Targeted Digital Outreach-Based Socialization: A Strategy to Enhance Students' Understanding of the Study Program's Academic Vision

Fiki Alghadari[1]*, Feri Tiona Pasaribu[2], Silvia Fitriani[3]
[1]Fakultas Keguruan dan Ilmu Pendidikan, Universitas Jambi, Indonesia, fikialghadari@unja.ac.id
[2]Fakultas Keguruan dan Ilmu Pendidikan, Universitas Jambi, Indonesia, feri.tiona@unja.ac.id
[3]Fakultas Keguruan dan Ilmu Pendidikan, Universitas Jambi, Indonesia, silviafitriani@unja.ac.id

*Correspondence author

Abstract

Promoting lifelong learning opportunities for all was part of the Sustainable Development Goal 4 program. However, transitioning from student to alumni was not always easy. To align students' academic activities with the academic vision of the study program, targeted digital outreach was conducted using videos sent through dominant social media platforms, to improve students' understanding of the program's academic vision. A total of 75 and 46 students participated in the social media survey and understanding test, respectively. The effectiveness of the socialization was evaluated based on student engagement, analysing video performance through social media analytics and measuring improvements in understanding. Results showed a surge in views at specific durations, with students re-watching the video links sent via WhatsApp or Instagram. Additionally, there was a significant improvement in students' understanding of the academic vision, categorized as moderate. Thus, targeted digital outreach-based socialization effectively enhanced students' understanding, though content presentation needed optimization. A collaborative approach was also necessary for broader video distribution.

Keywords: Academic vision, Social media, Students' understanding, Targeted digital outreach.

Abstrak

Meningkatkan kesempatan belajar sepanjang hayat untuk semua adalah bagian dari program Sustainable Development Goal 4. Namun, menyelesaikan studi dan bertransisi dari mahasiswa menjadi alumni bukan suatu proses yang selalu mudah. Supaya kegiatan akademik mahasiswa selaras dengan visi keilmuan program studi, maka sosialisasi berbasis targeted digital outreach dilaksanakan menggunakan video digital, dikirim kepada mahasiswa melalui media sosial yang paling dominan digunakan, untuk meningkatkan pemahaman terhadap visi keilmuan program studi. Sebanyak 75 dan 46 orang mahasiswa terlibat dalam masing-masing survei media sosial dan tes pemahaman. Efektivitas sosialisasi dievaluasi berdasarkan keterlibatan mahasiswa untuk memahami konten melalui analisis performa video dari analitik media sosial, serta signifikansi perbedaan dan kategori peningkatan pemahaman mahasiswa terhadap visi keilmuan. Hasilnya adalah keterlibatan mahasiswa dalam sosialisasi menunjukan bahwa terjadi lonjakan tayangan pada durasi tertentu akibat mereka menonton ulang video yang tautannya telah dikirim melalui WhatsApp atau Instagram. Selain itu terdapat perbedaan pemahaman mahasiswa yang signifikan terhadap visi keilmuan setelah sosialisasi, dan peningkatan pemahamannya termasuk dalam kategori sedang. Dengan demikian, sosialisasi berbasis targeted digital outreach efektif meningkatkan pemahaman mahasiswa terhadap visi keilmuan program studi, meskipun aspek penyajian konten perlu dioptimalkan. Pendekatan kolaboratif diperlukan untuk penyebaran video sosialisasi lebih luas.

Kata Kunci: *Pemahaman mahasiswa, Sosial media, Targeted digital outreach, Visi keilmuan.*

Introduction

The Sustainable Development Goal 4 program aimed to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (United Nations Statistics Division, 2017). This was exemplified through the implementation of higher education. The journey of students in higher education began with choosing a university, undergoing selection, and officially enrolling. They needed to understand the vision of their study program so that it aligned with their academic and career goals. During their studies, students adapted, took responsibility for their academic decisions, and prepared for the future through the completion of their studies.

