



Development Of Focusky-Based IPAS Learning Media To Improve Critical Thinking And Communication Skills

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Abstract:

This study aimed to develop Focusky-based IPAS learning media to improve students' critical thinking and communication skills on the topic "Plants as a Source of Life on Earth." The research was conducted at MI Anwarul Hidayah involving fourth-grade elementary students. The study employed a Research and Development (R&D) method using the ADDIE model, which includes Analysis, Design, Development, Implementation, and Evaluation stages. The developed product was validated by material, media, and language experts, achieving scores of 80%, 91%, and 94%, respectively, with an average of 88%, indicating that the media was categorized as "feasible." Furthermore, a limited trial involving 24 students showed a positive response rate of 97%, classified as "very feasible." The results demonstrated that the use of Focusky-based IPAS learning media effectively enhanced students' critical thinking skills, particularly in analyzing information, identifying cause-and-effect relationships, and drawing logical conclusions. In addition, students' communication skills improved, as reflected in their ability to express ideas systematically, actively participate in discussions, and respond to peers' opinions logically. Overall, the findings indicate that the developed media is effective and supports meaningful classroom learning.

INTRODUCTION

The rapid development of digital technology has driven primary education to emphasize the quality of learning process that foster higher-order thinking skills and 21st-century competencies. IPAS learning media function as pedagogical instruments that not only deliver information but also shape students interaction patterns and ways of thinking through multimodal presentations, including text, visuals, audio, and animation. Media serve as intermediaries in conveying instructional messages (Zahwa & Syafi'i, 2022) and as software-based communications systems designed enhance learning effectiveness (Alifah et al., 2023). The integration of various forms of information representation has been shown to stimulate students cognitive engagement (Karimah, Lestari, Romadloni, & Rifki, 2024) and reinforce the role of digital media as primary tool in modern learning environments (Wityastuti, et al., 2022). In the context of IPAS, learning examines interactions among living beings, objects, and social life, thereby

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requiring contextual and integrated content delivery through appropriate media (Kemendikbud, 2022). However, the results of Programme for International Student Assessment (PISA) 2022, as cited in (Alfaruqi & Nurwahidah, 2025) indicate that Indonesian students performance remains below the OECD average in reading literacy, mathematics, and science, suggesting that current learning practices have not optimally developed critical thinking and communication skills. This condition is further reinforced by the 2024 AKGTK result, which show that only about 38% of teachers are able to effectively integrate technology, while the average pedagogical competence score is 47 out of 100, indicating that classroom practices are still dominated by conventional methods that limit active student engagement.

The literature reviews indicated that digital learning media contribute to improving the quality of learning through multimodal presentations that promote students cognitive involvement. Learning media play as significant role in enhancing thinking skills and learning interest (Hafizah, 2023), while interactive media are capable of creating engaging and relevant learning experiences (Hidayat, Ilham, & Ningsih, 2024). Focusky, as a digital presentation tool, feature dynamic visual characteristics through zooming user interface, enabling flexible and non-linear content delivery. Focusky function as instructional communication medium (Tenriawaru, Nawir, & Adam, 2023), and its zooming feature has been shown to increase students attention (Apriliantika, Enawati, Masriani, Melati, & Ulfah, 2021). The integration of various multimedia elements in Focusky also enhances students motivation and conceptual understanding (Azizah, 2023). On the other hand, critical thinking skills involve the processes of analyzing, evaluating, and drawing conclusions based on rational considerations (Lailaturrahmah, Tahir, & Rosyidah, 2020) (Sulistianah, Taufik, & Nurhasanah, 2022), as well as the ability to assess arguments and evidence logically (Setyawan & Koeswanti, 2021). Communications skills include the ability to express ideas clearly, systematically, and argumentatively, which constitute an essential component of 21st- century skills (Yasmin & Priyanata, 2024) (Ningrum & Putri, 2020).

