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Building Engagement: A Canva-Driven Interactive Media for Fourth-Grade Science and Social Studies Learning

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Abstract
This study aimed to develop and validate a Canva-driven interactive website designed to enhance student engagement in fourth-grade Science and Social Studies (IPAS) learning, specifically on the topic of Energy Transformation. Employing the Research and Development (R&D) method with the systematic ADDIE model, the research was conducted at SD N Karanganyar, Gunungkidul, involving a classroom teacher and 19 students. Data collection included expert validation, student and teacher questionnaires, and field trials to evaluate the media's feasibility and impact on learning involvement. The developed interactive website integrates contextual illustrations, animations, and embedded quizzes to support conceptual understanding. Validation results from material and media experts confirmed high feasibility in terms of content accuracy, visual design, and interactivity. Classroom implementation revealed that the Canva-based media effectively fostered active engagement, increased motivation, and improved comprehension of abstract concepts, as reported by both students and the teacher. The findings affirm that strategically designed, Canva-driven interactive media serves as both a feasible and effective instructional tool for building meaningful engagement in elementary IPAS education, aligning with the student-centered and dynamic learning goals of the Merdeka Curriculum.

Keywords: Engagement, Interactive learning media, Canva-based learning, IPAS learning, elementary school

Media Interaktif Berbasis Canva untuk Membangun Keterlibatan dalam Pembelajaran IPA dan IPS Kelas 4

Abstrak

Penelitian ini bertujuan untuk mengembangkan dan memvalidasi situs web interaktif berbasis Canva yang dirancang untuk meningkatkan keterlibatan siswa dalam pembelajaran Ilmu Pengetahuan Alam dan Sosial (IPAS) kelas IV pada topik Perubahan Energi. Menggunakan metode Penelitian dan Pengembangan (R&D) dengan model ADDIE yang sistematis, penelitian dilakukan di SD N Karanganyar, Gunungkidul, melibatkan seorang guru kelas dan 19 siswa. Pengumpulan data meliputi validasi ahli, angket siswa dan guru, serta uji coba lapangan untuk menilai kelayakan media dan dampaknya terhadap keterlibatan belajar. Situs web interaktif yang dikembangkan mengintegrasikan ilustrasi kontekstual, animasi, dan kuis tersemat untuk mendukung pemahaman konseptual. Hasil validasi dari ahli materi dan media mengonfirmasi kelayakan tinggi dalam hal keakuratan konten, desain visual, dan interaktivitas. Implementasi di kelas menunjukkan bahwa media berbasis Canva secara efektif mendorong keterlibatan aktif, meningkatkan motivasi, dan memperbaiki pemahaman konsep abstrak, sebagaimana dilaporkan oleh siswa dan guru. Temuan ini menegaskan bahwa media interaktif berbasis Canva yang dirancang secara strategis berfungsi sebagai alat pembelajaran yang layak dan efektif untuk membangun keterlibatan bermakna dalam pendidikan IPAS tingkat dasar, selaras dengan tujuan pembelajaran yang berpusat pada siswa dan dinamis dalam Kurikulum Merdeka.

Kata kunci: Keterlibatan, Media pembelajaran interaktif, pembelajaran berbasis Canva, pembelajaran IPAS, Sekolah Dasar

INTRODUCTION

The educational landscape in Indonesia is undergoing a significant transformation as a result of the Merdeka Curriculum, which emphasizes flexible, contextual, and student-centered learning, fundamentally aiming to cultivate reflective, adaptive, and innovative learners that align with the demands of a 21st-century knowledge economy (Fausiah et al., 2025; Ramadani et al., 2024). Fundamental to the successful execution of this curriculum is the effective integration of digital media into instructional practices, transforming teachers into designers of engaging and interactive learning experiences (Fermansyah et al., 2025). The successful adoption of such practices also requires foundational digital literacy, which can be cultivated through the responsible pedagogical use of familiar platforms, including social media, to develop critical skills in content navigation and creation (Ratri & Aviyanti, 2025). This study explores the significance of digital learning media, especially in elementary education, where it can significantly enhance students' engagement and conceptual understanding. At the elementary school level, particularly for fourth graders in the IPAS (Integrated Science and Social Studies) curriculum, engaging instructional media is critical. Young learners, often in Piaget's concrete operational stage, require tangible experiences to grasp abstract concepts. For example, energy transformation, a core scientific topic, poses challenges as it involves phenomena that are not readily observable (Ifliadi et al., 2024). Relying solely on traditional text and teacher-led instruction often results in passive learning, hindering proper comprehension (Ifliadi et al., 2024).