However, the dropout rate among students, particularly in Indonesia, remained a serious issue in higher education. According to data from the Higher Education Statistics (DitjenDikti Kemendikbud, 2023), 352,494 students in Indonesia (4%) experienced dropout—whether due to expulsion, resignation, or other factors. Specifically, in the Jambi Province, the number of students who dropped out reached 3,500 (3%). A literature review by Rahmani et al. (2024) highlighted various factors contributing to dropout, including course quality, academic preparation, student satisfaction, system attributes, and support services. The high dropout rate continued to be a challenge for higher education institutions in maintaining and improving academic quality, especially at the study program level (Puteri et al., 2024). Furthermore, the study period at Public Universities tended to be longer than at Private Universities or Academic Higher Education Institutions, and the study period at State Universities was the shortest, with the national average for undergraduate study duration being 4.5 years, and in Jambi specifically, 4.2 years (DitjenDikti Kemendikbud, 2023). A study by Tanjaya and Basaria (2024) revealed that students' suboptimal thinking strategies were a major trigger for academic procrastination, which ultimately impacted the delay in completing their final projects. The main challenge faced by students in completing their studies was the difficulty in determining their research topics, which could trigger academic stress (Danu et al., 2024). Thus, completing studies and transitioning from students to alumni was not always an easy process.

Understanding and implementing the academic vision of a study program were crucial aspects in achieving academic goals. Every study program focused on carrying out its mission to achieve the set vision (Yulianingsih, 2019). In this effort, various academic services were provided to students as part of the strategy to achieve these goals. At the education program in one university in Jambi, academic services were implemented through various strategies, including improving the quality of learning, applying adaptive technology-based learning, accelerating the study period, involving students in faculty research, and facilitating students in scientific meetings. On the other hand, the vision was also communicated using various media, including a study program profile video on online platforms, which had received significant attention from digital platform users. Although the 2023 self-evaluation report indicated that 98.8% of the academic community—60.6% of which were students—understood aspects such as the academic vision, goals, and strategies for achieving them, there were still indications that some individuals had not fully comprehended the academic vision optimally. Therefore, further efforts were needed to ensure comprehensive understanding among the academic community, especially students.

The period when students completed their studies had become a shared concern for several universities in Indonesia, necessitating strategies that could improve this process. Consequently, the study by Muzayyanah and Rifa'i (2024) emphasized the importance of interpersonal communication in the services of the Study Program to minimize academic procrastination. Furthermore, student groups at risk of dropout also required guidance and counseling based on persuasive communication to help them complete their studies successfully (Wasngadiredja & Wibowo, 2024). Some of these service recommendations indicated that actions were prepared for specific students who were facing issues during their study completion process. In fact, preventive actions were necessary and should have been implemented early, even when students were in their first semester, before they encountered study-related problems. These actions were carried out through a targeted digital outreach-based socialization activity via social media as a strategy to improve students' understanding of the academic vision of their study program.

The targeted digital outreach strategy was adopted as part of the academic development agenda within the study program to encourage students to increase their academic participation and responsibility, which ultimately impacted the achievement of the study program's vision. Thus far, targeted digital outreach had been more commonly applied in the healthcare sector. For example, in treatments for smokers with cancer diagnoses, Neil et al. (2022) stated that although the effectiveness of improving participation in treatment trials had not been specifically evaluated, targeted digital outreach through short videos was a promising method. Moreover, targeted digital outreach on social media had become an important strategy for specialized teams to improve directed communication, such as with patients, doctors, and researchers, to expand the reach of information and services (Elkaim et al., 2023). Targeted digital outreach in campaigns helped patients and healthcare workers make more accurate and personalized treatment decisions by providing decision-making tools through direct outreach to consumers and tailored resources (BeiGene and CLL Society, 2024). In education, socialization with this strategy had still been rarely applied and was expected to reach all first-year students, at least to help them answer clearly and academically when asked about their reasons for choosing their study program and how prepared they were to utilize various academic stimuli offered during their studies. The strategy for this socialization activity was then implemented to analyze the effectiveness of targeted digital outreach-based socialization in improving students' understanding of the academic vision of their study program.

Method

The targeted digital outreach-based socialization was carried out to effectively deliver information to a specific audience using a targeted digital approach. The following steps were taken in the implementation of this activity. First, the implementation team identified the target audience and their social media platforms. To record their habits regarding the most frequently used social media in daily life, identification was carried out using Google Forms. The social media platforms students could list in the Google Form included: YouTube, Instagram, WhatsApp, or Facebook. In this case, the targeted audience was first-semester students or new students for the 2024 academic year. The sample, which was the

target group for socializing the academic vision, consisted of students from the mathematics education program. Students were free to write down at least two of their personal social media platforms, which would serve as alternatives for message delivery containing an informative video about the study program's academic vision. A total of 75 students participated in completing this form.

