

COMPARISON OF IPAS LEARNING MEDIA FEATURES IN POPULAR ONLINE LEARNING APPLICATIONS

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ABSTRACT

Abstract: This study aims to compare the features of IPAS (Natural and Social Sciences) learning media on several popular online learning applications used in Indonesia. The methods used were literature studies and content analysis of three applications, namely Ruangguru, Rumah Pendidikan and Kipin School. Data was collected through direct observation of the display, media type, interactivity, and IPAS materials available on each platform. The results of the analysis show that each application has its own advantages, such as the animated video feature in Ruangguru, free access and national curriculum materials at the Education House, as well as offline formats and interactive quizzes at Kipin School. The conclusion of the study is that no one app is superior, however users can choose according to their needs and technical conditions. The purpose of this research is to provide a reference for teachers, students, and application developers in selecting or developing effective IPAS learning media

INTRODUCTION

The development of digital technology has brought major changes in various aspects of life, including in the field of education (Hasan & Rahman, 2021). Information and communication technology innovations allow for the presence of various digital learning media that are increasingly sophisticated, providing ease of access, flexibility of time and place, and a more personalized and interactive learning approach (Rohman & Iskandar, 2020). This shift from conventional learning to technology-based learning requires students to be at the center of the learning process, where they can learn independently by adjusting the speed and learning resources accessed through digital devices (Ningsih & Sumiati, 2021).

In this context, Natural and Social Sciences (IPAS) learning faces its own challenges. IPAS integrates natural and social sciences that are abstract and complex, so it requires a holistic and multimodal learning approach (Sari & Hidayati, 2021). Technology-based learning media is an important need to help students understand these concepts concretely, especially at the elementary and secondary school levels (Azmi et al. 2020). Although many online learning applications are growing rapidly, such as Ruangguru, Rumah Pendidikan and Kipin School, there are still shortcomings in research that comprehensively assesses the effectiveness of IPAS learning features in these applications (Pertiwi et al., 2021).

Most previous studies tend to focus on user perceptions or the general impact of online learning, without discussing in depth the suitability of application features with the specific

needs of IPAS materials (Kurniawan & Setiawan, 2021). Therefore, this research is important to be conducted in order to analyze and compare the features of IPAS learning media in popular online learning applications in Indonesia in terms of visualization, interactivity, ease of access, and the relationship of the material with the national curriculum (Dewi & Rahmawati, 2021). The results of the study are expected to provide objective information for teachers, students, parents, and educational technology developers, so that they can help decision-making in choosing the right learning media and in accordance with the characteristics of students and available facilities (Wulandari & Prabowo, 2021).

In addition, the development of the Independent Curriculum which emphasizes project-based learning, exploration, and strengthening Pancasila student profiles has also encouraged the need for adaptive and contextual learning media. In the context of science subjects, the integration between scientific and social approaches requires the representation of material that is not only informative but also able to stimulate students' critical reasoning and curiosity. Therefore, learning media in online applications must be able to present content that is thematically relevant, accompanied by an evaluation feature that is able to measure

On the other hand, the availability and use of online learning applications among Indonesian students still faces challenges in terms of equitable access, especially in areas with limited digital infrastructure. This digital divide has the potential to cause inequality in the quality of IPAS learning, especially when teachers and students do not have adequate guidance in choosing applications with features that suit their learning context. This research is strategic in providing an objective and data-driven picture of the available

METHOD

This study employs a qualitative descriptive method with a literature review and content analysis approach. This approach was chosen to explore and describe the features of IPAS learning media found in several popular online learning applications in Indonesia (Pertiwi et al., 2021). The purpose of this approach is to provide a comprehensive overview of the strengths and weaknesses of each application based on systematically collected data (Putri & Hadi, 2021).

The data sources in this study come from three widely used online learning applications in Indonesia, namely Ruangguru, Rumah Pendidikan, and Kipin School. These three applications were selected based on their popularity, accessibility, and the availability of comprehensive IPAS materials (Rachmat & Aminah, 2022). Data were collected through direct observation of the available features within the applications, particularly in the IPAS learning content sections. The data collection process involved recording and documenting various important aspects, such as the types of media used, the level of interactivity, ease of access, and alignment of the materials with the national curriculum (Fitria & Sari, 2021).

