi Diana Paramata

dewiParamata@ung.ac.id

DOI: [10.29303/jppipa.v10i7.8000](https://doi.org/10.29303/jppipa.v10i7.8000)

© 2024 The Authors. This open access article is distributed under a (CC-BY License)



Abstract: This research is development research (R&D) to obtain quality validation in producing animated video learning media to increase the learning interest of class XI Deaf students at Special Schools in SLB Negeri Kota Gorontalo. The media development model used in this research is the ASSURE model consists of six stages: Analyze learner characteristics; state Objectives; select methods, media, and materials; utilize media and materials; require Learner Participation; and evaluate. The instruments used in this research consisted of student activity observation sheet, learning implementation observation sheet, expert validation sheet, student learning result test sheets, and student questionnaires. The validity of the media received an average score of ≥ 3.00 , namely 3.93, and was categorized as very valid overall. The validation indicators obtained an average score of ≥ 3.00 for the overall learning material, namely 3.82 in the very valid category. It is concluded that the validity of animated video learning media in increasing the learning interest of deaf students in SLB Negeri Kota Gorontalo.

Keywords: Animation video; ASSURE; Deaf student; Learning Media; Special schools

Introduction

Children with special needs are included in the category of children who require special services to carry out daily activities. This includes children who experience disorders in physical development, sensory abilities, or specific body parts (Jimenez & Higgins, 2023; Nisa et al., 2018; Sonney, 2023; Trudel et al., 2023; Schueler, 2024). Children with special needs may be intellectually impaired and have distinctive physical characteristics that differentiate them from children their age, such as broad faces, thick or parted lips, mouths that are often open, and tongues that may protrude (Ernita & Rusydi, 2021; Nazarayn et al., 2023).

Children with special needs have various classifications of disability, each of which has the aim of

distinguishing various disorders, limitations, and disabilities (Aboulhassan, 2023; Olusanya et al., 2024; Rotenberg et al., 2024; Anaby et al., 2019; Salt & Sargent, 2014). This classification helps schools provide services that suit the needs of each child. Some of the characteristics of children with special needs include hearing impairment, visual impairment, mental retardation, physical impairment, and mental retardation (Rydzewska et al., 2019; Kolo, 2023; Wijaya & Raharjo, 2023; Wardhani, 2023). This classification identifies the types of physical, psychological, and social disorders that children with special needs have (Rezioka et al., 2021; Ritchie, 2022; Hirata & Ozawa, 2023).

Children with hearing impairments, such as those who are deaf, face challenges in hearing sounds entirely or may even experience total inability to hear. However,

How to Cite:

Rabiasa, S. A., Paramata, D. D., Yusuf, M., Odja, A. H., Supartin, & Setiawan, D. G. E. (2024). Development of Animated Video Learning Media in Increasing Learning Interest of Deaf Students at Special Schools. *Jurnal Penelitian Pendidikan IPA*, 10(7), 4327-4332. <https://doi.org/10.29303/jppipa.v10i7.8000>

it is recognized that almost all individuals, especially humans, can listen, even though only a tiny percentage (Rahmah, 2018). Deaf people have similarities with other children physically, but the differences are apparent in communication. When communicating, deaf children often use sign language. This also happens in the learning process, where teachers often use the lecture method with a sign language system (SIBI). Therefore, learning media is needed to help deaf children and teachers convey material, especially science material, which often requires examples of abstract concepts (Pamungkas et al., 2023; Marschark & Hauser, 2012).

Based on the observations of the situation at the Special School in SLB Negeri Kota Gorontalo, several problems were found, including teachers' need for teachers to use more learning media in the classroom teaching process. This causes some material to be complex for deaf students to understand because there is material that is difficult for teachers to explain using lip language and sign language. Hence, the material presented is not fully understood by students, which ultimately affects students' interest in learning. Therefore, one solution to this problem is to use a learning approach that combines visual elements, text, and active interaction. Researchers develop learning media, such as animated videos, because this media can help deaf students understand learning through visuals and achieve the teacher's learning goals. Animated videos were chosen because they attract students' attention with interesting animated images. The research was carried out to determine the validity, practicality, and effectiveness of animated video learning media in increasing the learning interest of deaf students at SLB Negeri Kota Gorontalo.

