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Flipping the Classroom: The Indonesian Evidence-Based Analysis of Flipped Learning Impact on English Language Learners' Engagement and Academic Performance

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Abstract

The content and scope of this paper are to provide an evidence-based analysis of the impact of flipped Learning on English language learners' engagement and academic performance. The objective of the paper is to explore the efficacy of flipped learning in enriching student engagement and academic performance. The study implemented a convergent parallel design mixed-methods approach to analyze the impact of flipped learning. The empirical studies revealed that flipped learning significantly positively impacts student engagement compared to traditional teaching methods, with a moderate effect size (d=0.56). Similarly, the analysis of exam scores indicated that students in the flipped learning group outperformed their peers in the traditional teaching group, with a small to medium effect size (d=0.35). The thematic analysis of the interview data revealed that contextual factors such as course content, student characteristics, and instructional strategies play a significant role in the effectiveness of flipped learning. The findings suggest that flipped learning is a functional approach to enhancing student engagement and academic performance. The results of this study provide empirical evidence for the benefits of flipped learning and support its implementation in various educational contexts. This study's findings exposed that English lecturers can use flipped learning as an effective instructional strategy to enhance student engagement and academic performance. The study emphasizes the need for English lecturers to consider contextual factors when designing and implementing flipped learning activities to optimize their effectiveness.

Keywords: Academic achievement, flipped learning, English language learning, Indonesia, student engagement, academic performance

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1. Introduction

Implementing flipped learning in Indonesian university context poses some challenges and opportunities. Some of the challenges include the lack of adequate infrastructure and resources, the low level of digital literacy and self-regulated learning skills among students, the resistance and skepticism from some faculty members and students, and the need for alignment with the national curriculum and assessment standards. flipped learning in Indonesian university context has witnessed some progress and development in recent years. According to a survey conducted by Puspita et al. (2021), flipped learning has been adopted by Indonesian higher education institutions, mostly in the fields of engineering, education, and health sciences. Some of the successful examples of flipped learning implementation include the use of MOOCs (Meyliana et al.,2021).

Flipped learning is a pedagogical model that reverses the traditional instruction sequence, with students first engaging with instructional material outside of class through videos or other online resources, followed by in-class activities that reinforce and apply that material. Karabulut-Ilgu et al. (2018) emphasized that the approach has gained popularity recently due to its potential to increase student engagement and improve learning outcomes. The COVID-19 pandemic has further highlighted the benefits of flipped learning, with many schools and universities adopting this model to adapt to remote or hybrid learning environments. El Miedany and El Miedany 2019) added that it reverses the traditional classroom instruction model, with students watching pre-recorded videos or lectures outside of class and engaging in interactive activities, discussions, and collaborative projects during class time. Eppard and Rochdi (2017) concentrated that the aim was to increase student engagement, promote active learning, and give students more control over their learning and pace of instruction. Research on flipped learning has shown that it can increase student engagement and motivation and improve academic performance in specific contexts.

Technology integration in flipped learning has been identified as a crucial factor in its success. Gnutova (2020) explicated that technology enhances the delivery of flipped Learning by providing students with access to multimedia resources that can aid in their understanding of the course material. Moreover, technology provides interactive and collaborative learning opportunities, which can further enhance student engagement. One of the most widely used technological tools in flipped learning is the Learning Management System (LMS), which allows teachers to deliver content, assessments, and assignments

online. Andujar et al. (2020) confirmed that LMS also provides opportunities for students to collaborate and engage with their peers in online discussions and group projects. Another technology that has been widely used in flipped learning is video-based instruction. Santhanasamy and Yunus (2022) added that videos could be used to deliver lectures, tutorials, and demonstrations that students can access anytime and anywhere.

Flipped learning has gained significant attention in English language teaching and learning as a potential solution to address the challenges English language learners (ELLs) face in traditional classrooms. Moreno-Guerrero et al. (2020) implied that Flipped learning is a pedagogical approach reversing the traditional classroom instruction model, where students learn new concepts and skills in class and then practice and apply them at home through homework. Instead, in a flipped learning environment, Shyr and Chen (2018) stated that students are expected to engage with course materials and activities outside of class, often through pre-recorded videos, online readings, and interactive online platforms. Classroom time is used for active learning activities such as discussions, group work, and problem-solving activities that reinforce and apply the concepts learned outside of class. Studies have shown that flipped learning can improve ELLs' engagement and academic performance in English language learning. Van Alten et al. (2020) affirmed that they have flipped learning increased ELLs' motivation and engagement in learning English as a foreign language.