Although previous studies has shown that digital learning and Focusky contribute to improving learning outcomes and motivation, research specifically examining the effect of Focusky-based IPAS learning media on elementary students critical thinking and communications skills, particularly on the topic “Plants as a Source of Life on Earth” remains limited. Findings at MI Anwarul Hidayah indicate that IPAS learning is still dominated by the use printed textbooks and one-way verbal explanations, positioning students as passive recipients of information without active engagement in the learning process. The use of technology-based media remains suboptimal, as teachers have not systematically integrated visual, audio, and interactive elements. As a result, students tend to memorize content without engaging in in-depth analysis, discussion, and reflection, leading to underdeveloped critical thinking and communications skills. Based on these conditions, this study aims to develop Focusky-based IPAS learning media, evaluate its feasibility, and analyze its effect on the critical thinking and communications skills of fourth-grade students at MI Anwarul Hidayah as an effort to bridge the gap between curriculum demands and classroom practices.

RESEARCH METHOD

This study employs a Research and Development (R&D) approach to develop Focusky-based IPAS learning media on the topic “Plants as a Sources of Life on Earth” for fourth-grade students at MI Anwarul Hidayah. The R&D method was selected because it enables a systematic process of designing, developing, and testing educational products to ensure their pedagogical relevance and effectiveness (Safira, Sarifah, & Sekaringtyas, 2021).

The development process adopts the ADDIE model, which consists of five stages: analysis, design, developments, implementations, and evaluation (Husain & Ibrahim, 2021). The analysis stage identifies learning needs, student characteristics, and instructional constraints through observation and interviews. The design stage focuses on structuring content, visual layout, and interactivity, followed by expert validation. The development stage involves producing the media and revising it based on expert feedback. The implementation stage conducts limited trials in real classroom settings, while the evaluation stage assesses the feasibility and quality of the product. The study was conducted at MI Anwarul Hidayah with fourth-grade students as the population, and a sample of 25 students selected through purposive sampling (Sugiyono, 2018). Data were collected through observation, interviews, and questionnaires. Questionnaires were used expert validation and student response, while observation and interviews supported the needs analysis.

Data analysis employed both qualitative techniques. Qualitative analysis was used to interpret findings from observations, interviews, and experts input, while quantitative analysis was applied to questionnaire data to determine the feasibility and effectiveness of developed learning media.

RESULT AND DISCUSSION

RESULT

Development of Focusky-Based IPAS Learning Media

The development of Focusky-based IPAS learning media was conducted using the ADDIE model to ensure a systematic and pedagogically grounded process (Husain & Ibrahim, 2021). The analysis stage revealed that learning at MI Anwarul Hidayah was still dominated by conventional methods, limiting student engagement, exploration, and the development of critical thinking and communication skills. Observations showed that students responded more actively to visual and interactive stimuli, confirming that multimodal digital media can enhance cognitive engagement and learning effectiveness (Hafizah, 2023). This need is particularly relevant IPAS, which requires contextual and integrated representation of natural and social phenomena (Kemendikbud, 2022).

The design stage focus on developing interactive slide-based media using Focusky, integrating visuals, animations, and structured content to support clarity and engagement. The zooming user interface enabled dynamic and non-linear presentations, which has been shown to improve attention and focus (Apriliantika et al., 2021). This aligns with findings that interactive media create more engaging and meaningful learning experience (Hidayah & Salimi, 2024).

The development stage produced a complete media product validated by experts. The results showed feasibility level of 80% “feasibility with minor

revisions". These findings indicate that the media meets standards of content accuracy, visual quality, and language clarity, while multimedia integration support motivation and conceptual understanding (Azizah, 2023).

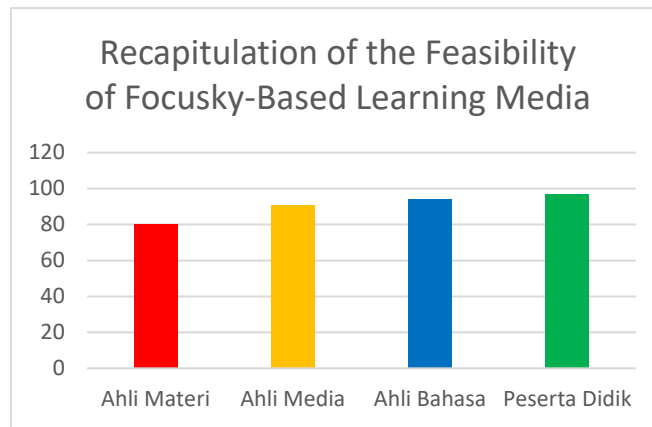
The implementation stage involved a limited trial with fourth-grade students, showing increased participation, attention, and active communication. Students engaged more in discussions and expressed ideas more confidently, indicating that interactive media facilitate critical thinking and communication development (Lailaturrahmah et al., 2020). The evaluation stage confirmed these findings, with student responses reaching 97% "highly feasible", reflecting strong acceptance and usability. Overall, the findings demonstrate that Focusky-based IPAS media effectively addresses the limitations of conventional instruction by enhancing engagements, supporting conceptual understanding, and promoting critical thinking and communication.