Learning media acts as a tool that helps in the teaching and learning process to make it easier for teachers to convey learning material so that it is hoped that students can better understand the material being taught (Mayasari et al., 2021). Its function is to improve the quality of education. Therefore, the more interesting the learning media the teacher creates, the more it can support students' interest in learning. Increasing students' interest in learning is expected to improve Indonesia's education quality (Hidayah et al., 2021). Apart from that, using learning media in the teaching and learning process can create new interests and

motivation for students and influence their psychological aspects (Cholifah & Saputro, 2022). Apart from arousing students' interest in learning, using learning media can also increase their understanding of the material presented by the teacher in class.

Animated videos are a form of learning media that effectively creates interesting learning material (Hapsari & Zulherman, 2021). Animation depicts objects initially static into moving images, creating a lively impression that suits the character. Using a series of images that change and change according to the design, the video becomes diverse by using colorful images that attract students' interest in learning (Agustien et al., 2018). Using animated videos in learning will increase the effectiveness of the learning process by overcoming space limitations and time, facilitating the explanation of abstract concepts, and making it easier for teachers and students to fulfill their learning tasks (Prasetya et al., 2021).

The use of animated video learning media in teaching deaf students requires paying attention to learning models that are appropriate to the conditions of students in the classroom. One learning model suitable for deaf students is the direct instruction model. According to Yanti (2019), the direct learning model is an approach that uses direct demonstrations and teacher explanations, followed by student practice and feedback, thus helping students acquire the knowledge and skills needed for further learning.

Method

This research is research and development (R&D). The research was conducted at the special schools in SLB Negeri Kota Gorontalo on Jl. Beringin, Tuladenggi, Kec. Duingingi, Gorontalo City, Gorontalo Province. The research subjects were deaf students in class XI. The research procedure, namely the ASSURE model on flow chart research in Figure 1, consists of six stages: Analyze learner characteristics; state Objectives; select methods, media, and materials; utilize media and materials; Require Learner Participation; and evaluate. The data analysis technique for this research is media validity analysis. Analysis of media validity is reviewed from the validation of media and material experts.

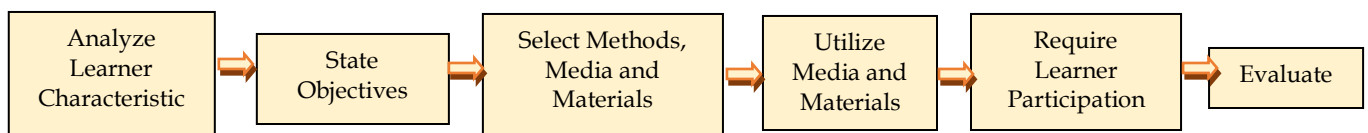


Figure 1. Flow chart research

Result and Discussion

Validation in this research includes media validation and material validation. Media validation was carried out to determine the suitability of animated video learning media in increasing the interest of deaf students in SLB Negeri Kota Gorontalo.

There are several aspects assessed by media expert validators, namely: Video quality consists of three indicators: Suitability of the video displayed with the material presented (SV), select the text and background colors used according to the contrast so they are easy to

read (ST), and harmony of text layout, images, and animation with video (HT); The use of sign language consists of three indicators: Appropriateness of hand gestures (AH), clarity of sign language display (CS), and the presentation uses language that is straightforward to understand (PL); And the last aspect is animation quality consists of three indicators: Quality of animation and transition effects in each frame/video cut (QA), suitability of animation to material (SA), and animated charm (AC). These 9 indicators can be presented in the graphic image of the learning media validation results in Figure 2.

