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DEVELOPMENT OF HTML5 FLIP-ASSISTED ELECTRONIC MODULE CULTURAL HERITAGE MATERIAL FOR GRADE 5 ELEMENTARY SCHOOL STUDENTS

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ABSTRAK

Education is a crucial means of passing on culture. This research aims to develop a valid HTML5 Flip-assisted e-module for learning cultural heritage materials, intended for grade 5 elementary school students. This research uses the Research and Development (R&D) method of Richey and Klein model which consists of three stages, namely planning, production, and evaluation. Participants in this study consisted of one elementary school teacher and one instructional designer as validators of material experts and media experts. The results showed that the Flip HTML5-assisted e-module is very valid to be used as a learning medium. Material expert validation obtained a score of 96% and was categorized as very valid, while media expert validation obtained a value of 89% which means very valid. Thus, this e-module can be an alternative innovative learning media that is feasible to be implemented in primary education.

A. INTRODUCTION

Primary education has an important role in the formation of students' character and basic knowledge. One of the important aspects of primary education in Indonesia is the introduction and preservation of cultural heritage. Education is a crucial means of inheriting culture. Cultural heritage is an entire cultural heritage that has important historical, scientific and technological values, and art (Wibawati & Prabhawati, 2021). The introduction of cultural heritage at the primary school level is important to enrich students' knowledge of their national identity as well as increase their love and pride for the local culture and homeland. The increasingly advanced flow of globalization has an impact on the decreasing love for Indonesian art (Yudiawati, 2021). Therefore, providing knowledge about cultural heritage from an early age needs to be done so that students recognize and appreciate their culture.

Information and communication technology (ICT) is currently an inseparable part of the educational process and daily life. The digital era is a challenge for the world of education to present interesting and effective teaching of cultural knowledge. Learning using printed books feels boring and less interesting for students (Efendi et al., 2020). Conventional print-based media tends to be susceptible to physical damage and requires considerable costs for book distribution (Fajrie et al., 2024). Printed books tend to burden students because the price of books increases every year (Wahyuni et al., 2020). Providing printed books alone is not enough to make students understand the material, but it also needs to be supported by facilities and infrastructure that support the learning process (Chintya & Risda, 2023). This condition requires the implementation of digital-based learning solutions that can increase student engagement and motivation. The development of technology-based cultural heritage teaching materials is a necessity so that learning is interesting, effective, and efficient.

Along with the progress of the times, many cultures are slowly eroded by these developments (Meidaluna & Anggapuspa, 2020). Based on the results of interviews with 5th grade elementary school teachers, it was revealed that in learning teachers are limited to using conventional media in the form of printed books only. Meanwhile, the results of interviews and observations in Trusmi Wetan Village show that the millennial generation considers that studying culture is only a waste of time and is useless (Faqih et al., 2021). Students are less interested in the

social studies learning process and even consider social studies subjects in elementary school as boring subjects (Abdulatif & Muh. Husen Arifin, 2023). This view shows that preserving culture in the face of an increasingly strong modernization current is a great challenge.

The use of technology in education can increase students' interest and understanding of subject matter. One of the innovations that can be used in cultural teaching is the use of electronic modules (e-modules) or digital modules assisted by Flip HTML5. A digital module is a module that uses flipbook software (Putri & Reinita, 2023). Flip HTML5 is a web-based flipbooks application that can be used to convert PDF files into flipbooks and allow content creation and multimedia additions (Wati et al., 2022). That way, content creation becomes easier and more efficient and attracts readers' interest. Compared with traditional formats such as printed books or static PDF documents, Flip HTML5 presents a more dynamic and engaging learning experience. Flip HTML5's interactive features, such as page-flipping effects and multimedia support can make the learning process more engaging and accessible. Students can access learning materials anywhere and anytime through various devices.

The results of research conducted by Marhayani et al. (2025) who developed an electronic module of Cidayu local wisdom (Chinese, Dayak, Malay) using FlipHTML5 software show that electronic modules function as independent learning resources and can improve student learning outcomes. However, this development research is intended for college students and is only limited to Cidayu's local wisdom. In addition, the development of electronic modules is dominated for the target of middle school users and the development of electronic modules for the elementary school level is still very limited, including cultural heritage materials.