Interactive digital media can serve as a vital tool for visualizing and simulating these abstract processes, thereby anchoring them in relatable contexts. When designed effectively, such media can enhance students' attention, motivation, and retention of information. Research indicates that multimedia presentations improve learning outcomes by allowing learners to engage with materials actively, fostering deeper cognitive processing (Ifliadi et al., 2024; Leksono et al., 2021; Kanthed et al., 2024). Furthermore, as digital literacy becomes increasingly critical for students, platforms that promote interactive engagement, such as those integrated with social media, can play an essential role in providing students with the tools needed for responsible content creation and evaluation (Ratri & Aviyanti, 2025). The use of interactive digital media in education is grounded in two significant theories: constructivism and cognitive load theory. Constructivism emphasizes the active role of learners in building knowledge through experiences and social interactions, enabling them to become creators rather than mere recipients of knowledge (Rokayah et al., 2023). Interactive media facilitates this by providing a platform where students can manipulate variables, explore content at their own pace, and receive instant feedback, essential aspects for shifting the onus of learning to students (Rokayah et al., 2023).

In the context of elementary education, particularly within the IPAS curriculum, the role of digital learning media is significantly accentuated. For fourth-grade students, who are often navigating Piaget's concrete operational stage of development, engaging instructional media becomes crucial for fostering a more profound understanding of abstract concepts such as energy transformation (Fausiah et al., 2025). Traditional methods that rely solely on text and teacher-driven instruction have resulted in passive learning environments that inhibit comprehension and retention. In educational settings, where conceptual frameworks are still being built, interactive digital media serves as an invaluable tool, allowing for the visualization and simulation of complex scientific phenomena (Nurbaya et al., 2025).

Cognitive load theory posits that instructional materials should be designed to optimize working memory capacity. Well-crafted multimedia with dual coding (sight and sound) presents information in a manner that minimizes intrinsic cognitive load, promoting schema construction and better understanding (Russell & Hannon, 2012). As noted, effective digital learning resources must consider student variability and facilitate personalized learning pathways, which aligns closely with the goals of the Merdeka Curriculum (Rokayah et al., 2023). Web-based learning platforms exemplify the potential of interactive media. Such platforms integrate diverse media forms, text, images, animations, simulations, and videos, creating a cohesive and engaging learning environment (Leksono et al., 2021). The user-friendly design of platforms like Canva democratizes the creation of interactive learning resources, allowing teachers, even those without technical backgrounds to develop customized materials for their classrooms (Nugraha et al., 2023).

Previous research indicates that multimedia presentations effectively enhance learning outcomes by stimulating active engagement with educational materials, thereby promoting deeper cognitive processing (Nurbaya et al., 2025). Furthermore, as the importance of digital literacy continues to grow, social media platforms have emerged as powerful tools that can enhance students' interactive engagement and provide opportunities for responsible content creation (Ramadani et al., 2024). Despite these advancements, current

literature reveals significant gaps in the practical application of such technologies, particularly within Indonesian elementary schools, especially those located in non-urban regions. Many institutions continue to utilize traditional, teacher-centered pedagogies, typically reliant on basic digital tools such as PowerPoint presentations (Nurbaya et al., 2025). Barriers, including inadequate technological infrastructure and insufficient teacher training, have contributed to this stagnation, creating a disconnect between the potential of digital learning and its real-world application.

Despite Despite the evident potential of digital learning technologies, significant gaps persist in their real-world application, particularly in Indonesian elementary schools, especially in non-urban areas. Many institutions continue to rely on traditional, teacher-centered pedagogies, often limited to basic digital tools such as PowerPoint presentations (Nurbaya et al., 2025). Barriers such as inadequate technological infrastructure, insufficient teacher training, and misconceptions regarding the complexity of digital media development hinder progress in harnessing the potential of these resources. Research that emphasizes the development and effectiveness of tailored interactive learning media specific to the Indonesian context remains essential. Prior literature has predominantly focused on commercial software or on more complex design platforms, neglecting structured approaches to developing accessible educational materials using tools such as Canva (Kanthed et al., 2024). Therefore, the purpose of this study is to explore practical strategies for developing and implementing interactive digital learning media specifically designed to address the unique needs of Indonesian elementary education.

Adopting structured Research and Development (R&D) methodologies, like the ADDIE model (Analysis, Design, Development, Implementation, Evaluation), is vital for systematically analyzing and creating effective educational products. This model ensures that learning resources are grounded in learner needs and pedagogical objectives, thereby maximizing their impact. Digital platforms that integrate diverse forms of media, texts, images, animations, and videos create cohesive and engaging learning environments that are essential for fostering dynamic educational experiences.

