

VALIDITY OF INTERACTIVE DIGITAL BRANDING E-MODULE BASED ON PROBLEM-BASED LEARNING INTEGRATED WITH CANVA FOR CLASS XI DIGITAL BUSINESS AT SMK NEGERI 1 TANJUNGPINANG

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Abstract

This study aims to examine the validity level of an interactive e-module in digital branding developed using the Problem-Based Learning (PBL) approach and supported by the Canva platform. The validation process involved evaluations conducted by subject matter experts and media experts, focusing on content feasibility, visual quality, and the level of interactivity of the learning media. The analysis results indicate an average validity score of 91.73%, which falls into the very valid category. These findings suggest that the developed e-module meets the required standards in terms of content accuracy, design aesthetics, and interactive characteristics essential for vocational education contexts. Furthermore, the integration of various digital platforms, including Canva, YouTube, Paldet, and Google Forms, contributes to a more contextual and engaging learning experience while fostering students' creativity and improving learning outcomes in digital branding instruction.

Keywords: *validity interactive e-module, digital branding, Problem Based Learning, Canva.*

A. Introduction

Advances in digital technology have triggered a fundamental shift in educational approaches and practices, especially at the vocational high school (SMK) level, which focuses on preparing graduates to enter the world of work and industry. In the context of vocational education, students are required not only to understand theoretical concepts but also to be able to apply them through the mastery of practical skills, the development of critical thinking, and creativity in solving problems in line with their chosen field of expertise.

In the Digital Business specialisation, digital branding is an essential skill that students must master. The ability to design, build, and manage brand image through digital media is a key requirement in contemporary business practice. However, learning conditions in the Grade XI Digital Business class at SMK Negeri 1 Tanjungpinang are still dominated by a conventional approach that is teacher-oriented and is not yet supported by the use of innovative and interactive digital media. This situation has resulted in low student participation in learning, so that the development of critical thinking skills has not been optimally achieved.

One learning approach that is in line with the characteristics of vocational education and the demands of 21st-century competencies is *Problem-Based Learning* (PBL). Barrows (200) explains that PBL is a learning model that places students at the centre of learning

activities through the process of contextual problem solving, thereby developing analytical, collaborative, and reflective skills (Prayogi & Estetika, 2019) . This approach is relevant to the objectives of vocational education, which emphasises the application of concepts in real situations and the strengthening of higher order thinking skills (HOTS) (Simanjuntak & Sudibjo, 2019) . Learning media that can encourage active student involvement, facilitate collaboration, and provide meaningful experiences require support so that the implementation of PBL can run optimally. One medium with the potential to meet these needs is the interactive e-module. (Sylvia et al., 2020) states that an e-module is a digital teaching material that is systematically organised and interactive, enabling students to learn independently with the support of multimedia elements.

The e-module was developed using Canva as *the main platform*, given its ease of use and comprehensive visual features that support the presentation of engaging learning materials. The integration of Canva with various digital learning resources such as YouTube, Padlet, and Google Forms enriches the learning process, making it more collaborative, creative, and in line with the characteristics of the digital generation (Rohma & Sholihah, 2021) . The development of interactive *digital branding* e-modules based on PBL (Simanjuntak & Sudibjo, 2019) integrated with Canva is seen as an alternative to improve the quality of learning in vocational schools, especially in the Digital Business class of SMK Negeri 1 Tanjungpinang, in developing students' creative, communicative, and critical thinking skills. Therefore, this study aims to examine the validity level of the developed e-module from the aspects of content and media as a basis for assessing the product's suitability before it is implemented more widely in classroom learning activities.

B. Method

This research is classified as research and development (*R&D*) aimed at producing a learning product in the form of an interactive e-module based on *Problem-Based Learning* (PBL) integrated with Canva on the subject of *digital branding*, specifically product photography. The main focus of the research is directed at testing the validity level of the e-module in terms of content and media as a basis for determining the product's feasibility before proceeding to the practicality and effectiveness testing stages. The selection of the research development method is based on the view of the", which states that R&D research aims to produce educational products that are feasible and effective for use in the learning process. In the context of vocational education, this research focuses on the development of digital learning media that can support the improvement of students' critical, creative, and analytical thinking skills in accordance with the demands of the world of work and industry. This research applies the ADDIE model, which includes the stages of *analysis, design, development, implementation, and evaluation* as proposed by (Suwuh, 2015) . The ADDIE model (Rayanto, 2020) was chosen because it has a logical and structured development flow, making it easier to comprehensively design, develop, and evaluate learning products. The development stages in this study are described as follows.

