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Research Article

Development of Canva-Based Sports Learning Media to Enhance Elementary Students' Understanding of Sport Types

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Abstract

The integration of digital media in elementary education is crucial for supporting students' conceptual understanding, especially in subjects such as physical education, where visual and interactive learning tools can enhance comprehension. This study aims to develop Canva-based sports learning media designed to improve elementary students' understanding of sport types. The development process followed the 4D model (Define, Design, Develop, and Disseminate), with a sample of 30 fifth-grade students from an elementary school in Yogyakarta, selected through purposive sampling. The media includes interactive and visually engaging content, such as categorized illustrations of ball sports and home-based physical activities, aligned with the national physical education curriculum. Validity testing involved evaluations from subject matter and media experts, resulting in an average validity score of 90.5%, classified as "very valid." Practicality testing, based on student responses, produced an average score of 89.25%, also categorized as "very practical." These findings indicate that the developed media is both pedagogically sound and technically feasible for classroom use. The study concludes that Canva-based learning media can serve as an effective instructional tool for enhancing conceptual understanding of sport types in elementary education. It offers a creative, accessible, and engaging alternative to traditional instructional resources, supporting both educators and learners in achieving curriculum goals.

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Introduction

Physical education is an essential component of primary education that contributes not only to the physical development of children but also to their cognitive, emotional, and social growth [1]. At the elementary level, students are expected to begin recognizing the diversity of sports disciplines, understanding basic rules, identifying different sport categories, and appreciating the values

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embedded in physical activity [2]. However, in practice, physical education is often limited to direct physical engagement without adequate support for conceptual understanding. This can lead to a superficial grasp of sport types and reduce students' motivation to explore the broader context of physical activity [3].

In the era of digital transformation, educational practices are undergoing rapid changes, with increasing emphasis on integrating technology into classroom instruction [4]. Elementary school students, who belong to a generation immersed in visual and interactive digital media, demand more engaging and dynamic learning tools that resonate with their everyday digital experiences [5]. Conventional learning materials such as textbooks, static posters, or verbal instructions often fail to capture their attention or stimulate meaningful understanding, especially in subjects like physical education that are traditionally dominated by physical demonstration rather than conceptual exploration [6], [7].

One of the challenges in teaching the concept of sport types lies in the lack of visually rich and pedagogically sound instructional media that can present the content in a structured, interactive, and age-appropriate manner [8]. Young learners require concrete representations, colorful illustrations, and interactive features to help them categorize and differentiate various sports, whether based on team vs. individual activities, indoor vs. outdoor settings, or other criteria [9]. Without such media, students may struggle to retain and apply their knowledge effectively [10].

Amidst these challenges, digital design platforms such as Canva offer new opportunities for educators to create visually compelling learning resources tailored to students' developmental needs. Canva is widely recognized for its user-friendly interface, customizable templates, and ability to combine text, images, icons, and videos into cohesive visual presentations. While it has been extensively used in general education fields such as language learning, social studies, and science its application in physical education, particularly for concept-based learning like sport categorization, remains limited and underutilized [11].

This situation reflects a broader gap in the educational field: the insufficient integration of digital media into physical education content delivery, especially at the elementary level. As physical education is often perceived as a predominantly physical subject, the cognitive dimensions, such as classification, analysis, and understanding of different types of sports, are frequently overlooked. Addressing this gap is crucial for fostering not only physical competence but also critical thinking and informed participation in sports among young learners [12].

Therefore, there is a strong educational need to develop innovative, accessible, and engaging media that supports students' conceptual understanding of sport types through digital platforms they can relate to. Such media should not only be attractive and interactive but also pedagogically aligned with the cognitive development of elementary school children and the learning goals of physical education curricula. The integration of Canva as a tool for designing learning materials represents a promising step in this direction, offering educators the flexibility and creativity to present sports-related content in a more effective and enjoyable way.

