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Integration of Artificial Intelligence with Studio D-ID for Development of Interactive Learning Media

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ABSTRACT

This Community Service Program (PKM) aims to integrate artificial intelligence with Studio D-ID in the development of interactive learning media to improve the quality of education at Ngabang District. The PKM activities are carried out at Ngabang District, West Kalimantan. The method used in this program is a workshop that involves teachers in understanding and applying Studio D-ID technology to create interactive multimedia content. The expected outcome of this activity is to provide teachers with a deep understanding of optimizing technology in the learning process and to enhance the interactivity of the learning media produced. The integration of artificial intelligence with Studio D-ID can increase interactivity in learning, encourage teacher creativity, and optimize the use of technology in the classroom, thereby providing a more engaging and relevant learning experience for students.

Keywords*: Artificial Intelligence; Studio D-ID ; Interactive Learning Media*

ABSTRAK

Pengabdian Kepada Masyarakat ini bertujuan untuk mengintegrasikan kecerdasan buatan dengan Studio D-ID dalam pengembangan media pembelajaran interaktif sebagai upaya meningkatkan kualitas pembelajaran di Ngabang District. Lokasi kegiatan PKM ini dilaksanakan di Ngabang District, Provinsi Kalimantan Barat. Metode kegiatan yang digunakan adalah workshop yang melibatkan para guru dalam pemahaman dan penerapan teknologi Studio D-ID untuk menciptakan konten multimedia interaktif. Hasil dari kegiatan ini diharapkan dapat memberikan pemahaman yang mendalam kepada para guru dalam mengoptimalkan teknologi dalam proses pembelajaran, serta meningkatkan interaktivitas dalam media pembelajaran yang dihasilkan. Integrasi kecerdasan buatan dengan Studio D-ID dapat meningkatkan interaktivitas dalam pembelajaran, mendorong kreativitas guru, dan mengoptimalkan penggunaan teknologi dalam kelas, meresapkan pengalaman belajar yang lebih menarik dan relevan bagi peserta didik.

Kata kunci: Kecerdasan Buatan ; Studio D-ID ; Media Pembelajaran Interaktif

INTRODUCTION

In the digital age, education demands fresh teaching approaches to meet technological progress and elevate learning standards (Irzavika et al., 2024). As technology continues to advance at a rapid pace, the traditional methods of instruction are no longer sufficient to meet the evolving needs and expectations of students (Antunes, 2020). Educators are faced with the challenge of adapting their teaching

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practices to harness the power of emerging technologies and provide learners with engaging, relevant, and immersive educational experiences(Meroto et al., 2024). The challenge lies not just in integrating these technologies but in doing so in ways that enhance learning outcomes and foster deeper engagement among students (Rao Sangarsu, 2023). A significant hurdle faced by high school educators in Ngabang District is crafting immersive and interactive learning experiences to deepen student comprehension and practical application of knowledge (Sidiq et al., 2019). The integration of technology is crucial in education to refine the learning process (Arystanbayeva, 2024). The integration of technology in education is pivotal in refining the learning process, as it offers numerous advantages that can transform traditional educational practices (Eden et al., 2024). One proposed remedy involves incorporating Studio D-ID for crafting interactive educational content (Anggraeni et al., 2021). Studio D-ID serves as a platform facilitating the creation of dynamic multimedia material with diverse engaging elements. Educators can leverage Studio D-ID to design interactive learning resources spanning videos, images, audios, and quizzes (Kustyarini et al., 2020), aiming to cultivate more captivating, effective, and enjoyable learning encounters for students (Mursyida et al., 2023). By harnessing Studio D-ID's capabilities, teachers can tailor instruction to suit students' preferences and needs, thereby enhancing the relevance and efficiency of the learning process (Fadila et al., 2022).

Furthermore, Studio D-ID offers a range of learning assessments to aid educators in gauging student understanding and making essential instructional adjustments. The initiation of a workshop focusing on Studio D-ID utilization among high school teachers in Ngabang District is anticipated to furnish the requisite understanding and skills for optimizing technology integration in the educational journey (Pebrina et al., 2020). Through the adoption of interactive digital tools, personalized learning pathways, and data-driven instructional strategies (Bui & Nguyen, 2023). The educational landscape can undergo a transformative shift, empowering students to become active participants in their own learning journey and fostering the development of critical thinking, problem-solving, and collaborative skills (Fitarahmawati & Suhartini, 2021).