The application of electronic modules or e-modules brings many benefits in learning. The use of e-learning modules increases the knowledge, confidence, and perception of undergraduate nursing students in working with the elderly (Shrestha et al., 2024). The results of research conducted by Afida et al. (2024) show that Flip HTML5-assisted electronic modules can improve learning outcomes and student activity. In line with the research, research conducted by Handiar & Zulherman (2023) shows that the development of Flip HTML5-assisted e-books makes learning outcomes and student motivation increase. On student subjects, based on research conducted by Rahmiati et al. (2023), the use of e-modules can also increase student motivation. Meanwhile, the results of research conducted by Wahyuni et al. (2020) show that problem-solving-based electronic modules are very effective in developing students' critical thinking skills. Thus, it can be concluded that the use of electronic modules can improve learning outcomes, motivation, critical thinking skills, activeness and confidence of students.

Based on the description above, the author is interested in developing teaching materials in the form of Flip HTML5-assisted e-modules on cultural heritage materials. The e-module is complemented by challenges that are contextual to student life and crossword puzzle games. Thus, it not only provides insight but also encourages students to be creative and think critically. The development of Flip HTML5-assisted e-modules for cultural heritage materials in grade 5 of elementary schools is expected to provide solutions to existing challenges. The use of digital modules can improve problem-solving skills (Mulhayatiah et al., 2019). Teaching materials that include multicultural aspects can help students develop cross-cultural skills, intercultural communication, and an understanding of the global world (Muhaimin et al., 2023). This e-module will not only present information in a more interesting way, but also make it easier for teachers to deliver material and help students understand and appreciate their cultural heritage.

Through the development of Flip HTML5-assisted e-modules, students are expected to be able to more easily understand and internalize their local cultural values. In addition, this approach can also help teachers in delivering material in a more interesting and fun way, thereby increasing the effectiveness of learning in the classroom. The use of this technology-based e-module is in line with the government's efforts to integrate information and communication technology (ICT) into education. This is also in accordance with the development of the times where digital literacy is one of the competencies that must be possessed by the younger generation.

The urgency of this research is the fact that students' understanding and appreciation of cultural heritage is still low. Many students consider that cultural studies are less relevant to daily life, resulting in a decrease in interest in learning about local cultural heritage. This condition is exacerbated by the dominance of conventional learning methods that rely heavily on printed textbooks, so that learning is monotonous and less interesting. In addition, the increasing influence of globalization and digital media has shifted students' interest away from local cultural values. The lack of integration between cultural heritage education and modern technology also further hinders student engagement. Therefore, it is necessary to develop innovative and interactive learning media that can effectively introduce and

preserve cultural heritage among elementary school students.

The purpose of this study is to explain the process of developing Flip HTML5-assisted e-modules on cultural heritage materials for 5th grade elementary school students and the feasibility of e-module products. The results of development and writing are expected to be useful for the wider community, enrich the student experience, support efforts to preserve culture, and increase attention to the nation's cultural heritage. So that its existence continues to be preserved and will not become extinct.

B. METHODS

This research is research development. The research product developed is an electronic module media assisted by flip html 5 cultural heritage materials. This research method uses the development model according to Richey and Klein. The Design and Development (D&D) method, according to Richey and Klein, is a systematic design and research approach that focuses on creating product designs and evaluating the performance of various tools and models that can be used in both learning and non-learning contexts (Febrista & Efrizon, 2021). The development model according to Richey and Klein includes three stages, design, production, and evaluation.

Figure 1. Richey dan Klein Method

The data used in this study include product validation results from material experts and product validation results from media experts. The data is used to measure the feasibility of electronic module products as a learning medium for cultural heritage materials. The respondents involved in this study are one public elementary school teacher as a material expert validator and one instructional designer at a digital learning private company as a media expert validator.

The data collection technique in this study uses non-tests. The non-test technique uses a questionnaire in the form of a statement to measure the feasibility of the product through product validation tests from material experts and media experts. The questionnaire in this study uses a Likert scale. The Likert scale is a psychometric scale that is commonly used in questionnaires and is most widely used in surveys and research because it is easy to use (Sumartini & Sthevany, 2020). Respondents can easily understand and answer based on the Likert scale and responses are easy to code when collecting data (Yoonjoung et al., 2022). The Likert scale has been widely used in the measurement of latent variables in the social sciences (Memmedova & Ertuna, 2024). In this study, the Likert scale is used to determine perceptions and attitudes related to electronic modules. Respondents chose one of the response options that best described their attitudes, beliefs, and experiences (Yamashita, 2022). The questionnaire using a likert scale for product validation and assessment consisted of five response options, namely strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1). The research and development instruments used are validation instruments for material experts and media experts.