Feasibility of Focusky-Based IPAS Learning Media

The feasibility of Focusky-based IPAS learning media on the topic Plants as a Source of Life on Earth was established through a systematic validation process involving experts and student responses. Focusky functions as an interactive digital presentation platform that integrates animations, images, and dynamic visual transitions, enabling structured and engaging content delivery. Its open-canvas design and zooming features allow flexible visualization of concepts, making it an effective visual communication tool adaptable to instructional needs (Azizah, 2023). The accessibility of Focusky across devices such as laptops and smartphones further supports its relevance in digital learning environments aligned with students' characteristics (Arif, Rachmedia, Rinaldo, & Pratama, 2023).

The development process followed the ADDIE framework, ensuring that feasibility was evaluated through expert validation and user response. Material validation result reached 80%, indicating that the content aligns with learning objectives and is presented systematically to support conceptual understanding. This supports the view that digital media facilitate knowledge construction and enhance learning engagements (Hafizah, 2023). Media validation achieved 91%, reflecting high-quality visual design, appropriate use of illustrations and animations, and user-friendly navigation. These aspects are critical in attracting attention and sustaining students' involvement, consistent with findings that multimedia-rich presentations enhance learning motivation (Fatimah, Mukarromah, Islami, & Tresna, 2025). Language validation reached 94%, confirming that the content uses clear, communicative, and comprehension (Hidayat et al., 2024).

Student responses further reinforced these findings, with a feasibility score of 97% categorized as "highly feasible". Students demonstrated strong interest in the visual presentations, ease of use, and clarity of material, indicating that the media successfully enhances engagement during learning activities. The integration of multimedia elements and interactive features contributes to a more meaningful learning experience, supporting both cognitive processing and participation.



Overall, the finding confirm that the Focusky-based IPAS learning media meets pedagogical and technical feasibility standards. The consistent results across expert validation and student responses indicate that the media is suitable for classroom implementation and capable of supporting effective, interactive, and student-centered learning.

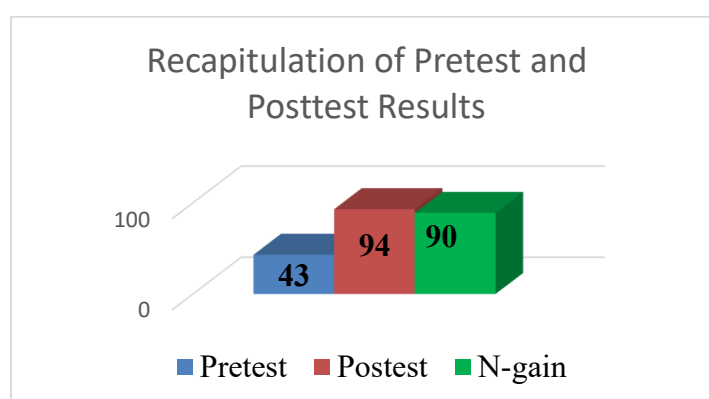
Effect of Focusky-Based IPAS Learning Media on Students Critical Thinking Skills

The result show a significant improvement in students critical thinking skills after the implementation of Focusky-based IPAS learning Media. This conclusion is based on the comparison of pretest and post test scores administered before and after the learning intervention.

