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Feasibility Test of Moocs Platform Development for Interactive Adaptive Digital Modules for Hybrid Classes Implementation in Providing Easy Access for Students with Disabilities

Vika Fitranita[1*], Eko Risdianto[2], Mona Ardina[3]

[1,2,3]Universitas Bengkulu
Bengkulu, Indonesia
✉ vika.fitranita@unib.ac.id*

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Abstract

This article aims to present the results related to the feasibility test of the moocs platform for interactive adaptive digital modules for the implementation of hybrid classes in providing easy access for students with disabilities that have been developed. The research was conducted in 2024 by 3 researchers. Researchers developed the product by applying the ADDIE model (Analysis, Design, Develop, Implementation, Evaluation). One of the processes of the development model is to conduct a feasibility test on the product being developed. The feasibility test was carried out by 4 validators by filling out a closed questionnaire. The aspects that were the focus of the assessment by the validators were the Graphics Aspect, Media Aspect, Language Feasibility Aspect, Presentation Feasibility Aspect, and Content Feasibility Aspect. The feasibility test of the developed product was carried out by 4 validators with the focus of the assessment being the Graphics Aspect, Media Aspect, Language Feasibility Aspect, Presentation Feasibility Aspect, and Content Feasibility Aspect. In the four aspects that were the focus of the assessment by the validators, the percentage value obtained was above 85%. So, it can be concluded that the product being developed is feasible to be implemented.

A. Introduction

Educational technology has changed the way we learn, teach, and collaborate. Here are some of the major trends in educational technology advancements: 1) Online learning and e-learning, which are online platforms and courses, have become increasingly popular. Through online platforms of teaching materials that can be accessed anytime and anywhere, students can learn at their own pace, both for regular people and those with special needs. 2) Adaptive Learning: This technology uses data and analytics to adapt learning materials to the individual needs and abilities of students. This allows for a personalized learning experience and increases the effectiveness of learning. 3) Use of AI in Education: Artificial intelligence can help various aspects of education, such as automated assessment, personalization of learning, information retrieval, and curriculum development (Gocen & Aydemir, 2020; Zhai et al., 2021). 4) Technologies such as Virtual Reality (VR) and Augmented Reality (AR) are used to create immersive and interactive learning experiences. They enable students to learn complex concepts in a safe and realistic virtual environment (Al-Ansi et al., 2023; Fitria, 2023). Game-based learning, also known as game-based learning, 5) Games can be used as a learning tool to encourage students to learn, increase their engagement, and teach specific skills in a fun and challenging way. 6) Cloud-based Learning: Cloud services are used to store and share learning

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materials, allowing students and teachers from different locations to work together (Al-Samarraie & Saeed, 2018; Kovalevskaia et al., 2021). 7) Mobile learning, or M-Learning, is when mobile devices such as smartphones and tablets allow easy access to learning materials anytime and anywhere. 8) Project-Based Learning is a type of learning where students can participate in real-life projects that are relevant to their subject matter. This learning enhances students' creativity, critical thinking, and collaboration (Hanif et al., 2019; Shin, 2018).

Every citizen has the right to education, and the state is responsible for providing education to all citizens, including citizens with disabilities. The term "disabled" includes conditions such as blindness, deafness, mobility limitations, autism, developmental disorders, and others (Cieza et al., 2018; Dunn et al., 2020; Kiani et al., 2019). As part of society, people with disabilities have the same rights as others to live independently, get an education, work, and participate in social and cultural life. This is expected to reduce the stigma and discrimination often faced by people with disabilities and create an inclusive and supportive environment for them.

Educational technology has opened up new opportunities to improve the quality, access and relevance of education worldwide (Demmanggasa et al., 2023). Technology continues to be a powerful force in transforming education, although issues remain to be addressed, such as the digital divide and accessibility. In education, the lack of educational resources and media for people with disabilities is a significant issue (Febriana & Indriasari, 2024). Some of the major issues faced in this regard are as follows: 1) Accessibility: Instructional materials and media must be designed to be accessible to all, including those with various types of disabilities. 2) Availability: Some media and instructional materials are currently not available in formats that are accessible to people with disabilities. This may be a problem especially when specialized or rare instructional materials are needed. 3) Technological Limitations: Although people with disabilities often do not have access to accessible education and media, technological limitations can still be a barrier. 4) Human Resources: In addition to students, teachers and lecturers must be trained in creating, using, and adapting instructional materials and media to meet the needs of different students, including those with disabilities. It is important for various parties to raise awareness of accessibility to overcome these limitations.

