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STUDENT PERCEPTIONS OF THE IMPLEMENTATION OF THE GOOGLE CLASSROOM INTEGRATED FLIPPED CLASSROOM MODEL IN THE MEDIA AND LEARNING TECHNOLOGY COURSE

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ABSTRACT

This study aims to explore student responses regarding the implementation of the flipped classroom model integrated with Google Classroom in the Learning Media and Technology course. The study employs a descriptive quantitative method based on the frequency, sum, and mean of the respondents' input data. Data collection was conducted via Google Forms. The results indicate that regarding student engagement, respondents expressed agreement that the implementation of the flipped classroom model integrated with Google Classroom enhanced their participation, with 86–93% of students falling into the "agree" to "strongly agree" categories. Similarly, the motivation for independent learning was positively received, with 86–93% of respondents selecting "agree" to "strongly agree." Regarding the effectiveness of the model, 89.66% of students indicated agree to strongly agree. Furthermore, student satisfaction with this learning model reached 86–89% within the same agreement categories. Based on the data analysis, the highest mean score obtained was 3.34, which falls into the "strongly agree" interval, while the lowest mean score was 3.07, falling into the agree interval. In general, the implementation of this model demonstrates a positive tendency for application in courses within regions where internet access remains unstable.

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INTRODUCTION

The advancement of digital technology has catalyzed a transformation in pedagogical practices within higher education, including the 'Learning Media and Technology' course. One model that has been widely adopted is the Flipped Classroom (FC). The Flipped Classroom model is an instructional approach based on delivering fundamental and theoretical

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components of a subject outside of scheduled class hours through educational technology, while reserving face-to-face sessions for advanced study (Ağırman & Ercoşkun, 2022).

The flipped classroom model is an instructional framework that shifts the delivery of course materials outside the classroom, repurposing face-to-face time for more interactive, collaborative, and problem-based activities. This model has been proven to enhance students' critical thinking, problem-solving skills, creativity, learning autonomy, and argumentative abilities across various subjects and educational levels (Purnomo et al., 2025). Within this model, students are expected to engage with course materials prior to class sessions; they study the content independently outside of class and subsequently discuss it during scheduled lecture hours (Wulansari & Sutrisna, 2018).

The implementation of the flipped classroom model is optimized when integrated with Google Classroom. Google Classroom is recognized as a superior medium for teaching and learning due to its simplicity and accessibility across various devices, including laptops, computers, and mobile phones (Mubarokah et al., 2022). As an application developed by Google specifically for online learning, it facilitates seamless interaction between lecturers and students, enabling the learning process to occur anytime and anywhere, transcending limitations of space and time (Rikizaputra & Sulastri, 2020). Google Classroom is a free, e-learning-based platform developed by Google for educational institutions, non-profit organizations, and individual Google account holders. It serves as a viable alternative that keeps students and instructors connected, both during in-person meetings and through remote online interactions (Iskandar, 2023).

The application of the flipped classroom model effectively addresses the constraints of limited face-to-face time a primary challenge in traditional instruction where classroom time is often dominated by teacher-led content delivery, leaving minimal opportunity for student discussion, problem-solving practice, and reflection (Fianingrum et al., 2022). This issue is particularly relevant to the Learning Media and Technology course, which requires not only conceptual understanding but also significant time for experimentation and practical application.

The flipped classroom model, supported by Google Classroom, provides students with ample time to master course materials at home before they are discussed in class. This allows students to gain a foundational understanding and prepare specific questions regarding concepts they find challenging for further discussion during class hours (Dilla, 2022). Consequently, this model grants students the flexibility to deepen their conceptual grasp while dedicating more time to practical tasks and hands-on experimentation within the learning media and technology course.

Furthermore, a study conducted by (Hasjim & Siem, 2021), concluded that the implementation of the flipped classroom model has successfully enhanced the quality of student interaction across all elements, including interactions between students, instructors, learning materials, and technological media. Students are able to review materials on Google Classroom at their convenience, leading to a deeper understanding of the subject matter and facilitating the timely submission of high-quality assignments (Nafsi & Trisnawati, 2021).