The data analysis technique uses quantitative descriptive analysis techniques. Quantitative descriptive analysis is used to analyze expert judgement data from material and media experts. The data from the validation of materials and media was analyzed using formulas. The results of this validation were obtained from material and media experts who will later show how valid the electronic module is. The validity score of the electronic module is calculated through the following formula.

$$Va = \frac{TSa}{TSh}\ x\ 100\%$$

Information
Va : Percentage of validation score
TSa : Total score obtained
TSh : The highest possible total score

Validity criteria as shown in table 1. next.

Table 1. Validity Criteria

Interval	Category
85,00% < Va ≤ 100,00%	Very valid
70,00% < Va ≤ 85,00%	Valid
50,00% < Va ≤ 70,00%	Less valid
01,00% < Va ≤ 50,00%	Invalid

Source: (Akbar, 2017)

If the validation result shows a percentage of less than 70%, then the electronic module needs to be revised. Meanwhile, if the validation results show a percentage of more than or equal to 70%, then the electronic module does not need to be revised. However, even though the validation results do not need to be revised, if there are suggestions/comments from validators, then the electronic module needs to be revised according to the suggestions from validators.

C. RESULTS AND DISCUSSIONS

The electronic module is developed in three stages, including planning, production, and evaluation stages.

1. Planning

This stage is a stage to determine the various needs needed in the development of electronic modules, including learning outcomes, knowledge and necessary components. The following is the identification of the need in developing electronic modules.

a. Electronic module needs analysis

1) Analysis of functional needs, namely various aspects in the electronic module, including buttons for page selection and module content based on learning outcomes.
2) Analysis of non-functional needs, namely the facilities and infrastructure used in the process of making electronic modules, including hardware such as laptops and software used, namely Canva, Pinterest, Flip HTML5, and Freepik.

b. Material Analysis

At this stage, an analysis of the material will be included in the electronic module based on the content of learning achievements. The material presented in the electronic module includes Borobudur Temple, the meaning of cultural heritage, cultural heritage in Sidoarjo, types of cultural heritage, Indonesian cultural heritage recognized by UNESCO, Indonesian products that are global, the importance of maintaining and preserving cultural heritage, and how to maintain cultural heritage.

c. Procedural analysis

Procedure analysis is the process of analyzing in detail each step involved in operating a system, with the aim of understanding, evaluating, and optimizing the efficiency and effectiveness of those operations.

2. Production

This stage is the stage where the product design is developed. The product design was created using the Canva app and utilizes images taken from Pinterest and Freepik. Furthermore, the electronic module was developed using Flip HTML5. After the electronic module is developed, the next stage is testing carried out by material experts and media experts.

3. Evaluation

Evaluation is the activity of assessing products by experts to understand the weaknesses of the product and obtain advice from experts so that the products developed are suitable for use and quality (Agung et al., 2021). In the evaluation stage, the electronic module is tested for feasibility to determine the feasibility of the product. Testing uses validity tests by material experts and media experts. Instruments are given to media experts and material experts to find out the feasibility of the product.

Based on the validation results from material experts and media experts, the electronic module obtained validation results from material experts with a percentage value of 96%, so that the electronic module is very valid to use. Meanwhile, the validation results from media experts obtained a result of 89%, which means that the electronic module is very valid to be used as a learning medium.

The results of the development of electronic modules can be used as teaching materials to improve the cultural literacy of grade 5 elementary school students. Electronic modules are teaching materials that are made in a systematic, interesting, easy-to-understand language so that they can be used by students independently to achieve the desired competencies and presented in electronic format using electronic media (Etanastia et al., 2022). The electronic module developed is titled "E-Module of Cultural Heritage". This 30-page electronic module was developed using Canva and Flip HTML5. Electronic E-Modules created with the Canva application are very attractive because of their various features that are easy to use and support creativity, thus making their use in schools more comfortable (Wulan et al., 2023).