The second stage involved sending messages through social media platforms based on the digital habits of the audience, with a link to the socialization video included as part of the distribution strategy. In this case, an informative video about the academic vision of the study program was uploaded to an online digital platform. The video content, with a short duration, included a combination of video-based media, infographics, and text, as well as key messages such as: the study program's vision, how the ICT-based mathematics learning model worked, entrepreneurship values in mathematics education, and ICT-based research. These key messages were conveyed in a language that matched the audience's characteristics, making them easier to understand. The link to the video was then embedded in a direct message (private message) sent to the students' chosen social media platforms to increase personal engagement.

The third stage involved evaluating the effectiveness of the targeted digital outreach-based socialization in improving students' understanding of the academic vision of the study program. The effectiveness of the socialization was evaluated based on several questions: (1) What combination of social media platforms was most dominantly used by students in their digital lives? (2) How engaged were they in understanding the content of the socialization video? (3) What was the significance of the differences and categories in students' understanding of the academic vision of the study program? Question (1) was answered based on the analysis of student responses during the first stage. Question (2) was answered through the analysis of video performance from social media analytics, where the socialization video was digitally documented. For question (3), students' understanding of the academic vision of the study program was measured using pretest-posttest items based on several key aspects: (a) understanding of ICT-based mathematics learning, (b) understanding of entrepreneurship values in mathematics education, (c) understanding of ICT-based research, and (d) understanding of improving competence and competitiveness. There were 10 items in total, and each correct answer was awarded a maximum score of 4, so the highest possible score was 40. The increase in students' understanding was determined by the normalized gain from the calculation between the pretest and posttest scores, which were then categorized according to Hake (1998). The pretest was conducted before students watched the socialization video, while the posttest was carried out after they completed the viewing. The pretest and posttest data were then analyzed using a paired t-test to determine the significance of the difference in students' understanding of the academic vision of the study program.

Results and Discussion

The analyzed data was then presented in several sections, namely: the social media connectivity model of the target participants, video performance from social media analytics, and pretest–posttest analysis of students' understanding.

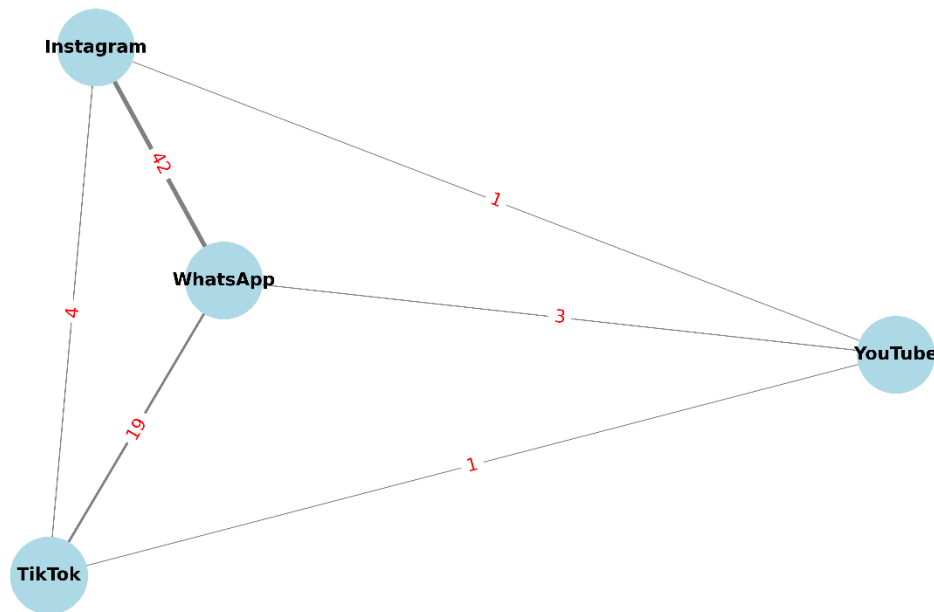*The social media connectivity model of the target participants*

Based on the results of the identification of the audience's digital habits, the following information on the number of students who predominantly use certain social media platforms and the selected media for sending the socialization message to the targeted audience is summarized in Table 1.