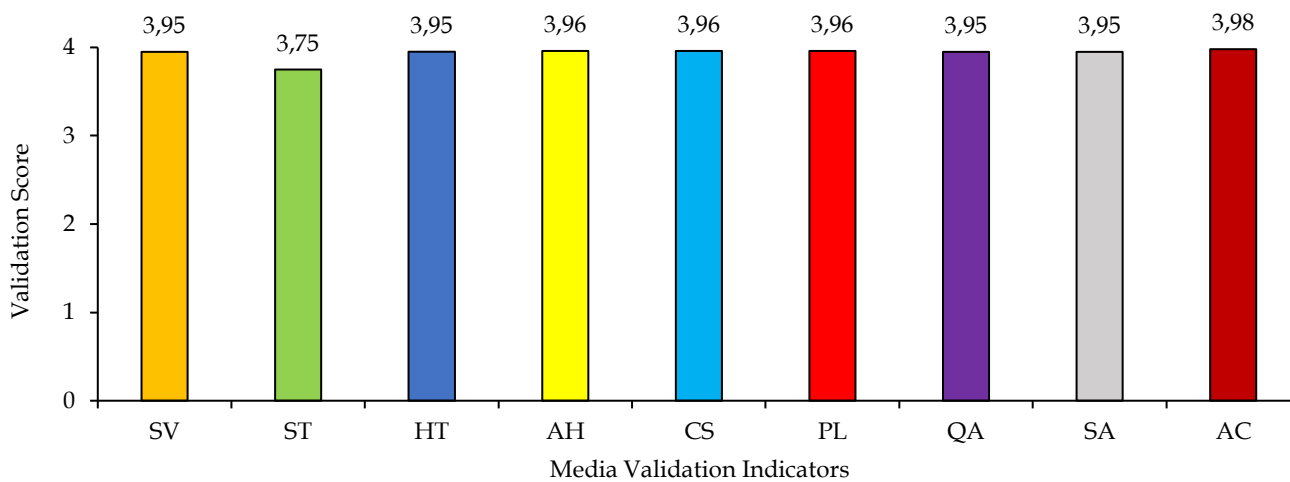


Figure 2. Assessment of Learning Media Validation

Based on the results of the learning media validation assessment in Figure 2, there are 9 indicators in the learning media assessment with the highest validation assessment score, namely the attractiveness of animation, namely 3.98, the second highest, namely suitability of hand gestures, clarity of sign language display and presentation using straightforward language. It is understood that these three indicators have the same value, namely 3.96. The third highest score is in the indicator of the suitability of the video displayed with the material presented, the suitability of the layout of the text, images, and animation with the video, the quality of the animation effects and transitions in each frame/video piece, and the suitability of the animation with the material. These four indicators have the same value, namely 3.95. The indicator that got the lowest score was the choice of text and background colors used according to the contrast so that it was easy to read, with a score of 3.75. So, the average score of ≥ 3.00 , namely 3.93, and was categorized as very valid overall. The lowest score was caused by the color of the text needing to be more precise and the size of the text being too close together, thus allowing for less

readability by students in the understanding of sound sources.

Based on the picture above, a media validation indicator received the highest score, namely the animation attractiveness indicator, with a score of 3.98. The overall validation score results of media experts with an average value of all indicators are 3.93 and are included in the very valid category. This is in line with the opinion of Giana et al. (2022), which states that if the average of the validation results shows a score close to 4, then it can be interpreted as the feasible category so that the product being developed is feasible and can be directly used for the following research steps. The results of this research are the same as research conducted by Giana et al. (2022), stating that the feasibility of videos for deaf students received the decent category.

There are two aspects to the material assessment carried out by the validator: Material accuracy consists of several indicators, namely: The material used is easy for students to understand (MU), and the material is appropriate to the students' abilities (MA); And the next aspect is the suitability of the material content consists of several indicators, namely: The material used is

appropriate to the subject (MS), the material's content is based on the learning objectives (MO), the material's content is based on the learning objectives (MC), and the presentation of material can attract students' attention (MP). These 6 indicators are presented in the graphic image of the material validation results in Figure 3.