Therefore, the purpose of this study is to develop and test the feasibility of interactive Canva-based learning media specifically designed to build engagement or active participation of fourth-grade students in learning the topic of Energy Transformation in the IPAS subject. Through the Research and Development (R&D) method using the ADDIE model, this study systematically aims to produce a media product that is not only feasible according to the assessment of content and media experts but also effective in enhancing student motivation, conceptual understanding, and active participation in the classroom. Thus, this study is expected to provide a practical contribution in the form of an alternative learning media that is accessible, interactive, and aligned with the spirit of the Merdeka Curriculum, while also addressing the gap between the potential of digital technology and its still limited implementation in elementary schools, particularly in non-urban areas.

METHODS

This study was conducted at SD N Karanganyar, Gunungkidul, Daerah Istimewa Yogyakarta, Indonesia, with 19 fourth-grade students as the research subjects. The primary scope of the study focused on the systematic design process and the assessment of the media's feasibility and initial impact on engagement within a single classroom setting. In addition to the students, other involved parties included a subject matter expert, a media expert, and the fourth-grade classroom teacher. Data were collected using several techniques: observation, interviews, questionnaires, and documentation. These techniques were employed to obtain comprehensive data regarding learning needs, the media development process, and the feasibility of the final product.

This study utilised the Research and Development (R&D) method. According to Winaryati, Munsarif, Mardiana & Suwahono (2021), Research and Development (R&D) is a process of creating new products or improving existing ones. This method aims to develop a product in the form of a Canva-based website as interactive media for IPAS instruction on energy transformation, and to determine the feasibility of the developed media. The development model used in this study is the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation, as illustrated in Image 1.

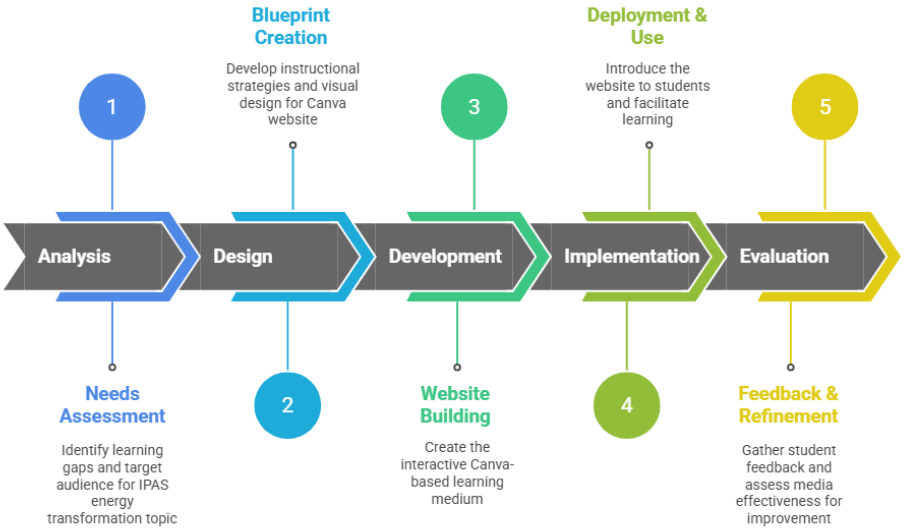

Figure 1. ADDIE Model for Canva-Based IPAS Learning Media Development

The ADDIE model was chosen due to its systematic stages, which allow for continuous refinement at each step of the development process. The ADDIE model by Branch (in Hidayat & Nizar, 2021) is presented below as a learning systems design.

Analysis Stage

This stage aimed to identify problems and needs in fourth-grade IPAS learning. Activities included observing the IPAS learning process, the learning media used by the teacher, and student engagement during lessons. Furthermore, interviews were conducted with the teacher and students to identify learning difficulties, media availability, and the need for learning media suited to student characteristics and the energy transformation material.

Design Stage

This stage was carried out to design the learning media to be developed. The researcher formulated learning objectives, determined the IPAS content to be presented, and designed the structure and flow of the Canva-based website. The design also encompassed the visual layout, navigation, colour scheme, image selection, and placement of multimedia elements to ensure the media was user-friendly and engaging for fourth-grade students.

Development Stage

This stage involved the creation of the learning media product according to the prepared design. The Canva-based website was developed by integrating text, images, animations, and interactive features. After the initial product was completed, validation was conducted by the subject matter expert and media expert to assess the feasibility of the content, presentation, visual design, and technical aspects of the media. Subsequently, the product, revised based on expert feedback, was piloted with a small group of fourth-grade students to gather initial responses regarding ease of use and content clarity.

The instruments utilized in this study underwent a rigorous validation process to ensure their reliability, validity, and appropriateness for assessing the developed learning media. This process, detailed below, ensured that the data collected accurately measured the intended constructs of feasibility, usability, and pedagogical impact.

The primary instruments for user response were student and teacher questionnaires, constructed based on three core aspects derived from instructional media theory and learning objectives: (1) the Learning Aspect, assessing engagement, motivation, and learning experience; (2) the Content Aspect, evaluating material accuracy, relevance, and clarity; and (3) the Display Aspect, appraising visual design, usability, and multimedia integration.