The government has issued regulations to help Indonesians with physical disabilities learn. This is in accordance with the National Education System Law Number 20 of 2003, which mandates that everyone with physical, emotional, mental, intellectual, and/or social disabilities has the right to education (Ferizaldi & Fazlina, 2020). In addition, Law Number 8 of 2016 concerning Persons with Disabilities, which is strengthened by Law Number 12 of 2012 concerning Higher Education, and Regulation of the Minister of Education, Culture, Research, and Technology Number 48 of 2023 concerning Appropriate Accommodation for Students with Disabilities in Formal Early Childhood Education Units, Elementary, Middle, and Higher Education (Alhadi et al., 2024). Innovation is needed in learning for students with disabilities as a concrete step towards the above.

Depending on the type and level of needs of the person with disabilities, there are various learning innovation options that can be used. The following innovations can be considered: a) Assistive Technology: The use of technology such as screen reader software, adaptive hardware, or special learning applications designed to meet the needs of people with disabilities can greatly assist in learning. b) Multimedia-Based Learning: Using learning materials in multimedia formats such as video, audio, and animation can facilitate learning. c) Project-Based Learning is a learning approach that allows people with disabilities to learn through hands-on experiences. These projects can be tailored to the needs and interests of the individual, allowing them to be actively involved in the learning process. d) Hybrid Learning and Distance Learning: These methods can provide flexibility to people with disabilities, allowing them to access education without physical or geographical mobility restrictions.

Based on the description above, the researcher developed a moocs platform for interactive adaptive digital modules for the implementation of hybrid classes in providing easy access for students with disabilities. This article aims to present the results related to the feasibility test of the products that have been developed.

B. Research Methods

The research was conducted in 2024 by 3 researchers. Researchers developed the product by applying the ADDIE model (Analysis, Design, Develop, Implementation, Evaluation). One of the processes of the development model is conducting a feasibility test on the product being developed. The feasibility test was carried out by 4 validators by filling out a closed questionnaire. The aspects that were the focus of the

assessment by the validators were the Graphics Aspect, Media Aspect, Language Feasibility Aspect, Presentation Feasibility Aspect, and Content Feasibility Aspect.

C. Results and Discussion

In the product feasibility test process, 4 validators assessed the product on aspects of graphics, media, language, presentation, and content. Each aspect has a different number of items, but each item has the same maximum score, which is 4. The following are the results of filling out the feasibility test questionnaire conducted by 4 validators.

Table 1. Product Feasibility Test Results

Aspect	Score Obtained	Maximum Score	Percentage
Graphics	83	96	86.46%
Media	75	80	93.75%
Language	58	64	90.63%
Presentation	120	128	93.75%
Contents	63	64	98.44%

The table above shows that in the four aspects that are the focus of the assessment by the validator, the percentage value obtained is above 85%. This shows that the product developed is feasible to be implemented.

Figure 1. Moocs Platform View

The graphic aspects assessed include the attractiveness of the digital module developed, the suitability between the Cover/Thumbnail on the moduledigital (MOOCs) developed with digital module content, Clear and consistent font size, Font type can be read clearly, Images that appear in the video material can be seen clearly and the suitability of the images with the material (Accounting Information System) in the digital module.

In the Media Aspect, the validator assesses whether the digital Module (MOOCs) can be used anytime when using Internet access, can be used anywhere (in class or outside class), in accordance with current developments in science and technology, is easily accessible in hybrid learning (Synchronous online and offline), and can be operated easily (both normal students and those with special needs).

For the language aspect, based on the assessment results by the validator, it is known that the language used in the digital video module is in accordance with good and correct Indonesian language rules, is communicative, informative and can be easily understood by students with special needs.

The next aspect assessed is regarding the presentation, which includes the suitability of questions and materials with learning objectives and indicators, the ability of digital modules to help students with

disabilities learn in hybrid classes, interactive features that complement the presentation of digital modules, the presentation of digital modules is straightforward so that it is easy for students to understand (both regular or those with special needs/disabilities), the presentation of digital modules can increase the knowledge of students with disabilities in the Accounting Information Systems course, the presentation of photos and videos in the digital module clarifies the material in the Accounting Information Systems course, formative tests on digital modules can make it easier for students with disabilities to understand the material in the Accounting Information Systems course and are in accordance with the material in the Accounting Information Systems course.

The last aspect is regarding the suitability of the content, this aspect includes the suitability of the digital module material with the curriculum applicable in Higher Education, the breadth of the material presented and the depth of the material in accordance with learning outcomes, accuracy examples and cases in the material in the Accounting Information Systems course and the cases given are relevant to everyday life.

Based on the results of the validator's assessment of the developed digital module, the digital module is declared feasible to be implemented. Further improvements can be made based on the results of the product implementation process in the field.