Analysis Stage

The analysis stage was conducted through observation and interviews with teachers teaching *digital branding* subjects to identify learning needs. The analysis focused on student characteristics, curriculum suitability, and learning conditions at SMK Negeri 1 Tanjungpinang. The analysis results showed the need for digital learning media that is interactive, easily accessible, and capable of increasing student active engagement.

Design Stage

The researchers designed the e-module structure in accordance with the characteristics of the *Problem-Based Learning* model. The researchers compiled it based on the PBL syntax, which includes problem orientation, information gathering, analysis and solution formulation, presentation of results, and reflection. The researchers systematically compiled digital branding material with clear learning objectives and supplemented it with real-world problems in the digital industry. The design process involved collecting and reviewing various reference sources and designing or sketching the e-module product, which consists of several components: cover, main page, information, material, discussion and presentation activities, interactive activities, summary, and learning evaluation.

Development Stage

In the development stage, the researcher realised the e-module design using the Canva application. The researcher chose Canva because this *platform* allows the integration of various multimedia elements, such as text, visuals, audio, and interactive links to supporting platforms, namely *YouTube, Padlet, and Google Forms*. The researcher developed the e-module with an emphasis on user-friendliness and interactive learning. Next, the researcher involved four validators consisting of two subject matter experts and two media experts to assess the suitability of the content, display quality, level of interactivity, and ease of use of the e-module in learning.

The validation assessment covered several main aspects, namely:

1. Content, which includes the suitability of the material to the learning outcomes, the accuracy of the concepts, and the clarity of the learning objectives.
2. Appearance, which includes layout, colour and typography consistency, and visual appeal.
3. Interactivity aspect, which assesses ease of navigation and user engagement level.
4. Language aspects that include clarity of delivery, communicative nature, and conformity with linguistic rules.

The researchers used a research instrument in the form of a validation sheet with a four-level rating scale, where a score of 1 indicates invalid, a score of 2 indicates less valid, a score of 3 indicates valid, and a score of 4 indicates highly valid. This instrument was used to obtain expert assessments of the quality of the e-modules developed. Validity Percentage

$$\frac{\text{Skor diperoleh}}{\text{Skor maksimal}} \times 100\%$$

The calculation results were then classified into the following categories:

- 85-100 = Highly Valid
- 70-84 = Valid

- 55-69 = Fairly Valid
- <55 = Not Valid

In addition to conducting quantitative analysis, researchers utilised qualitative data in the form of suggestions, comments, and recommendations from validators as a basis for improving and refining the e-module product. Through the utilisation of this data, researchers made continuous revisions so that the developed product met the eligibility criteria. Thus, the researchers positioned the ADDIE model not only as a technical guideline in the e-module development process, but also as a conceptual framework that ensures pedagogical validity, visual appeal, and product suitability for digital learning needs in the Digital Business class XI at SMK Negeri 1 Tanjungpinang.

Implementation Stage

At this stage, researchers conducted limited trials of the e-module on students in the 11th grade Digital Business class at SMK Negeri 1 Tanjungpinang. This was done to obtain initial responses regarding ease of use, visual appeal, and the level of student engagement while using the e-module. This was also done with teachers as users of this e-module in the learning process. The researcher used the implementation results as a basis for refining the product before applying it on a larger scale.

Evaluation Stage

The researchers conducted continuous evaluations at each stage of the ADDIE model development. They evaluated each process, from the analysis, design, and development stages to the implementation stage, to identify weaknesses and make gradual improvements to the e-module being developed. This continuous evaluation aimed to ensure that each stage of development was in line with the learning objectives and PBL principles. In addition to process evaluation, researchers conduct a summative evaluation at the end to determine the impact of e-module use on student learning outcomes. Researchers conduct evaluations by comparing student learning outcomes before and after using e-modules through *pre-tests* and *post-tests*. The evaluation results are used to see the differences in student learning outcomes as a basis for assessing effectiveness.