The media expert instrument framework assesses several aspects: visual design, technical functionality, interactivity and usability, and general feasibility. The subject matter expert instrument assesses aspects of material accuracy, material relevance, completeness and depth of material, as well as the feasibility of

content and learning objectives. The alignment of specific indicators for students and teachers within these aspects is presented in Table 1.

Table 1. Framework for Student and Teacher Questionnaire Instruments

Aspects	Student Indicator	Teacher Indicator	Item Number
Learning Aspect	Ease of understanding lessons through the learning media	The media's ability to facilitate independent student learning	1
	Increased student motivation and enthusiasm for learning	Clarity of usage instructions for users (both teacher and students)	2
	Provides an enjoyable learning experience	The media's ability to encourage student activity and critical thinking	3
	Encourages students to want to learn again after using the media	The media's role in motivating students to learn with enthusiasm	4
	Increased student independence in learning using the media	Alignment of learning activities in the media with learning objectives	5
	Clarity of easy-to-follow media usage instructions	Utilization of the media as a teaching aid for classroom learning activities	6
	Helps students remember lesson content better	Media effectiveness in helping teachers manage time and learning activities	7
Content Aspect	Relevance of the material to school lessons	Alignment of the material with core competencies and learning objectives	8
	Clarity of material delivery that is easy to understand	Order and systematic presentation of content in the media	9
	Relevance of the material to students' daily lives	Relevance of content to students' everyday life context	10
	Use of simple and easy-to-understand language and sentences	Appropriateness of material difficulty level to student development	11
	Availability of examples and explanations that aid student understanding	Accuracy of information and alignment with scientific sources	12
	Suitability of content to students' learning abilities	Material fosters awareness of sustainable energy use	13
		Availability of examples and exercises that support conceptual understanding	14
Display Aspect	Attractive media display that fosters learning interest		14
	Comfortable and readable combination of colors and text	Media display attractiveness appropriate to student characteristics	15
	Usefulness of images or animations in aiding material understanding	Balanced use of color, text, and illustrations in the media	16
	Quality of sound or music that supports the learning atmosphere	Neat layout and ease of user navigation	17
	Ease of using buttons and menus on the media	Relevance of images, videos, or animations to the content	18
	Neatness and orderliness of the media display layout	Ease of using buttons or menus for media navigation	19
	Overall attractiveness of the design and media display	Clarity of audio and visual quality that supports learning	20

The instruments utilized in this study underwent a rigorous, multi-stage validation process to ensure their reliability, validity, and appropriateness for assessing the developed learning media. This process commenced with Expert Judgment, wherein the draft questionnaires were reviewed by both a subject matter expert and a media/instructional design expert. The subject matter expert assessed the instruments for content validity, ensuring each item accurately reflected the IPAS curriculum (specifically the Energy Transformation topic) and aligned with sound pedagogical principles. Concurrently, the media expert evaluated the instruments for construct validity, verifying that the items comprehensively and appropriately measured the intended theoretical aspects of media design, including display quality, interactivity, and usability. Following this, the Revision and Refinement stage incorporated expert feedback to refine item

wording, eliminate ambiguity, and ensure each indicator was precisely linked to a measurable outcome. This step enhanced the instruments' face validity ensuring they appeared to measure what they intended to and strengthened their content validity by confirming adequate coverage of all relevant dimensions of the media being assessed. Subsequently, an Instrument Pilot was conducted prior to full-scale implementation; the revised questionnaires were administered to a small sample of students (not part of the main study group) to check for clarity, comprehensibility, and completion time. This pilot ensured the language was age-appropriate and the instructions were fully understood, thereby increasing the reliability of responses during the actual trial. Finally, to establish a Scale and Analysis Foundation, the instruments employed a standardized 5-point Likert scale. The quantitative data from these scales were analyzed using descriptive statistics (primarily average scores), with interpretations anchored to established feasibility classification criteria (e.g., Widoyoko, 2025). This structured approach provided a clear, measurable, and validated basis for determining the media's feasibility level (e.g., "Very Feasible" or "Feasible") and ensured the credibility of the study's findings.

Implementation Stage

This stage involved applying the revised learning media in fourth-grade IPAS lessons. The media was used by the teacher and students during the energy transformation topic. At this stage, the researcher collected data via questionnaires to understand the responses of teachers and students towards the use of the developed learning media.

Evaluation Stage

This stage aimed to assess the entire development process and the quality of the learning media product. The evaluation was conducted by analysing the results of expert validation, the initial pilot test, and the implementation results in the classroom. The evaluation findings were used to determine the feasibility of the Canva-based website as an interactive media learning for IPAS instruction.