Table 1. Number of identified students in the target participants

Social Media	Number of Dominant User		Number of Message Delivery Media	
	First Choice	Second Choice	Selected	No Answer
WhatsApp	63	5	55	-
YouTube	0	5	-	-
Instagram	5	43	18	-
TikTok	7	17	-	-
Others	-	5	-	2
Total	75	75	73	2

Based on Table 1, WhatsApp emerged as the most dominant social media platform used daily, chosen as the first option by 63 respondents, with only a few selecting it as the second option (5 respondents). Instagram, on the other hand, was more frequently chosen as the second option (43 respondents) compared to the first option (5 respondents). Additionally, some students selected WhatsApp (55 respondents) and Instagram (18 respondents) as the social media platforms they used to receive the socialization message about the academic vision of the study program. This aligns with reports from Hidayatullah and Prasetyawan (2019) and Sidik and Sanusi (2019), which stated that WhatsApp is the most dominant smartphone application used for daily communication. Satria (2023) also reported that WhatsApp usage contributed to enhancing academic services and meeting students' needs. Therefore, based on students' dominant choices, the social media platforms for delivering the socialization message are WhatsApp or Instagram. WhatsApp is the primary platform used for sending the socialization messages to the target audience. The second-choice social media platform is used when messages fail to be delivered to the first-choice platform. The results of this analysis justify the use of students' personal social media accounts for the implementation of targeted digital outreach-based socialization.

From the data identifying the most dominant social media users, the following connectivity model between "First Choice" and "Second Choice" is presented in Figure 1.

Figure 1. *Chart of connectivity between first choice and second choice social media*

In Figure 1, each line represents the connection between two social media platforms, with the thickness of the line indicating how frequently the combination appeared in the students' choice data. Based on the analysis, the combination of WhatsApp and Instagram has the strongest connectivity weight (N=42), meaning that several users employed both platforms simultaneously, demonstrating a much stronger connection compared to other social media combinations. The WhatsApp and Instagram combination has become a favorite choice among students (Hasibuan et al., 2024; Rizki et al., 2024). As is generally the trend, WhatsApp is used for personal communication (Arianto & Handayani, 2023; Hermila et al., 2023; Permana et al., 2023; Sukrillah et al., 2017), while Instagram is used for sharing social content (Aripradono, 2020; Lv & Zhang, 2024; Sakti & Yulianto, 2018). Additionally, TikTok has become one of the platforms frequently used alongside WhatsApp, making it an alternative popular social media combination. As reported in the study by Hasibuan et al. (2024), the combination of WhatsApp and TikTok was also utilized by the study's respondents. The three most frequently visited social media platforms by students are WhatsApp, TikTok, and Instagram (Hermila et al., 2023). Therefore, this analysis serves as the basis for using Instagram and YouTube platforms to publish visual content with a narrative campaign for the academic vision of the study program.

The use of WhatsApp as the primary media and Instagram as a supporting platform enables more effective information distribution, particularly because of the strong connection between users on these two platforms. This strategy enhances the reach of the socialization and ensures the message can be received by more students. On the other hand, TikTok was not used as a platform for video content publication in this socialization activity due to considerations regarding its duration. Al-Maroof et al. (2021) revealed that YouTube was chosen because it has a stronger impact on both educational and non-educational purposes due to the types of content uploaded and more flexible time management.

Video performance from social media analytics

This section focuses on the analysis of video interaction and reach, including the number of views, comments, likes, and shares, to determine the level of engagement and content appeal. From October 22, 2024, to October 29, 2024, the number of views on YouTube was 138 (account **kiaad**) and 15 (account ***A). The analytics data showed a total of 24 comments (on YouTube **kiaad**); 22+1 (on YouTube **kiaad** + ***A); 32 likes (on Instagram); 85.5% (3:19) average view duration; and 88% key moments for audience retention. A 148% increase in duration at 1:40 (viewing about 21st-century mathematics learning on YouTube **kiaad**) indicated that more viewers watched, rewatched, or shared one or more moments from the video, as shown in the graph in Figure 2.

Figure 2. Chart of viewers watching

The identification results on the video, https://youtu.be/ZrXMd-WoQ3Q, at that duration (1:40) show that the video contains narration but does not explain the images being displayed, nor does it read the text shown on the screen. Meanwhile, the text displayed contains key points about how 21st-century mathematics learning is applied and has been implemented in the study program. This is an ineffective video design based on one of the video design characteristics described by Susanti (2018), which is the use of illustrations/images that are not directly related to the material. Additionally, since Indonesians tend to process audio faster or prefer listening over reading text (Maharani, 2015; Purnaningsih, 2017), the relevance of the material (text in the video) should be aligned with audiovisual elements, which is one of the factors that enhances audience concentration (Burhayani et al., 2023). Therefore, three areas of concentration are needed simultaneously by students to capture the message conveyed in the socialization, namely the message in the narration, the message in the text, and the moving image message.