C. Findings and Discussion

Findings

1. Description of the Interactive E-module Product

The product produced in this study is an interactive PBL-based e-module integrated with Canva on *digital branding* material, sub-material on product photography for Grade XI Digital Business students at SMK Negeri 1 Tanjungpinang. The e-module is organised into six main sections that are integrated with each other, including the cover page, module identity, usage instructions, learning outcomes and learning objectives, presentation of material following the PBL syntax, and an evaluation section containing quizzes, summative evaluations, and learning reflections. In its development, the researcher designed the e-module interface using the Canva application, paying attention to readability, visual consistency, and ease of navigation. This e-module is also equipped with links to various

supporting *platforms*, such as *YouTube* as a learning resource, *Padlet* for discussions and presentations of work results, and *Google Forms* for conducting summative evaluations.



Figure 1. Module Cover



Figure 2. Main Page



Figure 3. Module Information Page



Figure 4. PBL Stages Page



Figure 5. Materials Page



Figure 6. Quiz Page



Figure 7. Summative Assessment Page

The results of media expert validation assessing four aspects, namely appearance, interactivity, ease of navigation, and design consistency, can be seen in Table 1 below.

Table 1. Media expert validation results

Validator	Percentage	Category
Media Expert 1	95.16	Highly valid
Media expert 2	84.24%	Highly valid
Average	89.70	Highly valid

The results show that the e-module has met the criteria as an attractive, communicative, and interactive learning medium. Media experts assessed that the use of colour, layout, and typography selection were consistent and in line with the characteristics of *digital learning branding*. However, the validators provided several suggestions for improvement, including adjusting the font size in the student activity section and adding navigation icons to make the e-module easier to use. In general, the media experts' assessment indicates that the appearance and interactivity aspects of the e-module are in the "Highly Valid" category, making it suitable for use in the learning process. Furthermore, the results of the material experts' assessment, which focused on content suitability, conceptual accuracy, material completeness, and relevance to digital branding learning outcomes, particularly product photos, can be seen in Table 2.

Table 2. Results of Content Expert Validation

Validator	Percentage	Category
Content Expert 1	95.00	Highly valid
Subject Matter Expert 2	92.50%	Highly valid
Average	93.75%	Highly valid

The results of the material validation show that the e-module has met the principles of comprehensive and contextual learning content and supports the application of PBL. The

validator assessed that the *digital branding* material for product photography presented the concept through case studies relevant to the needs of the business world and industry. However, the validator provided several suggestions, including the addition of illustrations showing examples of local brands and the inclusion of structured exercises on the stages of product photo analysis, as well as material on the use of *AI* in product photography as a new feature in this e-module. The e-module was declared to have met all material eligibility criteria with a Very Valid category. Overall, the validation results in terms of media and material show that the interactive e-module developed is in the Very Valid category, as can be seen in Table 3 below.

Table 3. Results of Content Expert Validation

Validation Aspect	Average Percentage	Category
Media Experts	89.70	Highly valid
Subject Matter Experts	93.75%	Highly valid
Total average	91.73%	Highly valid

These results indicate consistency between the objectives of e-module development, the completeness and accuracy of the content, the quality of media design, and student learning needs. This consistency confirms that the developed e-modules are not only technically feasible but also pedagogically relevant to the learning characteristics of vocational schools, particularly in digital business.

Discussion

Overall, the average validity score of the e-module reached 91.73%, indicating that the PBL-based interactive e-module falls into the Highly Valid category and is suitable for use in *digital branding* learning, particularly product photography. This finding is in line with the results of the study " , which states that interactive e-modules with a feasibility score above 80% have met the validity criteria in terms of media and material. Furthermore, these validation results also reinforce the view expressed in , which emphasises that the validation process by experts is a crucial stage in the development of learning media to ensure the suitability between product design, user needs, and the effectiveness of implementation in the field. Although the validation results indicate a highly valid category, the researchers still made revisions to improve the quality of the e-module. These revisions are in line with the principles of *formative evaluation* as stated by (Saliha & Flayyihb, 2020) , which emphasises that every learning product needs to undergo a process of continuous evaluation and improvement before implementation so that the quality, relevance, and function of the media can be optimally achieved. Thus, the validation stage in this study produced an interactive PBL-based e-module that is valid, engaging, and suitable for use in *digital branding* learning for product photography at SMK Negeri 1 Tanjungpinang. The systematic development process through validation and repeated revisions demonstrates that the resulting product meets the quality standards of 21st-century digital learning.