No	Student Name	Pretest Score	Posttest Score	N-Gain	Description
1	M. Ridwan S	47	100	100	Tall
2	Dika Apriadi P	40	87	78	Tall
3	Nurisma	33	87	80	Tall
4	Siti Nur Anisa	47	100	100	Tall
5	Putri Cahya W	40	93	89	Tall
6	M. Rizky Aditya	40	80	67	Currently
7	Siti Kusmiyati	40	87	78	Tall
8	Neng Mima S	40	87	78	Tall
9	Havni Izzatun N	40	93	89	Tall
10	Siti Nur Zahra	33	87	80	Tall
11	Moh Dafa K	33	100	100	Tall
12	Haekall M	40	93	89	Tall
13	M. Haerul I	47	100	100	Tall
14	Sarira Nurul P	47	100	100	Tall
15	Hilma Nur K	27	93	91	Tall
16	Putri Aulia ZN	47	100	100	Tall

No	Student Name	Pretest Score	Posttest Score	N-Gain	Description
17	M. Fathurizky	40	93	89	Tall
18	Deny A	47	100	100	Tall
19	Adelia Putri S	53	100	100	Tall
20	Balqis Gania H	47	93	88	Tall
21	Meyra Handa Y	47	100	100	Tall
22	Arsila Mega P	33	73	60	Currently
23	M. Akmal	67	100	100	Tall
24	M. Sidik	67	100	100	Tall
Average		43	94	90	

The pretest average score was 43, indicating that students had limited ability to analyze information, identify causal relationships, and draw evidence-based conclusions. After the intervention, the post test average increased to 94, showing a gain of 51 points. This improvement indicates that students developed the ability to connect information, reason logically, and construct conclusions based on analysis. The N-Gain score of 0,90 (high category) confirms the effectiveness of the media.



The score distribution shifted from a wide, low-range spread in the pretest to a concentrated high-range distribution in the post test, indicating reduced learning disparities. The pattern shows that the media not only improved average performance but also supported more even development of critical thinking skills. The improvements is attributed to the use of interactive digital media that integrates visual elements, animations, and structured content. These features simulate active learning processes such as observing, analyzing, and discussing information, which are essential components of critical thinking (Lailaturrahmah et al., 2020). Classroom activities, including group discussions and problem-based prompts, further strengthened students reasoning and argumentation skills. Overall, Focusky-base IPAS learning media effectively enhance students critical thinking by facilitating active engagement, structured reasoning, and evidence-based analysis.

Effect of Focusky-based IPAS Learning Media on Students Communication Skills. The findings indicate a significant improvement in students communication skills after the use Focusky-based IPAS learning media. Initially, students showed limited and unstructured communication, with brief responses, low participation, and minimal interaction. Classroom communication was predominantly teacher-centered, and students lacked confidence in expressing ideas.

After the intervention, students demonstrated clearer, more structured, and logical communication. The visual and systematic presentation of content through Focusky helped students build conceptual understanding, which became the basis for expressing ideas. Students began to explain answers, respond to peers, and engage actively in discussions. Interaction during group work and presentation also improved. Students exchanged ideas, asked relevant questions, and provided reasoned responses. Communication shifted from passive to active and collaborative, with students using appropriate language and more organized explanations. This aligns with the view that communication develops through active engagement and meaningful interaction (Yasmin & Priyanata, 2024). Overall, Focusky-based IPAS learning media improves both the frequency and quality of communication. The media supports students in expressing ideas clearly, responding logically, and participating actively in classroom interaction.

DISCUSSION

The findings demonstrate that the implementation of Focusky-based IPAS learning media significantly improved students' critical thinking skills, as evidenced by the shift in score distribution from a wide, low-range spread in the pretest to a more concentrated high-range distribution in the posttest. This pattern indicates not only an increase in average achievement but also a reduction in learning disparities among students, suggesting a more equitable development of higher-order thinking skills. Such improvement can be attributed to the integration of interactive digital elements, including animations, visual representations, and structured content sequencing, which promote active cognitive engagement. These features align with constructivist learning principles, where students actively construct knowledge through observation, analysis, and reflection. Previous studies have similarly highlighted that multimedia-based learning environments enhance critical thinking by providing meaningful learning experiences and facilitating deeper information processing (Lailaturrahmah et al., 2020; Mayer, 2021). Moreover, the incorporation of collaborative learning activities, such as group discussions and problem-based tasks, further strengthened students' reasoning and argumentation abilities. This is consistent with findings by Hmelo-Silver (2022) and Rahmawati et al. (2023), who emphasized that problem-based and discussion-oriented approaches foster analytical thinking and evidence-based reasoning. Therefore, the effectiveness of Focusky-based media lies not only in its technological features but also in its ability to create an interactive and student-centered learning environment that supports systematic reasoning and critical inquiry.