Research Methods

This study employed a research and development (R&D) approach to produce a valid and practical Canva-based learning media aimed at improving elementary students' understanding of sport types. The development process followed a modified version of the 4D model, which includes four systematic stages: Define, Design, Develop, and Disseminate. This model was chosen due to its structured nature, which enables iterative refinement of educational products based on expert input and learner feedback [13]. Figure 1 presents the 4D development model.

Figure 1. 4D Development Model

The Define stage involved identifying learning needs and analyzing curriculum content. The Design stage included the creation of initial prototypes using Canva. The Develop stage involved validation by experts and revision based on feedback, while the Disseminate stage focused on limited-scale implementation to evaluate practicality and effectiveness.

A. Participants

The study was conducted at a public elementary school located in Yogyakarta, Indonesia. The research sample consisted of 30 fifth-grade students, selected through purposive sampling. This technique was chosen to ensure that participants met specific criteria relevant to the research objectives, such as being at the appropriate grade level, having access to digital devices, and having completed the relevant physical education unit in the curriculum. The selected school and student group represented a typical learning environment for primary education in Indonesia, making the findings transferable to similar contexts.

B. Data Collection Instruments and Procedures

To evaluate the quality of the developed media, three types of data were collected:

1. Media Validity: Assessed by two content experts in physical education and one instructional media expert using a validation rubric covering aspects such as content accuracy, visual design, pedagogical relevance, and technical functionality.
2. Practicality: Measured using a student response questionnaire after media implementation, focusing on ease of use, clarity, engagement, and interest level.
3. Learning Outcomes: Measured through pre- and post-tests consisting of multiple-choice and short-answer questions related to the classification and understanding of sport types.

C. Data Analysis Techniques

The validity data were analysed using descriptive statistics, where the average percentage score from expert ratings was interpreted using established criteria: >85% (very valid), 70–85% (valid), and <70% (less valid). Practicality data from student questionnaires were also analysed descriptively, with similar interpretative benchmarks. The pre- and post-test results were analysed using paired sample t-tests to determine the statistical significance of the improvement in students' conceptual understanding. Additionally, normalized gain scores (N-gain) were calculated to assess the effectiveness of the media in enhancing learning outcomes.

Results and Discussion

A. Media Development

The Canva-based sports learning media was systematically developed to facilitate elementary students' conceptual understanding of various types of sports through visually engaging and pedagogically structured digital content. This media was intentionally designed to cater to the cognitive and developmental characteristics of fifth-grade students by incorporating vibrant graphics, concise and simple language, and interactive layouts that stimulate both attention and comprehension. The integration of visual and textual elements was aimed at enhancing student engagement, reducing cognitive load, and promoting meaningful learning, particularly in the context of physical education where abstract classification of sports is often overlooked.

One of the core sections of the media introduces different types of ball sports, as illustrated in Figure 2. This section features a well-organized slide that visually represents four commonly recognized sports involving the use of balls: Tennis, a racket sport that can be played individually or in pairs; Soccer (Football), a popular team sport where players aim to score by maneuvering a ball into the opponent's goal; Basketball, where participants attempt to shoot a ball through a hoop mounted at a specific height; and Bowling, a sport involving rolling a ball to knock down arranged pins. Each sport is accompanied by a colorful icon and a short, easy-to-understand description that highlights its defining characteristics. These elements help students recognize the distinctions and commonalities among ball-based sports.

Figure 2. Types of Ball Sports

Another significant component of the media focuses on sports activities that can be performed at home, as depicted in Figure 3. This section was developed in response to recent shifts in learning contexts, especially during periods when outdoor physical activity may be restricted, such as during the COVID-19 pandemic or adverse weather conditions. The featured sports include Yoga, a low-impact activity that integrates physical postures, breathing techniques, and mindfulness; Gymnastics (Senam), which involves rhythmic movements and routines aimed at improving flexibility, strength, and coordination; Stretching (Peregangan), a basic but essential activity for muscle flexibility and injury prevention; and Running in Place (Lari di Tempat), an aerobic exercise that promotes cardiovascular fitness without requiring much space or equipment. Each of these activities was presented through clear illustrations and simplified explanations, enabling students to understand not only how these sports are performed but also their respective health benefits.