Regarding data analysis techniques, Suparman (2020) states that there are objectives to be achieved when interpreting research data, namely the analysis of acceptance and the use of existing theories and disciplinary frameworks. This study employs both quantitative and qualitative data analysis techniques. The quantitative technique involved linking categories within the questionnaires, which were then interpreted qualitatively. The calculation formula used the average score, which is the total assessment score divided by the number of statement items or assessment indicators. The interpretation of results referred to the formula proposed by Widoyoko (2025), using a 5-scale data classification, as seen in Table 2.

Tabel 2. The formula of Feasibility Classification

Formula	Mean Score	Classification
$X > \bar{x}_i + (1{,}8 \times Sb_i)$	>4,2	Very Feasible
$\bar{x}_i + (0{,}6 \times Sb_i) < X \leq \bar{x}_i + (1{,}8 \times Sb_i)$	>3,4 – 4,2	Feasible
$\bar{x}_i - (0{,}6 \times Sb_i) < X \leq \bar{x}_i + (0{,}6 \times Sb_i)$	>2,6 – 3,4	Less Feasible
$\bar{x}_i - (1{,}8 \times Sb_i) < X \leq \bar{x}_i - (0{,}6 \times Sb_i)$	>1,8 – 2,6	Not Feasible
$X \leq \bar{x}_i - (1{,}8 \times Sb_i)$	≤ 1,8	Very Not Feasible

Notes:

$\bar{x}_i$ (Rerata skor ideal) = $\frac{1}{2}$ (highest ideal scote – lowest ideal score)

Sb_i (Simpangan baku ideal) = $\frac{1}{6}$ (highest ideal score – lowest ideal score)

X = Empirical Score (obtained score)

RESULTS AND DISCUSSION

This study produced a product in the form of an interactive, Canva-based website learning media on the topic of “Energy Transformation” for fourth-grade students at SD Negeri Karanganyar, Gunungkidul. The results and discussion are presented according to the stages of the ADDIE development model, which includes the analysis, design, development, implementation, and evaluation stages.

Analysis Stage

The analysis stage was conducted to identify the needs of teachers and students in learning the energy transformation material within the IPAS subject for fourth grade at SD N Karanganyar. The analysis was carried out through classroom observations and interviews with the teacher and several students. The analysis results indicated that IPAS learning is still dominated by the use of textbooks and lecture methods, with suboptimal utilization of digital media, leading to low student engagement and understanding of the material.

The energy transformation material has abstract characteristics and requires visual aids to be easily understood. The teacher conveyed that, although the teaching refers to the Merdeka Curriculum, the lack of interactive media causes students' difficulty in grasping the concepts of energy change. Students also expressed a need for learning media that is more engaging, interactive, and contextual. Based on these conditions, it was necessary to develop an interactive, Canva-based website learning media that aligns with student characteristics and the needs of IPAS instruction.

Design Stage

At the design stage, the researcher designed the Canva-based website learning media based on the needs analysis results from the previous stage. The design was carried out to ensure the developed media aligned with the learning objectives, the characteristics of fourth-grade students, and the instructional needs for the IPAS topic of energy transformation. The media design process included the preparation of content, determination of learning objectives, selection of evaluation methods, and the design of the media interface.

The developed material covered energy transformation, examples of its application in daily life, and methods for conserving energy. The media was designed to achieve two learning objectives: for students to be able to analyse forms of energy transformation in daily life and to provide examples of energy-saving behaviour. Learning evaluation was designed through an interactive quiz using the Quizalize platform integrated into the website, allowing students to complete questions directly and interactively.

The media interface was designed to be simple and systematic for easy use by elementary school students. The website structure consisted of an introduction page, learning objectives, content material, application examples, practice exercises, and evaluation. The use of bright colours, visual icons, animations, and legible typography was implemented to enhance student engagement. Furthermore, the design maintained consistency across pages with clear navigation so students could follow the learning flow effectively. The outcome of this design stage was an initial media blueprint, which was subsequently developed in the next stage.

Development Stage

The development stage involved constructing the learning media based on the previously created design. At this stage, the researcher developed the Canva-based learning website containing energy transformation material presented in the form of text, images, and contextual illustrations. The developed media was subsequently validated by a subject matter expert and a media expert to assess its feasibility level. An initial group trial was also conducted to determine the preliminary feasibility and practicality of the learning media before wider implementation.

Media Development

The creation of the Canva-based website learning media was carried out based on the results of the design stage. The media was developed with a simple, attractive, and user-friendly interface to suit the characteristics of elementary school students. Its development aimed to support IPAS learning, both independently and in a guided manner, through a structured learning flow.

