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Enhancing Students' Digital Creativity through TikTok Augmented Reality Filter Development: A Community Service Study at SMKN 1 Manggis

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ABSTRACT

This study reports a community service program aimed at enhancing students' digital creativity through Augmented Reality (AR) filter development using TikTok Effect House. The program involved 35 students from SMKN 1 Manggis and employed an interactive workshop approach consisting of lectures, demonstrations, hands-on practice, and mentoring. The results indicate a positive increase in students' understanding of AR concepts and technical skills, as reflected in evaluation scores ranging from 4.20 to 4.43 on a 5-point Likert scale. Students were able to independently create AR filters and produce digital portfolio outputs. These findings suggest that practice-based AR training can support the development of students' creative and technical competencies, while also encouraging more productive use of social media in line with the needs of the digital creative industry.

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INTRODUCTION

The emergence of digital technology has significantly transformed how young people express themselves, communicate, and construct their identities. One technology that has gained considerable popularity among adolescents is Augmented Reality (AR), which enables the integration of virtual elements into the real world and provides interactive visual experiences in real time (Estheriani & Muhid, 2020). Beyond entertainment, AR has been increasingly recognized as a medium for creative expression, promotion, and education (Albani et al., 2024).

Numerous studies in Indonesia have demonstrated the positive impact of AR on the learning process, including its potential to support the development of creative and critical thinking skills, particularly within project-based learning contexts (Muti et al., 2024). However, most of these studies tend to position AR as a learning medium designed and delivered by educators, where students primarily act as users rather than active creators of AR-based content. This indicates a limitation in how AR is utilized in educational settings, especially in fostering student-driven creative production. At the same time, social media platforms such as TikTok are deeply embedded in adolescents' daily lives. Data from the Indonesian Internet Service Providers Association shows that internet penetration in Indonesia has reached 78.19% of the total population, with the highest usage rate (99.16%) among individuals aged 13 to 18 years (Muti et al., 2024). This widespread use positions social media as a strategic space for developing students' digital creativity. However, its utilization remains largely oriented toward content consumption, with limited engagement in the creation of technology-based digital content. This condition is also observed among students at SMKN 1 Manggis, Karangasem Regency, where students are active social media users but have limited experience in integrating visual communication design skills with applied AR technology.

In addition, Karangasem Regency holds strong potential in tourism and local culture, yet digital-based creative promotion remains underdeveloped. This presents an opportunity for students to engage in the creation of interactive digital content, such as AR filters, that can incorporate elements of local culture or convey positive social messages. Developing such competencies is increasingly relevant for preparing students to meet the demands of the digital creative industry and entrepreneurial sectors.

Based on these conditions, there is a gap between the potential of AR as a creative technology and students' ability to utilize it as a tool for content production, particularly through platforms that are already familiar to them. Therefore, this study introduces a community service program that focuses on developing students' skills in creating AR filters using TikTok Effect House. The program emphasizes hands-on practice and student-generated content as an approach to support creative engagement and the development of digital portfolios.

Accordingly, this article aims to describe the implementation and outcomes of a workshop-based community service activity designed to support students' understanding, technical skills, and engagement in digital creative practices through the use of Augmented Reality technology.

PROBLEM

The limitation in developing digital creativity among students of SMKN 1 Manggis, Karangasem Regency lies in their lack of knowledge and skills in Augmented Reality, particularly in the domain of filter creation commonly used on social media (Pradipta, 2023). Although AR is highly popular among young people, its utilization remains largely confined to visual consumption rather than being explored

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as a creative product based on design and technology (Darmawan et al., 2024). This condition indicates a gap between the available potential of digital technology and students' ability to process it creatively and productively.

Along with the rapid development of technology and the creative industry, the younger generation is required to be more active. They are not only expected to become users of technology but also challenged to be creative by integrating art, technology, and visual communication. Social media provides a space for exploration; however, without adequate guidance and training, these opportunities are often not utilized optimally by students.

FIGURE 1. Community Service Activity Location

According to a report (Meltwater, 2025), 62.3% of social media users consist of adults and adolescents. This highlights that social media is a strategic space for students to express themselves while also developing digital skills. However, based on preliminary observations at SMKN 1 Manggis, students' use of social media is still limited to consumptive activities, such as watching content and using existing filters, without involvement in the process of designing or creating AR filters themselves. As a result, students lack both technical and conceptual experience in producing digital works that are creative and educational.