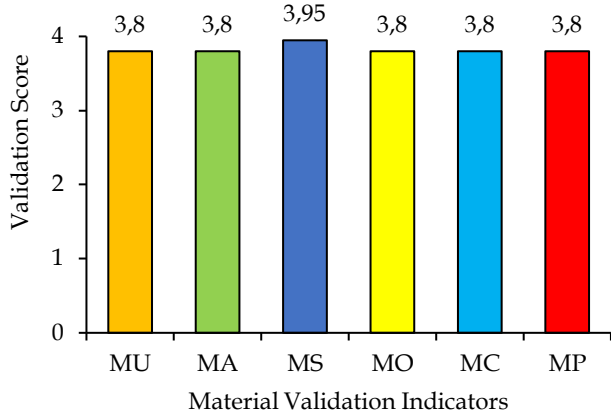


Figure 3. Assessment of Learning Material Validation

Based on the results of the material validation assessment in Figure 3, there are 6 indicators in the learning material assessment, with the highest validation assessment score being the material used according to the subject, namely 3.95, while for 5 indicators such as the material used is easy for students to understand, the material is appropriate to the student's abilities, the content of the material used is by the learning objectives, the content of the material is by the animation in the video, and the presentation of the material can attract the attention of students, getting the same validation assessment, namely 3.80. So, the average score of ≥ 3.00 for the overall learning material, namely 3.82 in the very valid category.

This research is also the same as research conducted by Firdausi et al. (2021), namely that the material must have a significant influence on the learning process because students actively pay attention and listen to the learning material, thus allowing the teacher to provide detailed explanations according to the needs and characteristics of the teaching material.

Conclusion

The assessment of the feasibility of this video includes validation by media experts. This research achieved an overall score of media expert validation indicators, getting an average score of ≥ 3.00 , namely 3.93, and was categorized as very valid overall. The validation indicators obtained an average score of ≥ 3.00 for the overall learning material, namely 3.82 in the very valid category. So, it is concluded that the validity of

animated video learning media in increasing the learning interest of deaf students in SLB Negeri Kota Gorontalo is very valid.

Acknowledgments

The researcher would like to express his gratitude to the principal and teachers in SLB Negeri Kota Gorontalo.

Author Contributions

Sri Alda Rabiassa: Conceptualization, methodology; Sri Dewi Diana Paramata: Writing—original draft preparation; Muhammad Yusuf: Validation; Abdul Haris Odja: Methodology; Supartin: Curation, writing—review and editing; Dewa Gede Eka Setiawan: Formal analysis.

Funding

This research received no external funding.

Conflicts of Interest

The authors declare no conflict of interest.

References

Aboulhassan, N. M. M. (2023). A Future Vision for the Development of Generalist Social Work Practice Mechanisms in Social Care Institutions for Children with Disabilities. *RES MILITARIS*, 13(2), 6453-6463. Retrieved from <https://resmilitaris.net/uploads/paper/21f4fa07752a853d73e60b72543484d5.pdf>

Agustien, R., Umamah, N., & Sumarno, S. (2018). Pengembangan Media Pembelajaran Video Animasi Dua Dimensi Situs Pekauman di Bondowoso dengan Model Addie Mata Pelajaran Sejarah Kelas X IPS. *Jurnal Edukasi*, 5(1), 19-23. <https://doi.org/10.19184/jukasi.v5i1.8010>

Anaby, D. R., Campbell, W. N., Missiuna, C., Shaw, S. R., Bennett, S., Khan, S., Tremblay, S., Kalubi-Lukusa, J-C., Camden, C., & GOLDS (Group for Optimizing Leadership and Delivering Services). (2019). Recommended Practices to Organize and Deliver School-Based Services for Children with Disabilities: A Scoping Review. *Child: Care, Health and Development*, 45(1), 15-27. <https://doi.org/10.1111/cch.12621>

Cholifah, T. N., & Saputro, G. I. (2022). Pengembangan Media Pembelajaran Vidam (Video Animasi) Pembelajaran Tematik untuk Meningkatkan Minat Belajar Siswa Kelas 3 SD. *Jurnal PRIMED: Primary Education Journal atau Jurnal Ke-SD An*, 2(2), 120-130. <https://doi.org/10.33379/primed.v2i2.1613>