In addition, the study reveals a substantial enhancement in students' communication skills following the use of Focusky-based IPAS learning media. Initially, classroom interactions were largely teacher-centered, with students demonstrating limited participation, low confidence, and unstructured responses.

However, after the intervention, students exhibited more coherent, logical, and systematic communication patterns. The visual and organized presentation of learning materials through Focusky played a crucial role in helping students develop conceptual clarity, which subsequently enabled them to articulate their ideas more effectively. This finding is in line with social constructivist perspectives, which argue that communication skills develop through meaningful interaction and collaborative learning experiences. Empirical evidence from recent studies also supports this conclusion, indicating that digital learning media can enhance students' communication competence by encouraging active participation and dialogue (Yasmin & Priyanata, 2024; Sari et al., 2025). Furthermore, improved interaction during group work and presentations reflects a shift from passive learning to active, collaborative engagement, where students not only express ideas but also respond critically to their peers. This aligns with the findings of Nugroho and Widodo (2022), who noted that structured digital media environments foster both the frequency and quality of student communication. Overall, the Focusky-based learning media effectively supports the development of students' communication skills by facilitating clear expression, logical reasoning, and active classroom participation.

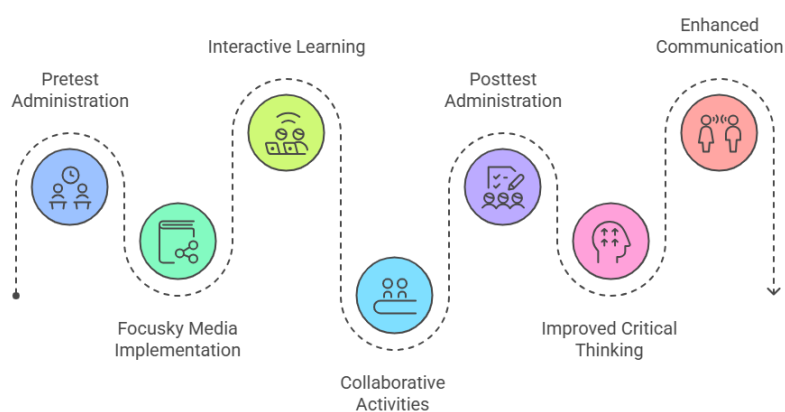


Figure 1. Implementation of Focusky-Based Learning Media

CONCLUSION

This study developed a Focusky-based IPAS learning medium on the topic Plant as a Source of Life on Earth through the systematic ADDIE model and demonstrated measurable pedagogical and technical feasibility. Expert validation across content, media, and language aspects placed the product in a feasible category, indicating that the material structure, visual quality, and language accuracy meet elementary level learning standards. Limited implementation in a fourth-grade class at MI Anwarul Hidayat, Bogor Regency, revealed highly positive student responses, reflected in increased engagement, ease of use, and strong interest in visually dynamic and animated content delivery.

The use of this medium significantly improved students' critical thinking skills, particularly in analyzing information, identifying causal relationships, and constructing evidence-based arguments in a more structured manner. At the same time, students' communication skills developed through clearer idea expression, more relevant responses, and active participation in discussions and presentations.

This shift indicates a transition from teacher centered interaction toward more dialogic and collaborative learning processes.

Conceptually, these findings confirm that Focusky-based digital media functions not merely as an instructional tool but as a cognitive and communicative stimulus that integrates conceptual understanding with higher-order thinking activities. Therefore, the developed media effectively enhances the quality of IPAS learning by strengthening student engagement, structuring thinking processes, and fostering academic interaction.

This study recommends further development of Focusky-based media across broader topics and larger samples to strengthen the generalizability of findings. Future research should also consider integrating Focusky with other digital platforms to create more adaptive and innovative learning designs aligned with evolving educational technology and student learning needs.

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