In addition, limited access to learning based on creative technology is also a significant issue. The curriculum and learning activities at school have not yet optimally provided practical opportunities that integrate visual communication design with AR technology relevant to current digital creative industry trends. This condition has the potential to hinder the development of students' competencies, particularly in building digital portfolios that can support their future studies, career entry, or entrepreneurship in the creative field.

Based on these issues, a community service program is needed to bridge the gap between the high potential of social media usage and the low level of skills in producing AR-based creative content. A training and mentoring program focused on creating Augmented Reality filters using TikTok Effect House is considered a relevant solution, as this platform is easily accessible to students and aligns with the characteristics of a generation that is highly familiar with interactive visual social media.

METHOD

This community service activity was conducted at SMKN 1 Manggis, Karangasem Regency, involving 35 student participants. The program applied an interactive, practice-based workshop approach that

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emphasizes hands-on learning experiences in creating Augmented Reality (AR) filters using TikTok Effect House. Previous studies suggest that hands-on approaches in digital technology training can enhance participant engagement and competence in utilizing digital learning media (Holivil et al., 2025). This approach is also considered suitable for younger generations who are highly familiar with social media and digital technology, thereby supporting more contextual and relevant learning experiences (Trends Shaping Education, 2019). Furthermore, the integration of AR technology in creative learning enables the application of visual communication design concepts in a practical and innovative manner (Radianti et al., 2020).

This study adopts a descriptive approach, focusing on documenting the implementation process and evaluating participants' responses to the training activity. The stages of the program include problem identification, needs analysis, activity implementation, and evaluation of outcomes, as illustrated in Figure 2.

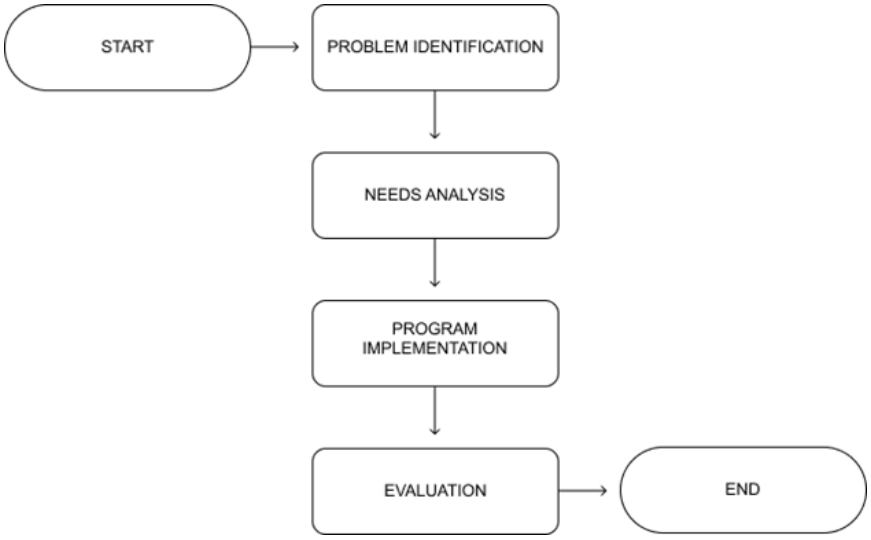

FIGURE 2. Implementation Flow

The implementation flow of the community service activity is described as follows:

- Problem Identification

Problem identification was conducted through preliminary observations of students, particularly those in design and multimedia-related majors. The findings indicated that most students were primarily users of AR filters on social media and had not yet developed the ability to create filters independently. This condition highlights a gap between students' familiarity with digital platforms and their capacity to produce technology-based creative content, which is increasingly relevant in the field of Visual Communication Design and the creative industry (Sugiarso et al., 2024).

- Needs Analysis

Needs analysis was carried out through informal interviews and a simple questionnaire to map students' initial understanding of AR technology, access to devices (such as smartphones and laptops), and their interests in visual design-related fields. This step aligns with digital media literacy approaches that emphasize identifying learners' competencies before implementing interventions (Prakoso et al., 2020). The results indicated the need for an accessible and practice-oriented learning approach using TikTok Effect House to support AR-based creative skill development.