Ernita, L., & Rusydi, P. H. N. (2021). Gambaran Personal Hygiene Anak Berkebutuhan Khusus di Panti Asuhan Waraqil Jannah. *Jurnal Salingka Abdimas*, 1(1), 15-17. <https://doi.org/10.31869/jsam.v1i1.2819>

- Firdausi, A., Purbaningrum, E., & Murtadlo, M. (2021). Media Video Pembelajaran Materi Perubahan Cuaca dalam Learning Management System Berbasis Web bagi Siswa Tunarungu. *Grab Kids: Journal of Special Education Need*, 1(1), 28-34. <https://doi.org/10.26740/gkjsen.v1i1.12138>
- Giana, D. P., Widajati, W., & Wagino, W. (2022). Pengembangan Video Tutorial Pembuatan Batik Jumputan Disertai Sibi Berbasis Android bagi Siswa Tunarungu. *GRAB KIDS: Journal of Special Education Need*, 2(2), 66-75. <https://doi.org/10.26740/gkjsen.v2i2.19081>
- Hapsari, G. P. P., & Zulherman, Z. (2021). Pengembangan Media Video Animasi Berbasis Aplikasi Canva untuk Meningkatkan Motivasi dan Prestasi Belajar Siswa. *Jurnal Basicedu*, 5(4), 2385. Retrieved from <https://jbasic.org/index.php/basicedu/article/view/1237>
- Hidayah, A., Al Qadri, B. R., & Yusuf, M. (2021). Analisis Video Pembelajaran dalam Peningkatan Minat Belajar Siswa. *Journal of Educational Technology, Curriculum, Learning, and Communication*, 1(1), 115. <https://doi.org/10.26858/jetcl.v2i3.34775>
- Hirata, Y., & Ozawa, E. (2023). Characteristics of Students Who Require Elementary School Counselors' Support Owing to Developmental Disorders. *Heliyon*, 9(3). <https://doi.org/10.1016/j.heliyon.2023.e13791>
- Jimenez-Gomez, A., & Higgins, S. (2023). The Body and Mind of the School-Age Child. In *Handbook of Mind/Body Integration in Child and Adolescent Development*, 35-48. https://doi.org/10.1007/978-3-031-18377-5_3
- Kolo, I. A. (2023). Special Learning Needs, Special Education and Exceptional Persons. *Special Needs Education from The Lens of Interdisciplinary Dialogue: A Festschrift in Honour of Prof. EMEKA D. OZOJI*, 1(1). Retrieved from <https://journals.ezenwaohaetorc.org>
- Marschark, M., & Hauser, P. C. (2012). *How Deaf Children Learn: What Parents and Teachers Need to Know*. OUP USA. Retrieved from <https://books.google.com>
- Nazarayn, R., Khmiz, T., & Kuzina, V. (2023). *Preventive and Interceptive Orthodontics: Textbook*. Retrieved from <https://repo.knmu.edu.ua/handle/123456789/31651>
- Nisa, K., Mambela, S., & Badiah, L. I. (2018). Karakteristik dan Kebutuhan Anak Berkebutuhan Khusus. *Jurnal Abadimas Adi Buana*, 2(1), 33-40. <https://doi.org/10.36456/abadimas.v2.i1.a1632>
- Mayasari, A., Pujasari, W., Ulfah, U., & Arifudin, O. (2021). Pengaruh Media Visual pada Materi Pembelajaran Terhadap Motivasi Belajar Peserta Didik. *Jurnal Tahsinia*, 2(2), 174. <https://doi.org/10.57171/jt.v2i2.303>
- Olusanya, B. O., Wright, S. M., Smythe, T., Khetani, M. A., Moreno-Angarita, M., Gulati, S., & Gladstone, M. J. (2024). Early Childhood Development Strategy for the World's Children with Disabilities. *Frontiers in Public Health*, 12, 1390107. <https://doi.org/10.3389/fpubh.2024.1390107>
- Pamungkas, M. D., Rahmawati, F., Franita, Y., Hendrastuti, Z. R., Chasanah, A. N., & Wicaksono, A. B. (2023). Identification of Mathematics Learning Media Needs for Junior High School Students with Hearing Impairment. *AL-ISHLAH: Jurnal Pendidikan*, 15(2), 2076-2083. <https://doi.org/10.35445/alishlah.v15i2.2865>
- Prasetya, W. A., Suwatra, I. I. W., & Mahadewi, L. P. P. (2021). Pengembangan Video Animasi Pembelajaran pada Mata Pelajaran Matematika. *Jurnal Penelitian dan Pengembangan Pendidikan*, 5(1), 62. <https://doi.org/10.23887/jppp.v5i1.32509>
- Rahmah, F. N. (2018). Problematika Anak Tunarungu dan Cara Mengatasinya. *Quality*, 6(1), 1-15. <https://doi.org/10.21043/quality.v6i1.5744>
- Rezieka, D. G., Putro, K. Z., & Fitri, M. (2021). Faktor Penyebab Anak Berkebutuhan Khusus dan Klasifikasi ABK. *Bunayya: Jurnal Pendidikan Anak*, 7(2), 40-53. <http://dx.doi.org/10.22373/bunayya.v7i2.10424>
- Ritchie, J. (2022). *Parent-Reported Levels of Anxiety in Children with Special Education Classifications*. The Florida State University.
- Rotenberg, S., Chen, S., Hunt, X., Smythe, T., & Kuper, H. (2024). Are Children with Disabilities More Likely to Be Malnourished Than Children without Disabilities? Evidence from the Multiple Indicator Cluster Surveys in 30 Countries. *BMJ Nutrition, Prevention & Health*, 7(1), 38. <https://doi.org/10.1136/bmjnph-2023-000779>
- Rydzewska, E., Hughes-McCormack, L. A., Gillberg, C., Henderson, A., MacIntyre, C., Rintoul, J., & Cooper, S. A. (2019). Prevalence of Sensory Impairments, Physical and Intellectual Disabilities, and Mental Health in Children and Young People with Self/Proxy-Reported Autism: Observational Study of a Whole Country Population. *Autism*, 23(5), 1201-1209. <https://doi.org/10.1177/1362361318791279>
- Salt, A., & Sargent, J. (2014). Common Visual Problems in Children with Disability. *Archives of Disease in Childhood*, 99(12), 1163-1168. <https://doi.org/10.1136/archdischild-2013-305267>
- Schueler, L. (2024). *Equipping Early Childhood Educators to Identify and Support Students with Sensory Processing Disorder: Recommendations from Occupational Therapists*. Thesis, Holin University. Retrieved from