Modules in learning activities function as independent teaching materials for students, substitute for teacher functions, as evaluation tools and reference materials (Zega & Eliza, 2020). The use of e-modules is in line with the development of the times that reduce the use of paper in order to carry out a go green campaign (Amril & Thahar, 2022). The use of electronic modules can also develop students' digital literacy. In this context, the electronic module functions as a learning medium that can increase cultural literacy in 5th grade elementary school students, as a medium to introduce Indonesian culture, and as a medium to promote Indonesian culture. The display of the electronic module can be seen as follows:

1. Cover Page

The cover page contains the title of the electronic module i.e. "Cultural Heritage" and the author's name. Title to provide information related to the content of the module and the identity of the author. The display of the cover page of the electronic module is as follows.

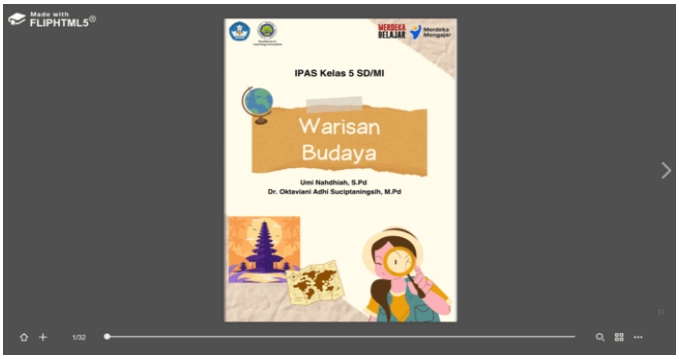

Figure 2. Cover Page View

2. Book Owner Profile
   The book owner profile contains the identity of the student who is the user.
3. Foreword
   The preface contains a brief introduction, acknowledgments, benefits, criticism, and suggestions. Here's what the "Foreword" page looks like.

Figure 3. Owner Profile Display and Foreword

4. Table of Contents
   The table of contents page contains all the details of the content in the electronic module and its pages. Everything in this ebook and its pages. Here's what the "Table of Contents" looks like.

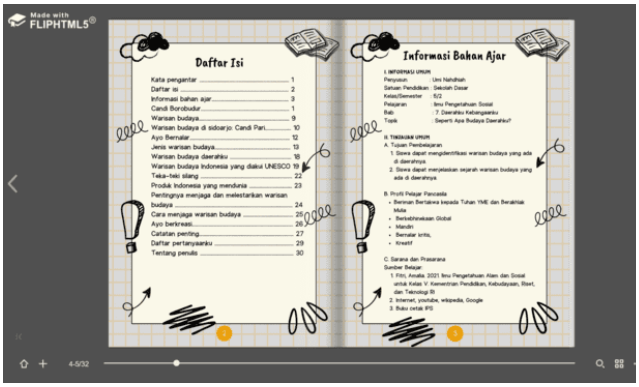

Figure 4. Display of Table of Contents and Information on Teaching Materials

5. Teaching Materials Information
   Teaching Materials Information contains information about the electronic modules developed, including general information, an overview that includes learning objectives, Pancasila student profiles, facilities and infrastructure, learning topics, target students, and 21st century skills.
6. Part 1 of Borobudur Temple
   It contains perceptions of cultural heritage materials, information about Borobudur Temple, and exercises that hone students' knowledge. Here's what "Part 1. Borobudur Temple"

Figure 5. View of Part 1 of Borobudur Temple

7. Part 2 Definition of Cultural Heritage
   Part 2 explains the meaning of cultural heritage and how it originated. The following is the view of "Part 2 Definition of Cultural Heritage".

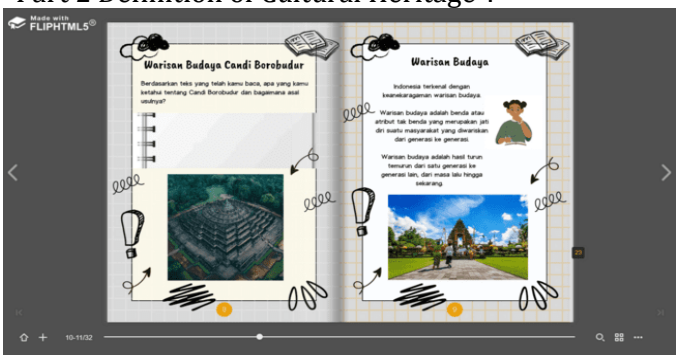

Figure 6. View Part 2 Definition of Cultural Heritage

8. Part 3 Cultural Heritage in Sidoarjo
   Part 3 tells one of the cultural heritages in Sidoarjo Regency, Pari Temple. The following is the view of "Part 3 Cultural Heritage in Sidoarjo". At the end of this section, students are invited to reason related to the attitude that should be taken towards cultural heritage and how steps should be taken to introduce cultural heritage.
9. Section 4 Types of Cultural Heritage
   Section 4 describes the types of cultural heritage. There are two types of cultural heritage, tangible and intangible cultural heritage. This section explains the meaning of tangible and intangible cultural heritage along with examples. The following is a look at Part 4 of the types of cultural heritage.