Canva was chosen as the development platform because it allows for the integration of various multimedia elements, such as text, images, videos, animations, and interactive quizzes within a single learning media. The resulting media can be accessed via various digital devices without requiring additional application installation, thus facilitating use by teachers and students. The developed learning media consists of several interconnected main pages designed to support the IPAS learning process on energy transformation. Key pages developed for the website include: a welcome page, main page, learning indicators, content (reading materials, energy transformation material, and energy-saving material), experiments, evaluation, references, user guide, button guide, and developer profile. Images 2 and Images 3 show the result of Canva development.

Figure 2. The Cover of Media in Canva with "Selamat Datang" (Welcome)

Figure 3. The Main Page of Canva Design

Material Expert Validation

Validasi ahli materi bertujuan untuk mengevaluasi kesesuaian materi dalam media pembelajaran dengan kompetensi pembelajaran IPAS kelas 4, memastikan ketepatan konsep, serta memperhatikan tingkat keterbacaan materi bagi siswa. Berdasarkan hasil validasi ahli materi tahap pertama, diperoleh beberapa masukan terkait kejelasan penyajian materi dan penggunaan bahasa agar lebih komunikatif serta mudah dipahami oleh siswa. Beberapa bagian materi dinilai perlu disederhanakan dan disesuaikan dengan tingkat pemahaman siswa sekolah dasar. Setelah itu dilakukan revisi sesuai dengan saran yang diberikan oleh ahli materi, dilakukan validasi tahap kedua. Berikut hasil validasi ahli materi.

The material expert validation aimed to evaluate the alignment of the content in the learning media with the fourth-grade IPAS learning competencies, to ensure the accuracy of concepts, and to assess the readability level of the material for students. Based on the results of the first-stage material expert validation, several inputs were obtained concerning the clarity of content presentation and the use of language to make it more communicative and easier for students to understand. Some sections of the material were assessed as needing simplification and adjustment to the comprehension level of elementary school students. Subsequently, revisions were made in accordance with the suggestions provided by the material expert, and a second-stage validation was conducted. Table 3 displays the results of material expert validation in Stage 1 and 2.

Tabel 3. The findings from Material Expert Validation Stage 1 and 2

Stage	Mean	Classification
I	3,89	Feasible
II	4,53	Very Feasible

Based on Table 3, the results of the second-stage validation indicate an increase in scores, placing it in the very feasible category. This demonstrates that the material presented in the learning media is now appropriate for fourth-grade IPAS learning competencies, has conceptual clarity, and is easy for students to understand. The learning material was developed by referring to the learning indicators and objectives for fourth-grade IPAS, ensuring alignment with the competencies students must master. The structuring of this material aims to keep the learning process focused on the established learning outcomes.

This finding aligns with the opinion of Luh & Ekayani (2021), who state that learning media serves as a means to stimulate students' minds, feelings, and attention, and helps develop their learning abilities, thereby making the learning process more effective and facilitating the successful achievement of learning objectives.

Media Expert Validation

Media expert validation was conducted to assess the visual design, general feasibility, level of interactivity, and technical functionality aspects of the developed website-based learning media. This validation process aimed to ensure that the learning media is not only visually appealing but also user-friendly, has clear navigation, and optimally supports learning activities. Based on the results of the first-stage media expert validation, several inputs were obtained regarding the visual appearance, design consistency, and clarity of the website's navigation. Some display elements were assessed as needing refinement to be more engaging and to facilitate student use of the media. After revisions were made in accordance with the suggestions provided by the media expert, a second-stage validation was conducted.

Table 4. Findings from Media Expert Validation in Stage 1 and 2.

Stage	Mean	Classification
I	3,55	Feasible
II	5	Very Feasible

Based on Table 4, the results of the second-stage validation indicate an increase in scores, categorising it as very feasible. This shows that the Canva-based website learning media has met the visual and functional aspects required for an interactive learning media suitable for elementary school students' characteristics. The media is deemed to have clear navigation and interactive features that facilitate student access and operation of the media during the learning process.

This finding aligns with the opinion of Daryanto (in Watri, Girmin, & Suarman, 2023), who states that interactive media provides user control features to determine the flow of media use according to their needs. Therefore, the developed media not only function as an information conveyor but also enable active interaction between students and learning materials, thereby supporting the IPAS learning process more effectively.

Initial Group Trial

An initial group trial was conducted to determine students' preliminary responses to the developed Canva-based website learning media. This trial aimed to observe how students responded to the media's appearance, ease of use, and comprehension of the presented material. Based on the results of the initial group trial, students attempted to use the media independently via the provided laptops or computers. After using the media, students were asked to fill out a prepared response questionnaire.