E. Conclusion

Based on the results of validation tests involving two experts, namely media and material experts, the PBL-based interactive e-module developed showed a very high level of validity and was deemed suitable for use in learning. The results of the material expert's assessment indicated that the content, depth of material, and presentation structure of the e-module were in line with the learning outcomes of the Merdeka Curriculum Phase F, particularly in the element of digital branding. The material presented not only emphasises mastery of basic concepts, but also encourages students to understand processes, analyse problems, and apply *digital branding* concepts, particularly product photography, in the real context of business and industry. The subject matter expert assessed that the e-module has integrated the main characteristics of PBL, namely contextual problem-based learning that requires active student involvement. Each learning activity is designed systematically and sequentially, starting from problem orientation, exploration of concepts and supporting information, analysis of alternative solutions, to the application of concepts through practical activities of product photography as part of a *digital branding* strategy. This series is considered capable of stimulating students' critical, analytical, and reflective thinking skills in accordance with the demands of vocational learning. Meanwhile, the results of validation from media experts show that the e-module has met the principles of good digital learning media design. The readability, visual appeal, layout consistency, and ease of navigation are considered to support user comfort in accessing and learning the material for both teachers and students. The integration of interactive elements, such as learning video links, digital discussion rooms, and online form-based evaluations, is considered to be able to increase student interaction with the material and enrich the learning experience. The use of the Canva application as a *platform* for developing e-modules is also considered appropriate because it is able to present a communicative visual display that is in line with the characteristics of vocational school students, who tend to be responsive to visual and digital-based learning media. Overall, the average validation results from media and material experts place the PBL-based *digital branding* interactive e-module in the Highly Valid category. These findings indicate the suitability of the development objectives, learning content, media design, and the needs of Grade XI Business students at SMK Negeri 1 Tanjungpinang. Thus, the PBL-based interactive *digital branding* e-module that has been developed is not only feasible from a technical and visual perspective but also pedagogically relevant as a *digital branding* learning medium that supports the development of 21st-century competencies in vocational education.

F. Bibliography

- Prabawati, D. L., & Ambara, P. D. (2022). Project-Based *Journal of Early Childhood Education Undiksha*, 10(2), 197- . 206. <https://doi.org/10.23887/paud.v10i2.49950>
- Prayogi, R. D., & Estetika, R. (2019). 21st Century Skills: Digital Competencies for Future Educators. *Journal of Education Management*, 14 (2), 144-151.

<https://doi.org/10.23917/mp.v14i2.9486>

- Rayanto, Y. H. (2020). *Developmental Research on* . Academic and Research Development Institute.
- Rohma, A., & Sholihah, U. (2021). Development of audio-visual media based on the Canva application for pyramid-shaped solid materials. *Journal of Mathematics Education, University of Lampung*, 9(3), 292–306.
- Saliha, J. I., & Flayyihb, H. H. (2020). Impact of audit quality in reducing external audit profession risks. *International Journal of Innovation, Creativity and Change*, 13(7), 176–197.
- Simanjuntak, M. F., & Sudibjo, N. (2019). Improving Students' Critical Thinking Skills and Problem Solving Abilities Through Problem-Based Learning. *JOHME: Journal of Holistic Mathematics Education*, 2 (2), 108. <https://doi.org/10.19166/johme.v2i2.1331>
- Suwuh, M. (2015). The Influence of Leadership Style, Motivation, and Work Discipline on Employee Performance at Bank Sulut Kcp Likupang. *EMBA Journal*, 3(4), 611–619.
- Sylvia, D, D. P., & Supriyadi, E. (2020). The Role of Profit Management in Moderating Factors Affecting Bond Ratings. *Ekobisman-Journal of Economics, Business and Management*, 4 (3), 194–209. <http://journal.univpancasila.ac.id/index.php/ekobisman/article/view/1422>
- Yuliana. (2017). Implementation of Strategic Management in Improving the Quality of Education for Students at Takalar State Senior High School 2. *Faculty of Tarbiyah and Teacher Training, UIN Alauddin.*, 1(3), 2.
- Z, R. S., & Saputra, E. R. (2022). Development of ICT-based Learning Media for Islamic Religious Education Subjects on Hijaiyah Letters and Harakat. *Basicedu Journal*, 6 (1), 552–563. <https://doi.org/10.31004/basicedu.v5i4.1230>