This workshop is poised to support educators in establishing an interactive, stimulating, and effective learning ambiance, fostering improved comprehension and real-world application among students (Berhil et al., 2019). Consequently, this workshop is envisioned as an inaugural stride towards enhancing the educational quality at Ngabang District through the innovative utilization of Studio D-ID technology. The purpose of this community service is to Enhance understanding and application of the benefits of Studio D-ID features in developing interactive learning media for high school teachers in Ngabang District. Develop skills and knowledge of high school teachers in Ngabang District in effectively utilizing the features provided by Studio D-ID in the classroom learning process, and Design appropriate and effective strategies to integrate multimedia content, such as audio, images, and videos, in

interactive learning media using Studio D-ID to enhance engagement and understanding of students in the learning process.

METHODS

The methods employed in this Community Service Program (PKM) consist of several stages as follows:

a. Training :
   - The training is conducted in person at a designated location, following applicable health protocols.
   - The training materials are delivered by lecturers and students who are part of the PKM team, focusing on the use of Studio D-ID for developing interactive learning media.
   - The training covers practical lessons on the features of Studio D-ID, steps for creating interactive e-books, and strategies for integrating multimedia content.

b. Hands-On Practice:
   - During the training, participants are encouraged to engage in hands-on practice using Studio D-ID, tailored to the subjects each teacher teaches.

c. Result Presentation
   - After the training, participants are asked to apply the knowledge and skills they have acquired to create interactive learning media using Studio D-ID.
   - After some time for implementation, a presentation session is held where each participant presents the learning media they have created.
   - The presentation session serves as a forum for sharing experiences, lessons learned, and challenges faced during the process of creating interactive learning media.
   - The facilitators, who are members of the PKM team, also provide feedback and suggestions for improving the learning media created by the participants.

This PKM activity, organized by the PKM team from the Master's Program in Educational Technology, Faculty of Teacher Training and Education, Tanjungpura University, was held on 11 May 2024 in Ngabang District. The event was attended by 30 teachers from various schools. These teachers, coming from diverse backgrounds, demonstrated a strong dedication to their profession.

RESULTS AND DISCUSSION

The Community Service Activity, which involves utilizing artificial intelligence through Studio D-ID for the development of interactive learning media, has contributed to teachers in creating creative and engaging learning experiences. This workshop-based activity is conducted in several stages. The outcomes of each stage of this activity are as follows:

a. Training

- **Content delivery by speakers**

  In this stage, lecturers and students from the PKM team served as speakers to deliver in-depth training on Studio D-ID, an AI-based platform. The participants were introduced to its core functionalities and how it could be effectively utilized for developing interactive learning media. The team PKM which consist lectures and students can be seen in Figure 1.

Figure 1. Documentation

The speakers provided comprehensive explanations, supported by examples, to demonstrate how Studio D-ID transforms static content into dynamic and engaging materials suitable for modern education. The team PKM which s

- **Overview of Studio D-ID**

  Studio D-ID was presented as a cutting-edge tool that leverages artificial intelligence to generate animated videos from text or images. The platform specializes in creating lifelike facial animations, enabling users to animate static images as though they are speaking or moving. The ethical use of its deepfake and deep learning technologies was highlighted, ensuring participants understood its secure and responsible applications.

- **Relevance to interactive learning media**

  In relation to the development of interactive learning media, this platform can create learning content through automated videos from text, realistic facial animations without requiring deep technical skills. The platform is user-friendly, and the automation of video and animation creation can significantly save time and costs. The training session for this section can be seen in Figure 2.

Figure 2. Training Session

b. Hands-On Practice

- **Participant Engagement**

At this stage, the participants engage in hands-on practice using Studio D-ID to create interactive learning media. Participants utilize Studio D-ID's features to develop learning media such as e-books or animated videos tailored to the subjects they teach. The practice session can be seen in Figure 3.

Figure 3. Practice Session

- **Development of Learning Media**

During this session, participants explored various features of Studio D-ID, including text-to-video conversion, animation tools, and customization options for creating personalized and subject-specific content. For instance, some participants focused on crafting animated video lectures, while others worked on converting static e-books into more interactive formats. By experimenting with these tools, participants gained a deeper understanding of the platform's potential in enhancing educational delivery.

c. Result Presentation

- **Application of Knowledge**

After the hands-on practice, participants were encouraged to refine their projects and apply the skills they had acquired during the training. Over a

set period, they developed their learning media independently, incorporating elements of interactivity and creativity.

- **Presentation Session**

  A dedicated session was held where each participant showcased their completed projects. This included a demonstration of the animated videos, multimedia lessons, or e-books they had created. The presentations not only highlighted the participants' individual efforts but also served as a collaborative learning experience where peers could gain inspiration and insights.

- **Feedback and Suggestion**

  The PKM team played an active role in evaluating the presentations. Constructive feedback was provided on aspects such as design, content quality, and interactivity. The session also encouraged an open dialogue, allowing participants to discuss challenges faced during development and receive targeted advice to overcome these hurdles, ensuring continuous improvement in their future projects.