The application of this model also fosters student learning autonomy. Through the flipped classroom, students can grasp concepts independently, engage in problem-solving, and complete discussion tasks that may not have been fully addressed during class sessions (Mubarokah et al., 2022). However, the flipped classroom model integrated with Google Classroom is highly dependent on internet connectivity, which warrants deeper investigation particularly given that regions in Eastern Indonesia often face challenges regarding network infrastructure (Tamarengki & Lana, 2025). Poor and unstable internet connection quality is identified as a primary obstacle for students in implementing the flipped classroom model (Irawan et al., 2022). Such limitations in network infrastructure not only impact the utilization of educational technology but also shape pedagogical practices and patterns of student academic support (Rahmadiani et al., 2025)

Based on the aforementioned points, the researcher is interested in exploring the integration of the flipped classroom model with Google classroom within the *Learning Media and Technology* course in greater depth. This study aims to directly examine student perceptions of this model. This research represents a novelty and a departure from previous studies, which have predominantly focused on experimental designs. Furthermore, the significance of this study is underscored by its context: it is conducted in Eastern Indonesia, a region that occasionally experiences unstable internet conditions, which may yield different impacts on the implementation of the flipped classroom model.

The digital divide has currently widened the quality gap in education (Rahmadiani et al., 2025). Therefore, studies concerning the integration of technology in education must be continuously researched and evaluated as part of an effort to ensure equitable digital education in regions with limited internet access. This must be approached holistically by considering

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the readiness of adequate infrastructure. The results of this study will demonstrate how students respond to a learning model that requires sufficient network access. It is hoped that this research will serve as a reference for stakeholders in designing more inclusive and equitable educational policies to promote equal access to education.

METHOD

This study employs a descriptive quantitative approach, which aims to describe phenomena systematically and factually, as well as to examine the relationships between the observed variables (Kurniawan et al., 2025). In this context, the researcher seeks to describe and analyze student perceptions regarding the implementation of the flipped classroom model integrated with Google Classroom in the *Learning Media and Technology* course. The focus of the analysis encompasses student engagement, learning autonomy, learning effectiveness, and student satisfaction with the integrated model. Data collection was conducted through closed-ended questionnaires, in which respondents were required to select from predefined options.

The instrument was developed based on relevant theories and variable indicators to ensure that each item accurately represents the construct being measured. Data collection was administered online via Google Forms, which facilitates a broader reach and enhances the efficiency of the data acquisition process (Pamuti et al., 2025). The study involved 29 students, representing a total sampling of the students from Class A who enrolled in the Learning Media and Technology course. This class was selected to provide a comprehensive overview of student perceptions regarding the integrated flipped classroom model. The selection of respondents was conducted systematically among students who experienced the implementation of the model to ensure data validity.

The collected data were analyzed using descriptive statistical techniques, specifically through frequency, percentage, sum, and mean analyses, to identify data patterns and trends and to gain deeper insights into students' experiences and responses toward the implementation of the flipped classroom in their coursework. The questionnaire responses were analyzed using a Likert scale, which categorizes perceptions ranging from "highly positive" to "highly negative." To determine the score for each statement in the questionnaire, the data were quantified using a Likert scale, as detailed in the following table (Fakhri et al., 2023)

Table 1: Category Likert Scale

Description	Value
Strongly Disagree	1
Disagree	2
Agree	3
Strongly Agree	4

Source: Researcher's Processed Data, 2026

Table 2: Likert Scale Category Intervals

Category	Interval
Strongly Disagree	1,00-1,75
Disagree	1,76-2,50
Agree	2,51-3,25
Strongly Agree	3,26-4,00

Source: Researcher's Processed Data, 2026

The Likert scale and its corresponding category intervals presented in the table above were adopted from (Lindner & Lindner, 2024).

RESULT AND DISCUSSION

The results were obtained from the responses of 29 students from the Primary School Teacher Education (PGSD) program, Faculty of Teacher Training and Education (FKIP), Khairun University. These students were enrolled in the Media and Learning Technology course. The survey results are presented below.

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Results

Student Engagement in Lectures

Table 3: Student Engagement Responses in Lectures

Statement	Response Percentage (%)				Sum	Mean	Category
	4	3	2	1			
The Flipped Classroom model makes me more active in classroom discussions.	27,59	58,62	6,90	6,90	89	3,07	Agree
I am more confident in expressing my opinions during the learning process.	34,48	55,17	6,90	3,45	93	3,21	Agree
Learning with this method encourages me to be more involved in class activities.	41,38	51,72	3,45	3,45	96	3,31	Agree

Source: Researcher's Processed Data, 2026

Student Learning Independence

Table 4: Student Learning Independence Responses

Statement	Response Percentage (%)				Sum	Mean	Category
	4	3	2	1			
The Flipped Classroom model encourages me to study independently before class.	41,38	51,72	3,45	3,45	96	3,31	Agree
I have developed the habit of studying the material before attending lectures.	27,59	58,62	6,90	6,90	89	3,07	Agree
This model helps me develop independent study habits.	37,93	55,17	3,45	3,45	95	3,28	Strongly Agree