- <https://digitalcommons.hollins.edu/matltheses/12/>
- Sonney, J. (2023). *Developmental Overview*. In Burns' Pediatric Primary Care-E-Book: Burns' Pediatric Primary Care-E-Book.
- Trudel, S. M., Winter, E. L., Fitzmaurice, B., Norman, G., & Bray, C. R. (2023). Integration of Physical Health and Sensory Processing Assessment for Children with Autism Spectrum Disorder in Schools. *Psychology in the Schools, 60*(2), 378-400. <https://doi.org/10.1002/pits.22704>
- Wardhani, R. D. K. (2023). Education and Learning Services for Children with Learning Difficulties The Child With Special Needed. *Scientia, 2*(2), 125-131. <https://doi.org/10.51773/sssh.v2i2.242>
- Wijaya, E. K., & Raharjo, W. (2023). Evaluation of The Special School Criteria in Meeting the Needs of Students with Mentally Disabled. *Journal of Architectural Research and Design Studies, 7*(1), 1-11. Retrieved from <https://journal.uii.ac.id/jards/article/view/25329>
- Yanti, W. (2019). Penggunaan Model Pembelajaran Langsung (Direct Instruction) untuk Meningkatkan Hasil Belajar Biologi Siswa Kelas X IPA 1 SMA Negeri 15 Kota Takengon Tahun Pelajaran 2018-2019. *BIOTIK: Jurnal Ilmiah Biologi Teknologi dan Kependidikan, 7*(2), 115-120. <http://dx.doi.org/10.22373/biotik.v7i2.5652>