- Activity Implementation

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The training was conducted in several stages to facilitate gradual skill development. The initial session introduced basic AR concepts, its role in social media, and its relevance to visual communication design (J. Jurnal et al., 2024). This was followed by technical training on the use of TikTok Effect House, where students learned to create simple AR filters by integrating visual elements such as text, color, and graphic effects. Students then developed their own creative projects, which were published through the school's social media platforms. The activity concluded with presentation and discussion sessions, allowing participants to share their work and receive feedback.

✓ Material Presentation

In the initial stage, students are introduced to the basic concepts of Augmented Reality, its role in social media, and its potential as a medium for digital creativity. Examples of popular filters are presented to help students understand that AR functions not only as a visual effect but also as a medium for creative expression.

FIGURE 3. Material Presentation

✓ Practice

The practical session focuses on introducing the TikTok Effect House interface, the basic functions of its features, and the integration of visual elements such as text, color, graphics, and simple effects into AR filters. Students are given the freedom to determine their own filter concepts based on their creativity, encouraging the exploration of visual ideas and the development of personal design character.

FIGURE 4. Practical Assistance

✓ Creative Project

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Students continue with independent practice to create AR filters based on the concepts they have developed. The resulting works demonstrate a variety of visual ideas, the use of TikTok Effect House features, and the integration of graphic elements according to each student's creativity. Several examples of student works are presented in the following section:

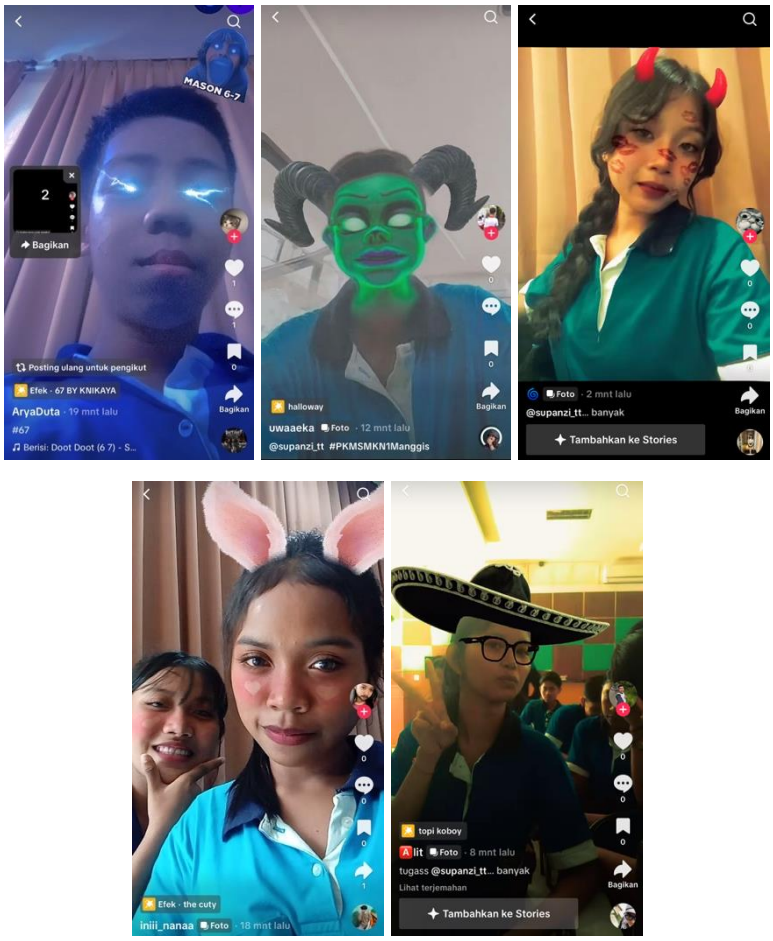

FIGURE 4. Some of the results of filter-making work by students at SMKN 1 Manggis

- Evaluation

Evaluation was conducted to assess participants' perceived learning outcomes after completing the training. Data were collected using a structured questionnaire distributed to all participants at the end of the activity. The instrument employed a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure students' perceptions of their understanding of AR concepts, technical skills, and overall learning experience. In addition, the AR filter works produced by students were reviewed qualitatively based on several aspects, including creativity, aesthetics, clarity of communication, and technical execution (S. Jurnal, 2022). The data were analyzed using descriptive statistical methods, particularly by calculating mean scores to identify general trends in students' responses. This analysis was used to provide an overview of participants' perceived improvements and engagement following the training program.