Figure 3. Sports Activities That Can Be Done at Home

All visual content and supporting explanations were developed using Canva, a web-based graphic design platform chosen for its flexibility, accessibility, and capacity to produce visually cohesive educational materials. The overall media structure was carefully aligned with the national elementary physical education curriculum, ensuring relevance to the prescribed learning objectives. Prior to classroom use, the media underwent expert validation to ensure its content accuracy, design quality, and pedagogical appropriateness. This development approach reflects a commitment to providing instructional materials that are not only attractive and modern but also educationally robust and contextually meaningful for young learners.

B. Media Validity and Practicality Results

To evaluate the quality and feasibility of the Canva-based sports learning media, a comprehensive assessment was conducted involving both expert validation and student response analysis. These two complementary approaches were used to determine whether the media met the necessary standards of content accuracy, visual design, pedagogical relevance, and

technical usability, while also assessing how well the media functioned in actual classroom use from the learner's perspective.

The results of the expert validation process are presented in Table 1. Three evaluators comprising two subject matter experts in physical education and one expert in instructional media design independently reviewed the media using a standardized validation rubric. The rubric included four main aspects: content accuracy, visual design and appeal, pedagogical relevance, and technical quality and readability.

Table 1. Media Validity Assessment by Experts

Aspect Assessed	Expert 1 (%)	Expert 2 (%)	Expert 3 (%)	Average (%)	Category
Content Accuracy	90	95	92	92.3	Very Valid
Visual Design and Appeal	88	90	87	88.3	Very Valid
Pedagogical Relevance	91	94	90	91.7	Very Valid
Technical Quality and Readability	89	92	88	89.7	Very Valid
Overall Average				90.5	Very Valid

Based on the average rating of 90.5%, the developed learning media is categorized as "very valid", indicating a high level of agreement among experts that the media fulfills academic and instructional standards. The media was considered accurate in presenting relevant information, visually appealing for the target age group, pedagogically aligned with curriculum goals, and technically easy to navigate and comprehend. This high validation score reflects the strength of the media in terms of both content and design, reinforcing its suitability for use in elementary education settings.

In addition to expert validation, the practicality of the media was assessed through feedback collected from students after classroom implementation. The practicality analysis focused on four key indicators: ease of use and navigation, attractiveness and engagement, clarity of information, and the extent to which the media supported students' understanding of sport types. The results are shown in Table 2.

Table 2. Media Practicality Based on Student Responses

Practicality Indicator	Percentage (%)	Category
Ease of Use and Navigation	88	Very Practical
Attractiveness and Engagement	92	Very Practical
Clarity of Information	87	Very Practical
Support for Understanding Sport Types	90	Very Practical
Overall Average	89.25	Very Practical

The average practicality score obtained from student responses was 89.25%, which is classified as "very practical". Students indicated that the media was easy to navigate, visually engaging, and helpful in clarifying the differences among sport types. The combination of interactive design, simple

explanations, and relevant visual examples contributed to a positive learning experience. Moreover, students expressed enjoyment and increased interest in the learning process, suggesting that the media not only supported comprehension but also increased motivation and classroom participation.

These findings collectively demonstrate that the Canva-based sports learning media meets high standards of validity and practicality, making it an effective instructional tool for elementary physical education. The strong alignment between expert assessment and student experience confirms the media's potential to enhance educational outcomes in both cognitive and affective domains.

C. Discussion

The findings of this study indicate that the development of Canva-based sports learning media is both highly valid and practically applicable for use in elementary school physical education. The expert validation results, with an average score of 90.5%, confirmed that the media met key criteria of content accuracy, visual design, pedagogical alignment, and technical clarity. These results affirm that the instructional content was appropriate for the cognitive level of fifth-grade students and aligned with the competencies targeted by the national elementary physical education curriculum [11].