Table 5. Results of student and teacher scores for the initial group trial

Score Result	Mean	Classification
Students	4,28	Very Feasible
Teachers	5	Very Feasible

According to Table 5, the trial results indicate that students responded positively to the learning media, both in terms of its engaging appearance, ease of operation, and the clarity of the presented material. The teacher also felt assisted by the presence of the Canva website learning media. This demonstrates that the Canva-based website learning media is well-accepted by both students and the teacher, and is suitable for proceeding to the implementation stage.

Implementation Stage

The implementation stage was conducted after the Canva-based website learning media underwent a revision process based on the results of expert validation and the initial group trial. The media, which had been declared feasible, was then implemented in IPAS learning for the fourth grade. The implementation involved all 19 fourth-grade students, as well as the fourth-grade homeroom teacher, to understand user responses to the media under actual learning conditions. Throughout the learning process, students used the Canva-based website learning media under the teacher's guidance. Students accessed the media via available devices and followed the learning flow according to the provided menus and navigation.

Figure 4. Field Trial (1)

Figure 6. Field Trial (3)

Figure 5. Field Trial (2)

Figure 7. Field Trial (4)

Results indicated that students were enthusiastic and actively engaged during the learning activities. The media's interactive presentation, featuring contextual animations and illustrations, was perceived by students as aiding their conceptual access and improving the clarity of the energy transformation material. This subjective assessment is supported by feedback from the teacher, who noted that the media helped streamline lesson explanations due to its concise and visual format. Following the implementation, structured response questionnaires were administered to both students and the teacher. These instruments were designed to evaluate the media's appeal, usability, and perceived feasibility in classroom use, focusing on self-reported measures of engagement and perceived understanding rather than objective cognitive gains.

Table 6. Results of student and teacher scores for the initial group trial

Score Result	Mean	Classification
Students	4,73	Very Feasible
Teachers	5	Very Feasible

According to the response questionnaire results in Table 6, students provided a positive assessment of using the Canva-based website learning media. Students found the media easy to use, engaging, and helpful in understanding the energy transformation material. The teacher also provided a very good response and assessed that the Canva-based website learning media is suitable for use as an alternative interactive IPAS learning media that supports the learning process in elementary school.

These findings align with the opinion of Robbani (2021), who states that developing web-based learning media allows for the integration of various forms of multimedia, making the delivery of material more engaging, varied, and easier for students to understand. Furthermore, web-based media also assists teachers in delivering material more efficiently, as information is presented visually and in a structured manner.

Evaluation Stage

The evaluation stage was conducted to assess the entire process and outcome of developing the Canva-based website learning media for IPAS instruction on energy transformation. Evaluation was carried out continuously from the development stage through the implementation stage as an effort to ensure that the developed media aligned with the learning objectives and user needs.

Formative evaluation was performed during the development stage through material and media expert validation, as well as the initial group trial. The results of the formative evaluation were used as a basis for making improvements and refinements to the media, both in terms of content, visual presentation, interactivity, and ease of use. The revisions aimed to make the learning media more suitable for the characteristics of elementary school students and optimally usable in instruction.

A summative evaluation was conducted during the implementation stage by analysing the responses of the teacher and students after the media was used in classroom learning. This evaluation aimed to determine the overall feasibility of the media when applied in real learning conditions. Based on the summative evaluation results, the Canva-based website learning media received positive responses and was declared suitable for use as an IPAS learning media in elementary schools.

CONCLUSION

This study has successfully developed and validated an interactive, Canva-based website as a feasible and effective instructional media designed to build student engagement in fourth-grade IPAS learning on the topic of Energy Transformation. Through the systematic application of the ADDIE model (Analysis, Design, Development, Implementation, Evaluation), the study produced a media product that is pedagogically sound, visually engaging, and well-suited to the developmental stage of elementary school students.

The feasibility of the media was rigorously established through expert validation from both material and media specialists, as well as positive feedback from students and the teacher during initial trials and full classroom implementation. Results demonstrated that the media's interactive design featuring contextual illustrations, animations, and embedded quizzes-significantly enhanced student motivation, active participation, and conceptual understanding. Importantly, the Canva-driven platform successfully addressed the abstract nature of energy transformation by providing visual and interactive supports, thereby fostering a more dynamic and student-centered learning environment. This aligns with the goals of Indonesia's Merdeka Curriculum, which emphasizes flexible, contextual, and engaging learning experiences.

Hence, this study confirms that strategically designed, Canva-based interactive media is not only a viable digital tool for elementary education but also an effective means of building meaningful engagement in IPAS instruction. It offers educators a practical, accessible model for developing interactive learning resources that promote active involvement and deeper comprehension, particularly in settings with limited technological infrastructure.