Figure 7. View of Part 4 Types of Cultural Heritage

In this section, various examples of tangible and intangible cultural heritage such as pempek, puppets, and others are displayed. The following is one of the views of an example of cultural heritage of objects.

Figure 8. One of the displays of an example of the cultural heritage of objects

As for one of the displays of an example of intangible cultural heritage in the following picture.

At the end of this section, students are given a mission to explore each of the 10 tangible and intangible cultural heritages in their area.

10. Part 5 Indonesian Cultural Heritage Recognized by UNESCO

The next section discusses Indonesia's cultural heritage that has been recognized by UNESCO. Students gain knowledge about what UNESCO is and then get information about cultural heritage that has been recognized by UNESCO such as angklung, saman dance, batik, pinisi ships, keris, puppets, gamelan, and pencak silat along with the year they were recognized. The following is the look of "Part 5 of Indonesia's Cultural Heritage Recognized by UNESCO"

Figure 9. Display of Indonesia's Cultural Heritage Recognized by UNESCO

At the end of this section, students are given a mission to solve a crossword puzzle related to the learning material.

11. Part 6 Worldwide Indonesian Products

This section explains Indonesian products that are already known to the world, rendang and gamelan. The following is the look of "Part 6 of Indonesian Products that Go Global".

Figure 10. Worldwide Display of Indonesian Products

12. Section 7 The Importance of Safeguarding and Preserving Cultural Heritage

This section explains the reasons why it is necessary to maintain and preserve Indonesia's cultural heritage.

13. Section 8 Ways to Protect Cultural Heritage

This section is the end of the material that explains things that can be done to preserve cultural heritage. The following is the display of "Part 7 of the Importance of Maintaining and Preserving Cultural Heritage" and "Part 8 of How to Maintain Cultural Heritage".

Figure 11. View Part 7 The Importance of Safeguarding and Preserving Cultural Heritage and Part 8 How to Safeguard Cultural Heritage

At the end of this section, students get a mission to make a poster or infographic of one of Indonesia's tangible and intangible cultural heritage.

14. Important Notes

Important notes contain important information obtained by students in learning.

15. List my questions

My Question List is a page for students to record a list of questions they want to ask.

16. About the Author
    This section contains the profile of the author who created the electronic module.

    Validation results from material and media experts show that the electronic module is very valid for use. This result is in line with the research on the development of digital teaching materials in the form of electronic modules conducted by Juniati et al. (2023), which shows that the percentage of validity tests of materials and media is classified as very valid. Likewise, research by Nunung et al. (2021) which developed a digital module, shows that the results of the validation of the digital module by material experts and media experts are very valid for use. So based on the results of research supported by previous studies, e-module products or electronic modules of cultural heritage materials are very feasible to be implemented in learning.

D. CONLUSIONS AND SUGGESTIONS

Based on the results of the research and discussion, it can be concluded that the development of electronic module products using the Richey and Klein model, which consists of the analysis, production, and evaluation stages, has obtained high validity from material experts and media experts. The validity value of the material expert is 96%, which means it is very valid. This indicates that the electronic module developed is included in the criteria of high material validity. Meanwhile, the validity value of media experts is 89%, which means it is very valid. So, electronic module products are very valid to be used in learning. Thus, the Flip HTML5-assisted electronic module of cultural heritage materials developed is suitable for use by grade 5 elementary school students.

Further development research is expected to implement Flip HTML-assisted electronic module products in a wide scope to measure their effectiveness. In addition, further research can also develop the substance content of electronic module products to be more varied according to the local culture of each region and develop multilingual versions of modules to expand the reach of users. Flip HTML-assisted electronic module products can also be adapted at other levels of education for cultural learning and other learning materials.

