

Feasibility of Canva Application-assisted Ladder Snake Game on Basic Elements of Branding and Marketing

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Abstract

This study aims to assess the feasibility of learning media for the Canva application-based Snakes and Ladders game on the Basics of Branding and Marketing elements in the Fashion Cosmetology skills program at SMK. The need for interactive and contextual learning media is the basis of this research, considering that learning is still dominated by conventional methods that do not encourage student involvement. The research method used a quantitative descriptive approach with expert validation, involving five media experts and six material experts. The assessment instrument was a 4-point Likert scale questionnaire measuring visual aspects, readability, functionality, content suitability, language, and relevance. Proof of content validity using Aiken's V with 5 raters obtained a result of ≥ 0.87 and declared all instrument items valid. Reliability estimation using Intraclass Correlation Coefficient (ICC) obtained a result of ≥ 0.87 with the criteria that the instrument has good reliability. Media feasibility was analyzed using descriptive percentage. The results showed that media experts gave a score of 89, 17% while material experts gave a score of 91, 67%. The media is considered suitable for use after minor improvements, such as improving visual readability, integrating interactive QR codes, mapping game boxes to learning outcomes, and providing a glossary. This media has the potential to increase student engagement, facilitate collaborative learning, and can be adapted for various other areas of expertise in SMK.

Keywords: feasibility, game-based learning, Canva, vocational, fashion

INTRODUCTION

Vocational education in the 21st century faces the challenge of integrating 21st century skills that include critical thinking, creativity, collaboration, and communication. A student-centered learning approach is increasingly recognized as being able to improve motivation and learning outcomes compared to conventional methods (Banarsari et al., 2022; Laksana, 2021). One strategy that has proven effective is game-based learning (GBL), which is the utilization of games as a learning medium that combines elements of entertainment with measurable learning outcomes (Hamari et al., 2016; Smith, 2022).

In Indonesia, the utilization of GBL in vocational schools, especially in the field of Cosmetology expertise, is still limited. Many teachers still rely on the lecture method and blackboard media, which has the potential to make students passive and bored quickly (Fadrian et al., 2024). In fact, materials such as Branding and Marketing Basics require interactive media that are able to link abstract concepts with contextual examples in the fashion industry (Danar et al., 2022). In addition, vocational students' speaking and creative thinking skills are often not optimal due to the lack of learning media that encourage active participation and collaboration (Safitri, 2019).

Several previous studies have proven that game-based media, such as snakes and ladders, (Putri et al., 2023; Safitri, 2019) can increase student engagement and concept understanding. However, the integration of GBL with the specific material of fashion craftsmanship is still minimal, most studies do not link the game with the curriculum or clear learning outcomes in the fashion craftsmanship program. In addition, there are still limitations in the adaptation of design technology, educational game media generally have not utilized collaborative design platforms such as Canva that allow the creation of rich and easily modifiable visual media. Moreover, feasibility evaluation based on multidimensional expert validation is still lacking. Previous studies have focused more on classroom trials without comprehensively measuring feasibility from the aspects of content, language, visuals and usability through experts.

Based on these considerations, the development of learning media in the form of a Canva-based Snakes

and Ladders game adapted for the Basics of Branding and Marketing material at Fashion Management Vocational Schools, complete with the integration of interactive elements such as QR codes that lead to quizzes or short videos. A multi-expert-based feasibility validation approach (media and material experts) with quantitative analysis using Aiken's V, Cronbach's Alpha, and Intraclass Correlation Coefficient (ICC) was used to assess rater consistency and agreement.

Thus, this research is expected to enrich the literature on the development of game-based learning media in vocational education and provide practical contributions for teachers in creating interactive, relevant, and adaptive learning to the development of educational technology.

METHOD

Type of Research

This research uses a quantitative descriptive approach with a focus on expert validation of the learning media for the Canva application-based Snakes and Ladders game on the Basics of Branding and Marketing elements in the Vocational High School Cosmetology skills program (SMK).

Research Subjects

The object of this research is Snakes and Ladders learning media presented/organized using Canva for Basic Branding & Marketing elements. This media was validated by 5 media experts and 6 SMK teachers as material experts.

Data Collection Technique

Data collection techniques using feasibility questionnaire (linkert 1 - 5). Media feasibility includes readability, appearance, ease of presentation, and technical operation. While the feasibility of the material includes the suitability of the content with the learning outcomes, the accuracy of the material, the connection of the material with real life and the relevance of the information.