This was the cause of the re-watching at that specific duration, and it serves as a recommendation for improvement before conducting the next socialization activity. Therefore, better integration between visual elements, text, and audio in the video can enhance the effectiveness of message delivery (Serungke et al., 2023). On the other hand, this is an indicator of student engagement with the content presented. This phenomenon indicates that the video content has a certain power to make students re-watch the video at specific durations.

Pretest–posttest analysis of students' understanding

The pre-test and post-test data pairs only come from 46 students because they participated in both. The next analysis is the descriptive and inferential statistics of this data—the students' understanding of the study program's academic vision—which is presented in Table 2.

Table 2. Descriptive and inferential statistical analysis of pre-test and post-test data

Data	N	Xmin	Xmaks	*M*	*SD*	Kolmogorov-Smirnov		Paired *t*-test		
						KS	*Sig.*	*t*	*df*	*Sig.*
Pretes	46	21	35	29.283	2.697	0.105	0.200	9.554	45	0.000
Postes	46	22	39	33.478	3.371	0.101	0.200			

In Table 2, the results of the descriptive analysis show that the mean (M) and standard deviation (SD) for the pre-test data are $M = 29.283$ and $SD = 2.679$, while for the post-test data they are $M = 33.478$ and $SD = 3.371$. For both sets of data, pre-test and post-test, the Kolmogorov-Smirnov test results show that both values are $Sig. = 0.200 > 0.05$, indicating that the data distribution is normal. The inferential statistical analysis comparing the means of the pre-test and post-test achievements using a paired *t*-test revealed that the value is $t = 9.554$ with $Sig. = 0.000 < 0.001$, meaning the post-test mean achievement significantly differs from the pre-test mean achievement.

Furthermore, descriptive analysis was also performed on the normalized gain data ($n-\text{gain}$), and the results of the analysis showed that $M = 0.387$ and $SD = 0.274$. The average value of $n-\text{gain}$ ($M = 0.387$) means that students' understanding improved, and according to Hake (1998), this increase falls into the moderate category ($0.3 \leq n-\text{gain} < 0.7$).

Based on the analysis, there is a significant difference in students' understanding of the academic vision of the study program after participating in the targeted digital outreach campaign, with the improvement categorized as moderate. These results are consistent with the report by Maulani et al. (2020), which states that the dissemination strategy via video media is more easily accepted by the public, thus increasing productivity. Dissemination through educational videos published on digital platforms is an effective strategy for spreading persuasive information, as its effectiveness is an essential factor in improving the public's understanding (Sunardiyah et al., 2023). Additionally, the study by Al-Maroof et al. (2021) also revealed that YouTube has a greater influence on users' perceptions and knowledge.

Conclusion

Based on the results and discussion, it can be concluded that there is a significant difference in students' understanding after participating in the outreach campaign. The improvement in students' understanding of the academic vision of the study program falls into the moderate category, indicating that the targeted digital outreach strategy through social media, particularly WhatsApp and Instagram, is quite effective in conveying relevant information. The use of WhatsApp as the primary platform and Instagram as an alternative messaging app for delivering the outreach message is effective for reaching the targeted participants. The combination of these two platforms shows a strong connection among

students, which enhances the effectiveness of the information delivery. The increased engagement from students in the outreach content is evident from the 148% spike in views at the 1:40 minute mark of the video discussing 21st-century mathematics education, despite the fact that the content at that duration did not directly explain the images or text shown on the screen, which could have affected participants' understanding of the material. Therefore, the targeted digital outreach is effective in enhancing students' understanding of the academic vision of the study program, though the presentation of the content could still be optimized.

Based on the conclusion, the following recommendations are provided. Firstly, optimize media and timing usage. Adjusting the timing of the outreach campaign to align with students' schedules will help increase participation. Avoiding conflicts with student organization activities will give students more space to focus on the outreach event. Distributing materials at the right time through digital platforms can also serve as a reminder for students to complete the pre-test and post-test assessments. Secondly, enhance the connection between narratives and visual content. Improving and synchronizing the narrative with the visual text will prevent students from needing to re-watch the video. A narrative that better explains the images and text displayed will make it easier for students to understand the content in a single viewing, without the need for repetition. Thirdly, collaborative approach with student organizations. Collaboration with student organizations is essential. Engaging these organizations to share the outreach video and disseminate information about the campaign within their agendas will ensure that the outreach message is conveyed more effectively amidst students' busy schedules. Students are more likely to respond positively in a familiar environment.

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