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REFERENCES

Abdulatif, S., & Muh. Husen Arifin. (2023). Development of Digital Storybook Media in Social Studies Learning Islamic Kingdom Materials Class IV Elementary School. Journal of Elementary Education, 6(4), 1610–1623. https://doi.org/10.31949/jee.v6i4.7200

Afida, F. R., Nurhayati, E., & Dewi, G. K. (2024). Development of FlipHTML5 E-Module in Indonesian Language Learning Class IV. JIIP - Scientific Journal of Educational Sciences, 7(3), 3256–3263. https://doi.org/10.54371/jiip.v7i3.4183

Agung, T. M. D. G., Abizar, H., & Nurhaji, S. (2021). Video Learning Media Tutorial on the Competency of Tune Up EFI Machine at SMKN 2 Pandeglang. Journal of Mechanical Engineering Education, 21(1), 23–27. https://journal.unnes.ac.id/nju/index.php/JPTM/article/view/28614

Akbar, S. (2017). Learning Tools Instruments. Remaja Rosda Karya.

Amril, K. J., & Thahar, H. E. (2022). Development of Electronic Module for Writing Short Story Texts Based on Project Based Learning for Grade XI High School Students. Diglossia: Journal of the Study of Language, Literature, and Its Teaching, 5(3), 715–730. https://doi.org/10.30872/diglosia.v5i3.489

Chintya, O., & Risda, A. (2023). Development of ARIAS Model-Based Pop Up Book Learning Media in Grade III Elementary School. Journal of Elementary Education, 6(2), 612–617. https://doi.org/10.31949/jee.v6i2.5380

Efendi, Y. A., Adi, E. P., & Sulthoni. (2020). Development of Motion Graphics Animation Video Media in Science Subjects at SDN Pandanrejo 1, Malang Regency. JINOTEP (Journal of Learning Technology Innovation), 6(2), 97–102. https://doi.org/10.17977/um031v6i22020p097

Etanastia, D., Noviyana, H., & A. B., J. S. (2022). The development of electronic modules based on a contextual approach on the subject of building flat side spaces. JOURNAL E-DuMath, 8(1), 8–14. https://doi.org/10.52657/je.v8i1.1640

Fajrie, N., Aryani, V., & Kironoratri, L. (2024). Digital learning media based on local wisdom as a source of reading children's literary fairy tales. Journal of Elementary Education, 7(1), 2262–2275. https://doi.org/10.31949/jee.v7i1.8123

Faqih, A., Nurdiawan, O., & Setiawan, A. (2021).

Development of Ethnomathematics-Based Traditional Cooking Tools Interactive Multimedia Learning Media. Mosharafa: Journal of Mathematics Education, 10(2), 301–310.

Febrista, D., & Efrizon, E. (2021). Development of Android-Based Interactive e-Modules on the Subject of Applying Electronics Series Class XI Video Audio Engineering. Vocational Engineering Electronics and Informatics, 9(3), 102. https://doi.org/10.24036/voteteknika.v9i3.113750

Handiar, A., & Zulherman. (2023). FlipHTML5 Assisted E-Book to Improving Elementary School Students' Motivation. International Journal of Elementary Education, 7(3), 375–381. https://doi.org/10.23887/ijee.v7i3.61566

Juniati, G. A. P. E., Putrayasa, I. B., & Margunayasa, I. G. (2023). Development of Digital Teaching Materials Oriented to Wana Kerthi Loka Bali in Elementary School Grade IV Science Learning. PENDASI: Indonesian Journal of Basic Education |, 7(1), 94–106. https://doi.org/10.23887/jurnal_pendas.v7i1.2018

Marhayani, D. A., Kariadi, D., & Setyowati, R. (2025). Developing The E-Module of The Cidayu (Chinese, Dayak, and Malay) Community's Local Wisdom Using Fliphtml5 Software. Journal of Education: Journal of Research and Literature Review in the Field of Education, Teaching and Learning, 11(1), 316–326. https://doi.org/10.33394/jk.v11i1.13415

Meidaluna, G., & Anggapuspa, M. L. (2020). Board Game Design for the Introduction of Indonesian Traditional Dance as a Learning Media for Grade 5 Elementary School. Journal of Barik, 1(2), 166–183.