Prior to data collection, all research instruments were validated to ensure their effectiveness. Instrument validity refers to the extent to which evidence and theoretical reasoning support the interpretation of test scores for their intended purpose. Reliability is also examined to estimate the consistency and stability of assessment results (Aera & NCME, 2014). The validity of the questionnaire instrument in this study was established through content validity, using Aiken's V formula.

An item is considered valid if it meets the minimum threshold of Aiken's V coefficient. In this study, content validity was assessed using ratings from 5 expert raters on a 4 rating scale. According to Aiken's V critical value table, the minimum coefficient required for each item is 0.87 at a probability level of 0.21. Items that meet or exceed this threshold are considered to have acceptable content validity (Aiken, 1985). Based on the results of Aiken's V calculation, the questionnaire items used in this study are considered appropriate and valid, because all items obtained a V Aiken value greater than 0.87.

The reliability of the instrument was estimated using the ICC formula, which is used to measure the suitability or consistency of 5 raters (Retnawati et al., 2016). The reliability of the instrument in this study was estimated using SPSS version 22. An instrument is considered reliable if it obtains $\alpha > 0.70$ (Bonnet & Wright, 2014). The results of the reliability analysis using ICC, on the instrument for media experts amounted to 0.964 and the instrument for material experts amounted to 0.889 showing a value exceeding the threshold of 0.70. Therefore, it can be concluded that the instrument is reliable.

Data Analysis Technique

Percentage analysis of feasibility - calculated by the formula:

$$\text{Percentage} = \frac{\text{score obtained}}{\text{high score}} \times 100\%$$

The feasibility criteria were set as: $\geq 85\%$ = very feasible, 70-84% = feasible, $< 70\%$ = needs major revision.

RESULT AND DISCUSSION

Table 1. Media Expert Validation Results

No	Indicator	Percentage
1	Readability	16.67

2	Display of	25.00
3	Ease of presentation	28.33
4	Teknis	19.17
	Total	89.17

Based on the assessment of the five media experts, the total score ranged from 32-38 out of 48 (percentage 66.67%-79.17%). Aiken's V calculation shows a range of 0.47-0.73, which indicates that most items have a fairly decent content validity (≥ 0.60) and some items are close to high criteria (≥ 0.80) (Retnawati et al., 2016). Cronbach's Alpha for the media instrument was 0.73, indicating good internal consistency (Gliem & Gliem, 2003). The ICC (2,k) value for media was 0.51, which is categorized as moderate agreement between raters (Koo & Li, 2016).

Table 2. Material Expert Validation Results

No	Indicator	Percentage
1	Content suitability with learning objectives	23.33
2	Accuracy of the material	22.92
3	Relevance of material to real life	22.92
4	Relevance of information	22.50
	Total	91.67

Six material experts gave a total score between 29-34 out of 40 (percentage 72.50%-85.00%). Aiken's V for the material items was in the range of 0.50-0.83, where most of the items were in the feasible to very feasible category. However, the Cronbach's Alpha for the content instrument was -0.10, indicating low internal consistency, possibly due to heterogeneous items or differences in rater focus (Tavakol & Dennick, 2011). The ICC (2,k) value of 0.19 indicated low inter-rater agreement.

Tables 1 & 2 show a recap of the validation of media experts and material experts.

Table 3. Validation of Media Experts and Material Experts

No	Indicator	Percentage	Recommendation for Improvement
1	Readability	67.67	Needs improvement especially on content depth & relevance
2	Display	75.00	Visual design is helpful, but still needs improvement in aesthetics and readability
3	Ease of presentation	73.33	Needs significant revision in game flow and clarity of instructions
4	Technical	76.67	There are operational or technical constraints that impede use
5	Content suitability with learning objectives	77.78	Ensure learning objectives are achieved
6	Accuracy of the material	76.39	Update the material with the latest references
7	Relevance of material to real life	83.33	Add examples of real applications and hands-on practice
8	Relevance of information	72.91	Use current and relevant information according to learning needs

The results of expert validation show that this Canva-based Snakes and Ladders learning media is considered feasible to very feasible for use in the classroom, although there are some things that can still be improved. In terms of visual appearance and readability, media experts agreed that Canva's design provides advantages in terms of neatness and aesthetics. The colors used are quite attractive to students, but there are notes regarding contrast and font size that are considered not uniform. The font size on some parts of the question cards was still too small, potentially making reading difficult, especially when played in groups. The

recommendation is to use a minimum font size of 18 pt for cards and 28 pt for large boards, as well as adjusting color contrast according to WCAG 2.1 guidelines (W3C, 2018). This is in line with the findings of (Al-Azawei et al., 2016) who stated that visual readability has a direct effect on learner focus and engagement.