The data analysis technique used is comparative analysis, in which the researcher compares the key features of each application based on several indicators, namely visual media, level of interactivity, accessibility, and relevance to the current IPAS curriculum (Yulianti & Sari, 2021). The analysis results are presented descriptively to provide an in-depth understanding of the characteristics of each application, in order to identify the potential for developing more effective learning media that align with users' needs (Wijayanto & Putri, 2020).

RESULT AND DISCUSSION

Result

The results of this study present a comparison of IPAS learning media features found in three popular online learning applications: Ruangguru, Rumah Pendidikan, and Kipin

School. Based on the analysis, significant differences were identified in several key aspects, such as visual media, interactivity, accessibility, and relevance to the curriculum (Lestari & Prabowo, 2021).

Table 1. Comparison of Detailed Features of IPAS Learning Applications

Kriteria	Ruangguru	Rumah Pendidikan	Kipin School
Media Visual	Interactive animated videos with clear narratives	Simple text, images, and PowerPoint presentations	E-books, PDFs, and educational comics in static format
Interactivity	Full features: practice questions, adaptive quizzes, and discussion forums..	Practice questions and self-paced assignments, but limited interactive features	Multiple-choice interactive quiz, offline
Aksesibilitas	Requires a paid subscription for most features.	Free and accessible to anyone.	Offline access by downloading materials to study without the internet.
Relevance to the Curriculum	The material is adapted to the national curriculum, flexible.	Referring to the latest National Curriculum, official from the Ministry of Education and Education.	The material is in accordance with the national curriculum, as additional material

Ruangguru offers IPAS learning media that is professionally packaged with an attractive and dynamic visual presentation. One of the main strengths of this application is its use of interactive animated videos combined with clear and easily understandable narration (Ningsih & Sumiati, 2021). The instructional videos are designed to resemble educational television broadcasts, complete with moving animations, background music, and visual effects that support the understanding of abstract IPAS concepts. In addition, Ruangguru features adaptive practice questions, where items are adjusted based on the student's previous answers (Rachmat & Aminah, 2022). This feature encourages students to engage actively in the learning process rather than passively receiving material. A question bank, material summaries, and discussion forums are also available, all integrated within a single application. However, most of these premium features can only be accessed through a subscription to the paid version (Kurniawan & Setiawan, 2021).

In contrast to Ruangguru, Rumah Pendidikan, developed by the Indonesian Ministry of Education and Culture, emphasizes accessibility and alignment with the national curriculum. All features and content on this platform are freely accessible without a subscription fee, making it highly inclusive, especially for students in financially disadvantaged areas (Dewi & Rahmawati, 2021). The IPAS materials in Rumah Pendidikan are presented in the form of texts, images, PowerPoint presentations, and downloadable learning modules. The content is standardized and aligned with the syllabus and basic competencies outlined in the national curriculum (Putri & Hadi, 2021).

Table 2. Comparison of the Scale Value of the IPAS Learning Application Feature

Fitur	Ruang Guru	Rumah Pendidikan	Kipin School
Animated Video	5	3	3
Interactivity	5	3	4
Offline Access	2	3	5
Free Access	2	5	5
Curriculum Alignment	4	5	4

Discussion

Based on the analysis of IPAS instructional media features in the Ruangguru, Rumah Pendidikan, and Kipin School applications, each platform demonstrates distinct strengths and limitations depending on users' needs and usage contexts (Amin & Sari, 2021). In terms of visual media, Ruangguru stands out by offering interactive and engaging animated videos. The content is delivered not only through theoretical explanations but also supported by graphic visualizations that facilitate students' understanding of abstract IPAS concepts (Ningsih & Sumiati, 2021).