D. Conclusion

The feasibility test of the developed product was carried out by 4 validators with the assessment focus being Graphic Aspect, Media Aspect, Language Feasibility Aspect, Presentation Feasibility Aspect, and Content Feasibility Aspect. In the four aspects that were the focus of the assessment by the validator, the percentage value obtained was above 85%. So, it can be concluded that the developed product is feasible to be implemented.

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References

Al-Ansi, A. M., Jaboob, M., Garad, A., & Al-Ansi, A. (2023). Analyzing augmented reality (AR) and virtual reality (VR) recent development in education. *Social Sciences and Humanities Open*, *8*(1), 100532. https://doi.org/10.1016/j.ssaho.2023.100532

Al-Samarraie, H., & Saeed, N. (2018). A scoping review of cloud computing tools for collaborative learning: Opportunities and challenges to the blended-learning environment. *Computers and Education*, *124*, 77–91. https://doi.org/10.1016/j.compedu.2018.05.016

Alhadi, A., Nuryani, P., Rohimah, S., & Andriani, O. (2024). Analisis Landasan Yuridis dalam Pendidikan Inklusi. *Jurnal Ventilator*, *2*(1), 01–06. https://doi.org/10.59680/ventilator.v2i1.869

Cieza, A., Sabariego, C., Bickenbach, J., & Chatterji, S. (2018). Rethinking Disability. *BMC Medicine*, *16*(1), 10–14. https://doi.org/10.1186/s12916-017-1002-6

Demmanggasa, Y., Sabilaturrizqi, M., Kasnawati, Mardikawati, B., Ramli, A., & Arifin, N. Y. (2023). Digitalisasi Pendidikan: Akselerasi Literasi Digital Pelajar Melalui Eksplorasi Teknologi Pendidikan. *Community Development Journal*, *4*(5), 11158–11167. https://doi.org/10.31004/cdj.v4i5.22045

Dunn, K., Rydzewska, E., Fleming, M., & Cooper, S. A. (2020). Prevalence of mental health conditions, sensory impairments and physical disability in people with co-occurring intellectual disabilities and autism compared with other people: A cross-sectional total population study in Scotland. *BMJ Open*, *10*(4), 1–10. https://doi.org/10.1136/bmjopen-2019-035280

Febriana, S., & Indriasari, S. (2024). Pemenuhan Hak Pendidikan Bagi Penyandang Disabilitas Di Kabupaten Klaten. *Fenomena: Jurnal Ilmu Sosial*, *04*(01), 1–15. https://doi.org/10.14420/33cxma76

Ferizaldi, F., & Fazlina, F. (2020). Implementasi Program Pendidikan Inklusif di Kabupaten Bireuen. *HUMANIS: Jurnal Ilmu Administrasi Negara*, *6*(2), 150–160. https://doi.org/10.52137/humanis.v6i1.24

Fitria, T. N. (2023). Augmented Reality (AR) and Virtual Reality (VR) Technology in Education: Media of Teaching and Learning: A Review. *International Journal of Computer and Information System (IJCIS) Peer Reviewed-International Journal*, *04*(01), 2745–9659.

https://doi.org/10.29040/ijcis.v4i1.102
Gocen, A., & Aydemir, F. (2020). Artificial Intelligence in Education and Schools. *Research on Education and Media*, *12*(1), 13–21. https://doi.org/10.2478/rem-2020-0003
Hanif, S., Wijaya, A. F. C., & Winarno, N. (2019). Enhancing Students' Creativity through STEM Project-Based Learning. *Journal of Science Learning*, *2*(2), 50–57. https://doi.org/10.17509/jsl.v2i2.13271
Kiani, R., Bhaumik, S., Tyrer, F., Bankart, J., Miller, H., Cooper, S. A., & Brugha, T. S. (2019). The relationship between symptoms of autism spectrum disorder and visual impairment among adults with intellectual disability. *Autism Research*, *12*(9), 1411–1422. https://doi.org/10.1002/aur.2138
Kovalevskaia, N., Gilyazeva, E. N., Lobazova, O. F., Duborkina, I. A., & Sokolova, A. P. (2021). Impact of digital services of hybrid cloud-based learning environment on efficiency of education. *Revista Tempos E Espaços Em Educação*, *14*(33), 1–16. https://doi.org/10.20952/revtee.v14i33.15297
Shin, M.-H. (2018). Effects of Project-based Learning on Students' Motivation and Self-efficacy. *English Teaching*, *73*(1), 95–114. https://doi.org/10.15858/engtea.73.1.201803.95
Zhai, X., Chu, X., Chai, C. S., Jong, M. S. Y., Istenic, A., Spector, M., Liu, J. B., Yuan, J., & Li, Y. (2021). A Review of Artificial Intelligence (AI) in Education from 2010 to 2020. *Complexity*, *2021*, 1–18. https://doi.org/10.1155/2021/8812542