To assess whether the participants have effectively understood the material presented, the PKM team administers simple pre-test and post-test assessments through Google Forms, conducted before and after the activity. The pre-test and post test materials can be seen in Table 1.

Table 1. Pre-Test and Post Test Materials

Assessment Aspect	Pre-Test Question	Post-Test Question
Basic understanding of Studio D-ID	What do you know about Studio D-ID and its functions in learning?	Explain the main functions of Studio D-ID and how this platform can enhance the quality of your learning.
Use of Studio D-ID Features	Mention the main features of Studio D-ID that you know.	List the features of Studio D-ID that you have used and explain how you have utilized them in learning media.
Practical Skills	Have you ever created multimedia-based learning media before? If yes, provide examples.	What was your experience using Studio D-ID to create interactive learning media?
Application in Learning	How do you usually create engaging learning materials for students?	What are your plans for integrating Studio D-ID-based interactive media into the learning process?
Evaluation and Reflection	How do you evaluate the effectiveness of the learning media you have created?	What is your opinion on the effectiveness of the interactive learning media created using Studio D-ID?

As a result of the material delivery and hands-on practice, participants developed a clearer understanding of Studio D-ID's primary functions and its role in enhancing learning quality. They could identify and utilize the platform's key features effectively in creating learning media. Additionally, they were able to reflect on their

practical experiences, showcasing improved skills in using Studio D-ID to create interactive learning materials, and propose concrete plans for integrating the platform into their teaching processes. This highlights the participants' readiness to apply Studio D-ID-based interactive media to enrich their instructional strategies.

Based on the results of the Community Service Activity (PKM) that has been conducted, the training on utilizing artificial intelligence through the Studio D-ID platform for the development of interactive learning media has had the following positive impacts:

a. This program encourages teachers to be more creative and innovative in developing learning materials. By using Studio D-ID, teachers can create interactive and engaging learning content, such as instructional videos, simulations, and other interactive activities.
b. Studio D-ID provides a variety of features that allow teachers to adapt learning according to the needs and interests of learners. This enables personalized learning so that each learner can study in a way that suits them.
c. By utilizing digital learning media through Studio D-ID, teachers can provide broader access for learners to access learning materials anytime and anywhere. This increases the flexibility of learning and allows learners to study independently.
d. Studio D-ID also offers various evaluation features that make it easier for teachers to assess learners' understanding. With interactive evaluation features, teachers can monitor learners' learning progress more effectively and make necessary adjustments to the teaching.

This Community Service Activity (PKM) stands out in terms of innovation and quality of learning with the approach of artificial intelligence and Studio D-ID. The support provided by the institution, the involvement of multidisciplinary expert teams, and clearly defined program goals are significant strengths. However, there are potential weaknesses in terms of resource limitations, adequate program evaluation, the need for improved and sustained training and guidance for teachers, as well as community involvement. By identifying these strengths and weaknesses, targeted improvement measures can be taken to maximize the effectiveness and positive impact of this PKM activity in the context of interactive learning media development.

The feedback provided by participants of the Community Service Program (PKM) shows significant variation and value. Most participants appreciate the use of Studio D-ID in developing interactive learning media, considering it a progressive step in enhancing the quality of education. They view the workshop on Studio D-ID as providing essential understanding and skills to maximize the role of technology in the learning process. There is emphasis on the need for more intensive hands-on sessions and deeper guidance to acquire a comprehensive understanding of Studio D-ID features. Some participants also highlight the importance of ongoing evaluation and follow-up actions post-workshop to ensure effective implementation in their educational settings. Overall, participants hope for the continuation of this program

and anticipate it will have a substantial impact on improving the quality of education in their educational institutions.

CONCLUSION AND RECOMMENDATIONS

Based on the results of the Community Service Program integrating artificial intelligence with Studio D-ID for the development of interactive learning media at Ngabang District, it can be concluded that this initiative has had a significant positive impact. The program successfully enhanced teachers' creativity in designing more attractive and interactive learning materials, allowing for personalized learning tailored to individual student needs. Additionally, the use of Studio D-ID provided more flexible access to learning materials, enabling students to study independently and increasing active participation in the learning process. With interactive evaluation features, teachers can more effectively assess student understanding and provide more targeted feedback.

To further strengthen the sustainability of this program, it is recommended to conduct periodic training to expand teachers' understanding, promote collaboration among teachers for experience sharing, continuously monitor and evaluate the implementation of Studio D-ID, and ensure that the use of this technology is carried out while considering ethical, security, and privacy aspects. By implementing these recommendations, it is hoped that this program will continue to provide optimal benefits in enhancing the quality of education at Ngabang District and create a more engaging and effective learning experience for all students.

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