Memmedova, K., & Ertuna, B. (2024). Development of a fuzzy Likert scales to measure variables in social sciences. Information Sciences, 654, 119792. https://doi.org/https://doi.org/10.1016/j.ins.2023.119792

Muhaimin, M., Hamidaturrohmah, Wahyudin, N. A., & Fasha, N. A. (2023). Development of Multicultural Education E-Modules Based on Additive Approach for Elementary School Students. Journal of Elementary Education, 6(3), 1446–1453. https://doi.org/10.31949/jee.v6i3.6372

Mulhayatiah, Purwanti, Setya, W., Suhendi, H. Y., Kariadinata, R., & Hartini, S. (2019). The Impact of Digital Learning Module in Improving Students' Problem-Solving SKills. Al-BiRuNi Physics Education Scientific Journal, 08(April), 11–22. https://doi.org/10.24042/jipfalbiruni.v8i1.3150

Nunung, R., Kusyanti, T., Tempel, S., Sleman, K., & Yogyakarta, D. I. (2021). International Journal of Active Learning Development of Interactive Digital Module Based on Virtual Laboratories in The Covid-19 Pandemic Era in Dynamic Fluid Materials. 6(1), 41–48.

Putri, A., & Reinita. (2023). The Validity and Practicality of Digital Module Development Using the Professional PDF Flip Application in Class IV. Journal of Elementary Education, 6(3), 1066–1081. https://doi.org/10.31949/jee.v6i3.6565

Rahmiati, Saputra, I., & Oktarina, R. (2023). Interactive Electronic Module : Is it Beneficial for Learning ? Journal for Lesson and Learning Studies, 6(2), 209–218. https://doi.org/10.23887/jlls.v6i2.60477

Shrestha, S., Dahlke, S., Butler, J. I., Hunter, K., Fox, M. T., Davidson, S., Chasteen, A. L., & Moody, E. (2024). Nursing Students' Perceptions on a Pain Management E- Learning Module: An Exploratory Quantitative Study. Pain Management Nursing, 25(2), e138–e143. https://doi.org/https://doi.org/10.1016/j.pmn.2023.12.010

Sumartini, & Sthevany, K. S. H. (2020). Quality Control Study of Precooked Tuna Loin Products Frozen Using the Likert Scale Method in Tuna X Freezing Companies. Aurelia Journal, 2(1), 29–38. https://doi.org/10.15578/aj.v2i1.9392

Wahyuni, D., Sari, M., & Hurriyah. (2020). The Effectiveness of Problem-Solving-Based e-Modules on Students' Critical Thinking Skills. Natural Science: Journal of Research in Science and Science Education, 6(2), 180–189. https://doi.org/10.15548/nsc.v6i2.1709

Wati, D. K., Saragih, S., & Murni, A. (2022). Validity and Practicality of FlipHtml5 Assisted Mathematics Teaching Materials to Facilitate Mathematical Comprehension Abilities of Grade VIII Junior High School / MTs Students on Cartesian Coordinate Material. Journal for Research in Mathematics Learning, 5(4), 287. https://doi.org/10.24014/juring.v5i4.16717

Wibawati, D., & Prabhawati, A. (2021). Indonesia's efforts in promoting culinary tourism as a world cultural heritage. Journal of Tourism and Creativity, 5(1), 36–44. https://doi.org/10.22141/2224-0721.16.4.2020.208486

Wulan, R., Baihaqie, A. D., Saputra, S., & Saputra, E. (2023). Implementation of Integrated Digital E-Module of Learning Media as a Support for Innovative Competencies of Teachers at SMPN 271 Jakarta. Journal of PkM (Community Service), 6(2), 230. https://doi.org/10.30998/jurnalpkm.v6i2.17872

Yamashita, T. (2022). Analyzing Likert scale surveys with Rasch models. Research Methods in Applied Linguistics, 1(3), 100022. https://doi.org/10.1016/j.rmal.2022.100022

Yoonjoung, C., Kim, B., Park, K., & Back, R. M. (2022). A comparison of Best-Worst Scaling and Likert Scale methods on peer-to-peer accommodation attributes. Journal of Business Research, 148(September 2020), 368–377. https://doi.org/10.1016/j.jbusres.2022.04.064

Yudiawati, H. (2021). Management of Angklung Preservation as Intangible Cultural Heritage. Journal of Art Governance, 7(1), 31–44. https://doi.org/10.24821/jtks.v7i1.4623

Zega, Y., & Eliza, F. (2020). Development of Basic Learning Modules of Electricity and Electronics for Class X TITL SMK Negeri 1 Padang. JTEV (Journal of Electrical and Vocational Engineering), 6(2), 227. https://doi.org/10.24036/jtev.v6i2.109033