REFERENCES

Fausiah, F., Akhir, M., & Paida, A. (2025). Interactive Learning Media Based on Google Slides for Fifth-Grade Indonesian Language Classes. Indonesian Journal of Innovation Studies, 26(4). https://doi.org/10.21070/ijins.v26i4.1698

Fermansyah, I., Rumbiak, M., Verioga, D., & Prasetya, A. (2025). Pengembangan Media Pembelajaran Digital untuk Meningkatkan Pemahaman dan Kreativitas pada Peserta Didik Kelas II Sekolah Dasar dengan Model ADDIE. Khatulistiwa Jurnal Pendidikan Dan Sosial Humaniora, 5(3), 191-205. https://doi.org/10.55606/khatulistiwa.v5i3.6722

Ifliadi, I., Prasetyo, I., Mendrofa, L., & Hendrawati, E. (2024). Utilization of digital-based learning media in the independent curriculum in elementary schools. Proceedings of ICE, 2(1), 706–715. https://doi.org/10.32672/pice.v2i1.1348

Kamila, N., Annas, F., & Oktavia, S. (2024). Perancangan Media Pembelajaran Berbasis Multimedia untuk Meningkatkan Kualitas Pembelajaran di Sekolah Dasar. JEMAST, 3(01), 43-49. https://doi.org/10.57255/jemast.v3i01.586

Kanthed, B., soni, D., Dive, D., & Sharma, P. (2024). The Role Of Media In Education: A Comprehensive Review. Kuey. https://doi.org/10.53555/kuey.v30i3.5361

Kurniawati, R., Hadi, F., & Rulviana, V. (2018). IMPLEMENTATION OF INTERACTIVE MULTIMEDIA LEARNING BASED ON COGNITIVE LOAD THEORY IN GRADE 5 STUDENTS OF ELEMENTARY SCHOOL. Social Humanities and Educational Studies (Shes) Conference Series, 1(1). https://doi.org/10.20961/shes.v1i1.23718

Leksono, S., Marianingsih, P., Ilman, E., & Maryani, N. (2021). Online learning media on biology conservation: Rawa Danau nature reserve website. International Journal of Interactive Mobile Technologies (IJIM), 15(08), 87. https://doi.org/10.3991/ijim.v15i08.21567

Nurbaya, N., Paida, A., & Ratnawati, R. (2025). Educandy-Based Media Improves Activeness and Reading Comprehension in Grade V Students. Indonesian Journal of Innovation Studies, 26(4). https://doi.org/10.21070/ijins.v26i4.1623

Ramadani, F., Desyandri, D., Sukma, E., & Erita, Y. (2024). Development of Interactive Multimedia Indonesian Language Teaching Material Based on Problem-Based Learning (PBL) in Elementary Schools. Al-Ishlah Jurnal Pendidikan, 16(2). https://doi.org/10.35445/alishlah.v16i2.4742

Ratri, S., & Aviyanti, L. (2025). Unlocking digital literacy in Indonesia: Insights from the use of social media platforms. Jurnal Prima Edukasia, 13(1), 191–200. https://doi.org/10.21831/jpe.v13i1.83433

Rokayah, R., Hermita, N., Vebrianto, R., Mujtahid, I., Sulistiyo, U., & Samsudin, A. (2023). Reflection of Indonesian educators on the implementation of the Merdeka curriculum. Mimbar Sekolah Dasar, 10(3), 684–700. https://doi.org/10.53400/mimbar-sd.v10i3.64864

Russell, A., & Hannon, D. (2012, September). A cognitive load approach to learner-centered design of digital instructional media and supporting accessibility tools. In *proceedings of the human factors and ergonomics society annual meeting* (Vol. 56, No. 1, pp. 556-560). Sage CA: Los Angeles, CA: SAGE Publications.

Suparman, U. (2020). Bagaimana Menganalisis Data Kualitatif? In Pustaka Media

Sulistyowati, D., Suryanti, S., & Wıdodo, W. (2025). Interactive Media ExploreDigest as an Innovation in Human Digestive System Learning within the Stream of Sustainable Education. Journal of Innovation and Research in Primary Education, 4(3), 733-745. https://doi.org/10.56916/jirpe.v4i3.1444

Warmansyah, J., Yuningsih, R., Nirwana, E., Putri, R., & Masril, M. (2023). The Effect of Mathematics Learning Approaches and Self-Regulation to Recognize the Concept of Early Numbers Ability. Jpud - Jurnal Pendidikan Usia Dini, 17(1), 54-81. https://doi.org/10.21009/jpud.171.05

Watri, Girmin, & Suarman. (2023). Desain dan Pengembangan Media Pembelajaran Interaktif Berbasis Android (1st ed.). Pekanbaru: Taman Karya.

Widoyoko, E. P. (2025).Teknik Penyusunan Instrumen Penelitian. Yogyakarta: Pustaka Pelajar

Winaryati, E., Munsarif, M., Mardiana, & Suwahono. (2021). Cercular Model of RD&D (Model RD&D Pendidikan dan Sosial)