Source: Researcher's Processed Data, 2026

Effectiveness of Flipped Classroom Implementation

Table 5: Effectiveness Responses of Flipped Classroom Implementation

Statement	Response Percentage (%)				Sum	Mean	Category
	4	3	2	1			
Flipped Classroom learning helps me understand the material better.	41,38	48,28	3,45	6,90	94	3,24	Agree
Class discussions become more effective after studying the material beforehand.	37,93	51,72	6,90	3,45	94	3,24	Agree
This model makes the learning process more interesting.	51,72	37,93	3,45	6,90	97	3,34	Strongly Agree

Source: Researcher's Processed Data, 2026

Student Satisfaction with Flipped Classroom Implementation

Table 6: Student Satisfaction Responses with Flipped Classroom Implementation

Statement	Response Percentage (%)				Sum	Mean	Category
	4	3	2	1			
I am satisfied with the implementation of the Flipped Classroom model in this course.	44,83	44,83	6,90	3,45	96	3,31	Strongly Agree
Learning with Google Classroom assistance makes the process more flexible.	44,83	48,28	3,45	3,45	97	3,34	Strongly Agree
I hope this learning model is applied to other courses.	48,28	41,38	3,45	6,90	96	3,31	Strongly Agree

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Overall, I have a positive perception of the Google Classroom-assisted Flipped Classroom.	44,83	41,38	3,45	10,34	93	3,21	Agree

Source: Researcher's Processed Data, 2026

Discussion

Student Engagement in Lectures

Student responses regarding their engagement in the learning process are presented in Table 3. The data indicate that the implementation of the flipped classroom model, integrated with Google Classroom, has successfully fostered higher levels of student engagement. Table 3 illustrates that across three items concerning engagement, respondents expressed a strong consensus, with 86–93% of students selecting "agree" to "strongly agree" that the model enhanced their active participation.

These findings are consistent with previous research, which suggests that the flipped classroom model enhances student contribution and participation during learning activities. This is evidenced by students' heightened enthusiasm, improved performance in assignments, and active involvement in classroom discussions (Fakhri et al., 2023). The reason the flipped classroom model assisted by Google Classroom achieves higher averages and greater improvement compared to traditional direct instruction models is that it intrinsically encourages students to take a more active role in the learning process (Dilla, 2022). Similar results were reported by (Hasjim & Siem, 2021), whose study revealed that 80% of respondents responded positively to the flipped classroom method, noting that it facilitated effective learning interactions both during face-to-face sessions and through remote online platforms. Furthermore, during classroom discussions, students have begun to provide evidence-based arguments rather than relying solely on textbook theories or provided videos; they now incorporate scientific articles relevant to the topics at hand (Wulansari & Sutrisna, 2018).

However, it is pertinent to note that 3.45% to 6.90% of respondents expressed disagreement or strong disagreement regarding the model's ability to enhance their engagement. This sentiment may be attributed to unstable internet access. This aligns with findings suggesting that while the majority of students generally feel their internet connection is adequate for academic activities, intermittent slow connections remain a primary issue that adversely affects concentration, productivity, and learning motivation (Alpianoor & Wardhani, 2025).

Student Learning Independence

Data presented in Table 4 regarding student learning autonomy reveal that the implementation of the flipped classroom model integrated with Google Classroom encourages independent learning, with 86% to 93% of respondents expressing agreement to strong agreement.

These findings are supported by research indicating that the flipped classroom method not only improves academic learning outcomes but also fosters student autonomy through the use of technology and active learning approaches (Hukom et al., 2024). The flipped classroom model is an instructional framework that leverages contemporary technology and is capable of cultivating student independence, thereby enabling students to master conceptual material (Mubarokah et al., 2022). Furthermore, this model encourages students to grasp concepts effectively, allowing them to respond to questions with speed and precision, independently seek relevant materials, and reconstruct their learning attitudes in a positive manner. It also motivates students to articulate their understanding after viewing interactive videos (Fakhri et al., 2023).

Conversely, 6.90% of respondents indicated that the implementation of this model did not enhance their learning autonomy. This aligns with findings suggesting that internet access significantly influences learning motivation, which in turn impacts the independent learning activities conducted by students outside the classroom (Afandi, 2022). Additionally, other studies have observed that online learning processes may inadvertently lead to passivity, as some students tend to rely solely on following instructions provided by lecturers on digital platforms, rather than engaging in independent inquiry (Febrilia et al., 2020).