In terms of visual media, Ruangguru offers a significant advantage through its presentation of interactive and engaging animated videos (Fitria & Rahman, 2021). These videos incorporate not only theoretical explanations but also graphic visualizations that assist students in comprehending abstract IPAS concepts. This strength makes Ruangguru highly effective for learning processes that prioritize deep understanding and require clear illustrations, particularly in natural science subjects (Ningsih & Sumiati, 2021). As noted by Ningsih and Sumiati (2021), interactive visual media can enhance students' comprehension of subject matter, especially in disciplines that demand graphic representation. In contrast, Rumah Pendidikan places greater emphasis on delivering content in the form of text and images (Yulianti & Sari, 2022), along with downloadable PowerPoint presentations. Although it may not be as visually appealing as Ruangguru, Rumah Pendidikan provides easily accessible content in a simpler format suitable for a broader audience. Kipin School, while limited in its use of dynamic visual media, relies on PDFs, e-books, and educational comics to present learning materials. Nevertheless, its use of comics may serve as an enjoyable alternative, particularly for students who prefer lighter, more entertaining formats. This view is supported by research from Azmi et al. (2020), which suggests that the use of comics in educational media can capture students' interest and enhance their understanding of the content.

In terms of interactivity, Ruangguru once again stands out with features that enable students to engage directly with the learning content. Practice exercises, adaptive quizzes, and discussion forums offer students opportunities to actively explore the material, thereby enhancing their engagement in the learning process. This level of interactivity is crucial for maintaining student motivation and accelerating their comprehension of the subject matter (Rohman & Iskandar, 2020). Rumah Pendidikan, while providing practice questions and self-assessment tools, demonstrates a lower level of interactivity compared to Ruangguru. This platform focuses more on content delivery and basic exercises without features that offer immediate feedback or AI-based development. Meanwhile, Kipin School offers simpler quiz features that are nonetheless effective in assessing students' understanding of the material. These features are accessible offline, which is a significant advantage for students with limited internet access. As stated by Rachmat and Aminah (2022), quizzes and practice exercises can

motivate students to learn actively and provide the necessary feedback in online learning environments.

From the perspective of accessibility, Rumah Pendidikan holds a significant advantage as it is a completely free platform accessible to anyone without a subscription fee. This makes it highly inclusive, particularly for students from lower socioeconomic backgrounds or those living in areas with limited access to formal education. This aligns with existing data indicating that free access to learning platforms can contribute to equitable educational opportunities in remote regions. Ruangguru, for instance, although offering various interactive features and rich learning materials, requires a subscription fee to access most of its content. This cost may pose a barrier for students or parents with financial constraints. On the other hand, Kipin School offers a practical solution by providing downloadable materials that can be accessed offline (Wijayanto & Putri, 2020). This feature is particularly useful for students residing in areas with limited internet access, allowing them to continue learning without a stable internet connection. This underscores the importance of providing offline learning options to improve educational accessibility in specific regions (Wijayanto & Putri, 2020).

Although these three applications employ different approaches, they are all aligned with the current National Curriculum. Rumah Pendidikan, as the official platform developed by the Ministry of Education and Culture (Kemendikdasmen), inherently adheres to the national curriculum and delivers content that complies with established educational standards. Ruangguru also structures its content based on the national curriculum but adopts a more flexible approach, allowing students the autonomy to choose topics or subjects they wish to explore. Kipin School provides curriculum-aligned content as well, with a stronger emphasis on digital textbooks and practice exercises organized according to the basic competencies students are expected to master. As noted by Pertiwi et al. (2021), the availability of applications that follow the national curriculum is crucial to ensure that the material being taught meets the expected standards of national education.

Overall, each application offers distinct advantages suited to different needs. Ruangguru is ideal for students seeking a more interactive and video-based learning experience. Rumah Pendidikan is better suited for those who prioritize free access and strict adherence to the national curriculum. Meanwhile, Kipin School provides a practical solution for students with limited internet access, enabling them to engage in offline learning through comprehensive, downloadable materials. Therefore, the selection of a learning application largely depends on the students' specific needs, technical conditions, and the intended learning objectives.

CONCLUSION

Based on the preceding discussion, it can be concluded that the online learning applications Ruangguru, Rumah Pendidikan, and Kipin School each have their own strengths and weaknesses in delivering IPAS learning media. Ruangguru excels in visual quality and interactivity through professionally produced animated videos and adaptive features, although access is limited to paid users. Rumah Pendidikan, as a free government-owned platform, stands out for its alignment with the national curriculum and accessibility, although its interface is less interactive. Meanwhile, Kipin School serves as an ideal solution for regions with limited internet access, as it supports offline learning and offers educational content in various formats..

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