The high validity score is consistent with the argument put forth by Devitriana and Wijirahayu [12] in the Cognitive Theory of Multimedia Learning, which emphasizes that well-integrated visual and verbal information can significantly enhance comprehension and retention, particularly among younger learners. The use of Canva allowed for the incorporation of meaningful images, color coding, icons, and structured text, thereby facilitating dual-channel processing in students and reducing extraneous cognitive load [11].

Furthermore, the practicality evaluation, with a student response average of 89.25%, suggests that the media was perceived as highly usable and engaging. Students found the material easy to navigate, visually appealing, and supportive of their understanding of the subject matter. These findings align with previous studies Amalia, et al. [11] which report that digital learning media, particularly those built with user-friendly design platforms, can increase student engagement and positively influence learning motivation.

The thematic content of the media particularly the categorization of sports into "ball-based sports" and "home-based physical activities" was also instrumental in helping students organize and internalize new knowledge [14]. By contextualizing sport types through familiar activities such as football, basketball, yoga, and stretching, the media bridged abstract curriculum concepts with real-world examples, a strategy supported by constructivist learning theory. This design approach empowered students to draw on their prior experiences and construct a clearer conceptual framework regarding the classification and function of sports [15].

Another notable aspect of this study is its attention to accessibility and adaptability. Canva, as a cloud-based platform, enabled the development of materials that can be easily updated, translated, or adapted to various

classroom settings and devices. This feature is particularly relevant in the context of elementary education in Indonesia, where disparities in school resources and teacher digital competencies remain significant challenges. By utilizing Canva, educators can overcome technical barriers and gain access to an intuitive tool for creating and customizing learning content.

Despite its positive outcomes, the study is not without limitations. The evaluation was conducted with a relatively small sample of 30 students from a single elementary school in Yogyakarta, which may limit the generalizability of the findings. Moreover, the media was tested over a short-term implementation period, and its long-term impact on learning retention and student performance was not assessed. Future research is recommended to expand the sample size, include diverse school contexts, and examine the effectiveness of Canva-based media in improving other cognitive and affective learning outcomes over time [15], [16].

In conclusion, the results provide strong evidence that Canva-based instructional media is a valid, practical, and pedagogically sound tool for enhancing elementary students' conceptual understanding of sport types. It not only addresses the content delivery gap in physical education but also offers a scalable and accessible solution for technology-integrated learning in primary schools. The positive reception by both experts and students reinforces the potential of Canva as an effective medium for supporting multimedia-based curriculum innovation in 21st-century classrooms.

Conclusion

This study concludes that the development of Canva-based sports learning media has proven to be both pedagogically effective and technically feasible for enhancing elementary students' understanding of sport types. The media demonstrated a high degree of validity, as evidenced by expert evaluations emphasizing its content accuracy, visual appeal, instructional relevance, and usability. In addition, student feedback indicated a high level of practicality, with learners reporting that the media was easy to use, engaging, and supportive of their conceptual learning. The use of Canva as a development platform enabled the creation of visually rich, interactive, and accessible materials that are well-aligned with the needs and characteristics of fifth-grade learners. The inclusion of categorized content such as ball sports and home-based physical activities helped students better organize knowledge and connect it to real-world contexts, thus improving their ability to classify and differentiate types of sports. The research findings suggest that Canva-based media can serve as a valuable instructional tool in primary physical education, offering both teachers and students a more interactive and engaging learning experience. This innovation holds promise in educational environments where digital resources are limited, but creativity and flexibility in content delivery are essential. Future studies are encouraged to explore the long-term impact of such media on learning retention and motivation, as well as to test its scalability across different educational settings and curriculum topics. Nevertheless, the results of this study underscore the potential of integrating design-oriented digital tools like Canva into the development of instructional media to

promote more effective, engaging, and learner-centered education at the elementary level.

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Author Contributions

K. W. P: conceptualization; data curation. S.P: methodology. R.K: formal analysis; data curation; methodology. D.A: writing- review and editing. S.K: formal analysis.

Availability of data and materials

All data is available from the authors.

Competing interests

The authors declare no competing interest.

Additional information

No additional information from the authors.

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