RESULTS

Before the implementation of the community service activity, preliminary observations indicated that

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students at SMKN 1 Manggis were already familiar with social media, particularly TikTok, but primarily as content consumers. Their engagement with Augmented Reality (AR) was limited to using existing filters, with minimal experience in creating AR-based content. This finding highlights a gap between students' digital consumption practices and their capacity for creative production using emerging technologies. Following the implementation of the workshop-based training, students were introduced to AR concepts and engaged in hands-on practice using TikTok Effect House, resulting in the development of individual creative projects. The outcomes of these activities indicate that students were able to explore visual ideas, apply basic AR features, and produce simple AR filters as part of their digital portfolios. To evaluate participants' responses, a post-activity questionnaire was administered. The results show that the average scores across all indicators ranged from 4.20 to 4.43 on a 5-point Likert scale. The highest score (4.43) was observed in students' interest in continuing to develop AR filters, while the lowest score (4.20) was related to their perceived ability to manage visual elements in AR design.

TABLE 1. Evaluation Results of Participants' Understanding and Satisfaction

No	Question	Strongly Disagree	Disagree	Netural	Agree	Strongly Agree	Average
1.	I understand the basic concepts of Augmented Reality after participating in the training	0	1	2	21	12	4.29
2.	I understand the function of AR filters as a medium for digital creativity	0	1	2	20	13	4.31
3.	This training has improved my understanding compared to before the activity	0	0	2	19	14	4.34
4.	I feel capable of using TikTok Effect House after the training.	0	0	2	18	15	4.37
5.	I am confident in creating simple AR filters independently.	0	1	2	20	12	4.24
6.	I am able to manage visual elements (text, color, effects) in AR filters	0	1	2	21	11	4.20
7.	The training material is relevant to my digital creativity needs	0	0	2	18	15	4.37
8.	I am interested in continuing to develop AR filters after the training	0	0	2	16	17	4.43

These findings suggest that the training was positively received, particularly in terms of increasing

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students' motivation and confidence in engaging with AR-based creative activities. The high level of continued interest indicates that the hands-on approach not only facilitated understanding but also encouraged sustained engagement in digital content creation. In contrast, the relatively lower score related to managing visual elements may reflect the limited duration of the training and differences in students' prior experience in visual design. The results can be interpreted in relation to the characteristics of the learning approach applied in this program. The hands-on, practice-based method enables active participation, allowing students to directly interact with creative tools rather than passively receiving information. This finding is consistent with previous studies (Radianti et al., 2020), which highlight the effectiveness of immersive and interactive technologies in enhancing engagement in learning environments. Furthermore, the use of TikTok Effect House as a familiar platform may reduce technical barriers and encourage students to experiment with AR as a creative medium.

However, it is important to note that this evaluation is based on students' self-reported perceptions rather than objective measurements of skill improvement. Therefore, the findings should be interpreted as reflecting perceived learning outcomes and engagement, rather than definitive evidence of measurable increases in creative ability. Despite this limitation, the results provide meaningful insights into the potential of practice-based AR training to support students' interest, confidence, and participation in digital creative practices.

CONCLUSION

This study demonstrates that a practice-based community service approach using TikTok Effect House can support students' engagement in learning Augmented Reality (AR) as a creative digital medium. Through hands-on activities, students were able to explore basic AR concepts, develop simple technical skills, and participate in the creation of digital content relevant to contemporary social media practices. The findings, reflected in positive participant responses and evaluation scores ranging from 4.20 to 4.43, indicate that the training contributed to students' perceived understanding, confidence, and interest in developing AR-based creative work. These results highlight the potential of combining familiar digital platforms with experiential learning methods to encourage more active and productive use of social media among students. However, this study is limited to short-term evaluation based on self-reported data, and therefore does not measure long-term skill development or objective creative performance. Future studies are recommended to explore the sustained impact of AR-based training and to investigate its integration into formal educational curricula. Such efforts may support the development of more structured and continuous digital creativity learning environments.

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