Effectiveness of Flipped Classroom Implementation

Table 5 presents student responses regarding the effectiveness of implementing the flipped classroom model integrated with Google Classroom in the *Learning Media and Technology* course. The results indicate that this instructional

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model is effective in enhancing conceptual understanding, facilitating discussion, and increasing engagement, with 89.66% of respondents expressing agreement to strong agreement.

These findings are consistent with previous research suggesting that the flipped classroom model serves as a viable alternative to optimize limited face-to-face instruction time and improve student learning outcomes (Meilisa & Pernanda, 2020). Students who engage with the flipped classroom model supported by Google Classroom demonstrate significantly higher learning outcomes compared to those taught via direct instruction, where students are not provided with materials or video recordings prior to classroom sessions (Nafsi & Trisnawati, 2021). Students who engage with the flipped classroom model supported by Google Classroom demonstrate significantly higher learning outcomes compared to those taught via direct instruction, where students are not provided with materials or video recordings prior to classroom sessions (Fakhri et al., 2023). Universitas Negeri Makassar also highlights that the flipped classroom model enables students to better grasp complex concepts. This model is highly efficient as it encourages students to study materials independently at home, allowing classroom time to be focused on addressing specific difficulties in understanding or practicing problem-solving related to the course content (Desrita & Afrianis, 2022). Similar sentiments were echoed by (Ramly et al., 2025), who noted that the flipped classroom model utilizing video-based approaches is more effective than conventional methods in improving student achievement. Conversely, 3.45% to 6.90% of respondents indicated a contrary view. This data suggests that unstable internet connectivity significantly impacts learning effectiveness, hindering students' productivity in completing assignments and participating in lectures (Alpianoor & Wardhani, 2025). Furthermore, the most significant challenge in online learning remains the availability of internet data quotas, which are not always accessible to all students (Ningsih, 2020).

Student Satisfaction with Flipped Classroom Implementation

Student responses regarding their satisfaction with the learning process are presented in Table 6. The data indicate that the implementation of the flipped classroom model integrated with Google Classroom fosters a high level of student satisfaction. Table 6 illustrates that across four items concerning satisfaction with this model, 86–89% of respondents expressed agreement to strong agreement.

Overall, students demonstrated a high level of satisfaction with the flipped classroom instruction, particularly regarding the delivery of materials, the conduct of classroom discussions, the conceptual understanding achieved, and the flexibility of the model. These findings are consistent with previous research suggesting that this instructional approach has the potential to enhance student satisfaction and improve learning outcomes (Nirmalasari et al., 2025). Furthermore, student satisfaction across the three stages of the flipped classroom implementation was reported to be highly positive (Irawan et al., 2022). The application of flipped classroom pedagogy is highly appropriate for increasing student satisfaction with the teaching and learning process, while simultaneously fostering high levels of participation and perceived value among students (Caraballo Vidal et al., 2024). Although the majority of students expressed satisfaction with the implementation of this model, 10.34% of the findings still indicate a negative tendency. This sentiment is inextricably linked to the influence of internet access, which serves as a fundamental pillar for courses utilizing this model (Ningsih, 2020). While most students perceive their internet connection to be adequate for supporting online learning activities, a small proportion remain dissatisfied due to connectivity issues (Alpianoor & Wardhani, 2025).

CONCLUSION

Based on the research findings, it can be concluded that the implementation of the flipped classroom model integrated with Google Classroom in the *Learning Media and Technology* course has yielded a highly positive and significant impact, as reflected in the students' responses. Students perceived this integrated model as having a substantial positive effect on their learning engagement, autonomy, and overall instructional effectiveness. In general, students participating in the course expressed high levels of satisfaction with the implementation of this model. Consequently, based on student feedback, it is recommended that this instructional approach be extended to other courses. However, the implementation of a flipped classroom integrated with Google Classroom in regions with unstable internet access requires specific adaptations. For instance, large instructional files should be made available for offline access, and assignment submission deadlines should be managed with greater flexibility. Furthermore, students are encouraged to develop time management strategies and technological adaptability to better navigate connectivity constraints during online learning. As researchers, we suggest that

future studies further develop this approach by integrating the flipped classroom model with other pedagogical strategies or alternative applications beyond Google Classroom, ensuring they remain relevant to the specific requirements of the courses offered to students.

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