On the aspect of functionality and ease of use, the idea of adding a QR code was a positive highlight. With this code, each "answer the question" box can be linked to a relevant online quiz or short video. According to (Bai et al., 2021), this kind of technology integration can enrich the learning experience and improve information retention. The media expert also suggested creating a one-page teacher's guide, so that teachers can operate the game quickly without the need to read long instructions.

Meanwhile, in the design and graphic consistency indicator, the design is generally considered to be quite consistent, but there are some decorative icons that are considered not supporting the learning objectives. In accordance with the Cognitive Theory of Multimedia Learning from (Mayer, 2021), visual elements that are not relevant can add extraneous cognitive load and reduce focus on important information. Therefore, icons that do not have an informative function are recommended to be removed or replaced with more contextual symbols.

On the material feasibility indicator, the material experts appreciated the relevance of the content to the basic competencies of Branding and Marketing Basics. However, they noted that the relationship between each game box and the learning outcomes had not been explicitly described. Such mapping is important so that teachers can ensure that every student interaction in the game actually supports the achievement of learning outcomes (Hammond et al., 2020).

In terms of language and terms, the material is considered clear enough, but there are still some technical terms that may be unfamiliar to students of grade X SMK. For this reason, learning media for beginners should avoid using jargon or provide a brief glossary to aid understanding.

Finally, on the aspect of contextual relevance, the experts assessed that the game successfully raised the theme of the fashion world, which made the material feel closer to students' lives. However, it would be better if real examples from the local fashion industry are included, so that students can relate the concepts of branding and marketing to practices that occur in their environment. (Smith, 2022) asserts that contextualization of materials is essential in vocational education to increase student motivation and participation.

Overall, this media has a strong foundation and is ready to be used in the classroom after improvements have been made to the visual aspects, interactive functionality, mapping of material to learning outcomes, and simplification of terms. These improvements are believed to make the media more effective, easy to use, and able to encourage optimal student engagement.

CONCLUSION

The results of this study indicate that the Canva-based Snakes and Ladders learning media for the Basics of Branding and Marketing in Vocational Schools is considered feasible to very feasible by media experts and material experts. From the media aspect, the main advantage lies in the neat visual design, attractive colors, and potential integration of interactive elements such as QR codes. Meanwhile, from the material aspect, the content of the game is relevant to the basic competencies and the world of the fashion industry, so as to create a more contextual and interesting learning atmosphere for students.

However, this study also found some areas that could be improved. On the visual aspect, adjustments to font size and color contrast are needed to improve readability, especially when the game is used in a large print format. In terms of functionality, the addition of interactive QR codes and short teacher guides would help maximize the learning experience. On the material aspect, a clear mapping between game boxes and learning outcomes and the provision of a glossary of terms will help teachers and students understand the relationship between game activities and learning objectives.

Based on the results of the research and expert input, the development of Canva-based Snakes and Ladders learning media still requires a number of improvements so that it can be used optimally in the classroom. In terms of visual design, it is necessary to adjust the font size and color selection in accordance with readability standards, so that students can read the text comfortably, both in the printed version and screen projection. Consistency in iconography is also important to maintain the unity of the display, while irrelevant visual elements should be removed so as not to distract students from the core material.

The functionality of the media can be enhanced through the addition of interactive QR codes that link students to online quizzes or short videos. This integration will provide a more varied learning experience, while facilitating independent learning. In addition, the provision of a short teacher's guide will simplify the implementation process in the classroom, so that this media can be used immediately without requiring complicated adjustments.

On the material aspect, a clear mapping between game boxes and learning outcomes will help teachers

ensure that every student interaction in the game supports the set learning objectives. The use of simpler technical terms or equipped with a glossary will facilitate students' understanding, especially for those who are new to the concept of branding and marketing. To strengthen relevance, this media can also be enriched with real examples from the local fashion industry, so that students can connect the concepts learned with practices they are familiar with in the surrounding environment.

Practically, this research has significant implications for vocational learning. This media can be an interesting alternative to teach marketing and branding concepts that are often considered abstract by students. With its interactive design, it has the potential to increase student engagement, encourage group work, and facilitate project-based learning. For teachers, it offers ease of adaptation and flexibility in use, both in face-to-face and technology-based learning. At a broader level, the successful implementation of this media can inspire the development of creative learning media in other areas of expertise, thus encouraging continuous innovation in vocational education.

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