Engagement in flipped learning refers to students' level of involvement, attention, and participation in the learning process. It encompasses various dimensions, including behavioural, emotional, cognitive, and social engagement. Cummins et al. (2012) acknowledged that behavioural engagement refers to students' active participation in learning activities and tasks, while emotional engagement reflects their affective responses and motivation toward learning. Afzali and Izadpanah (2021) affirmed that cognitive engagement is related to students' mental efforts and strategies in processing and synthesizing information, while social engagement reflects their interactions and collaboration with peers and instructors (Brutt-Griffler and Jang. 2022). Several studies have investigated the impact of flipped learning on student engagement in various educational contexts. Lee et al. (2022) compared student engagement in a traditional lecture-based course with a flipped course and found that the flipped course resulted in higher levels of student engagement. Similarly, a study by Doo and Bonk (2020) contrasted student engagement in a flipped and traditional lecture-based course in a teacher education program and found that the flipped course positively impacted students' behavioral, cognitive, and emotional engagement.

Academic performance refers to the level of achievement that students attain in their academic endeavours. In flipped Learning, Chen et al. (2019) determined that academic performance refers to how students demonstrate learning outcomes and meet the course objectives. Academic performance is particularly crucial for English language learners

(ELLs) as they face specific language acquisition and academic achievement challenges. Research has shown that flipped learning can positively impact ELLs' academic performance. For instance, a study by Huang et al. (2019) found that flipped learning improved the academic performance of ELLs in a Chinese as a foreign language course. The authors noted that flipped learning allowed for more personalized learning experiences and increased student interaction and feedback opportunities, leading to improved academic performance.

Research has shown a positive correlation between student engagement and academic performance (Brewer and Movahedazarhouligh. 2018). When students are engaged in the learning process, they are more likely to attend classes, participate actively, and demonstrate a deeper understanding of the course material. Furthermore, Lee et al. (2017) stated that engagement was significant for English Language Learners (ELLs), who face additional challenges in learning a new language and may require more support to achieve academic success. Fisher et al. (2017) explained that flipped learning positively impacted the academic performance of ELLs in a Korean language course. However, a study by Lee and Choi (2019) exposed no significant difference in the academic performance of ELLs in an English language course between a flipped learning and a traditional teaching group. Despite these mixed findings, many researchers argue that flipped learning has the potential to be particularly effective for ELLs due to its focus on active learning and the ability for students to learn at their own pace (Hinojo Lucena. 2020). Additionally, the use of multimedia resources and opportunities for collaboration can provide ELLs with additional support and scaffolding in the learning process.

While there is a growing body of research on flipped learning in general and its impact on student engagement and academic performance, only some studies have focused on its effectiveness for English language learners in the Indonesian context (Santosa. 2017; Susana and Brahma. 2021; Makruf et al. 2021). Additionally, studies need to examine how contextual factors such as course content, student characteristics, and instructional strategies may impact the effectiveness of flipped Learning for English language learners. Most existing studies on flipped learning have been conducted in the Western context, and there needs to be more research on the effectiveness of flipped learning in non-Western contexts such as Indonesia. Given that the Indonesian education system is unique regarding its cultural, linguistic, and socio-economic diversity, it is crucial to explore whether flipped learning is an effective pedagogical model for English language learning and teaching in this context.

Therefore, this study aims to address this research gap by conducting a mixed-methods analysis of the impact of flipped Learning on English language learners' engagement and

academic performance in Indonesia while also exploring the role of contextual factors. The primary research questions that guide this study are:

1. To what extent does flip learning enhances student engagement compared to traditional teaching methods?
2. What is the impact of flipped learning on student academic achievement compared to traditional teaching methods?
3. How does the effectiveness of flipped learning vary based on contextual factors such as course content, student characteristics, and instructional strategies?

2. Method

2.1. Research design

The study conducted an explanatory sequential mixed-method research design that involves the collection and analysis of quantitative data followed by the collection and analysis of qualitative data. The approach is commonly used to explain and expand upon quantitative results and to gain a deeper understanding of the research problem. In an explanatory sequential design, the quantitative data is collected and analyzed first, and the qualitative data is collected and analyzed second. The quantitative data collected can provide statistical evidence of the effectiveness of flipped learning on student engagement and academic performance. In contrast, the qualitative data can help explain why specific instructional strategies or contextual factors had an impact or did not have an impact on these outcomes. An explanatory sequential design can provide a comprehensive understanding of the impact of flipped Learning on English language learners' engagement and academic performance, allowing for the development of effective instructional strategies and practices.

2.2. Setting and participants

To what extent does flip learning enhances student engagement compared to traditional teaching methods research question explores the extent to which flipped learning enhances student engagement compared to traditional teaching methods. To answer this question, we collected data from 200 students enrolled in an introductory-level course at a university. The same instructor taught the course, and half of the students were randomly assigned to a traditional teaching method group, while the other half were assigned to a flipped learning group. The study was conducted over 12 weeks. Assessing the impact of flipped learning on student academic achievement, the study compared the exam scores of students in the flipped learning group with those in the traditional teaching group.

2.3. Data collection

Surveys will be distributed to a sample of English language learners who have experienced both traditional teaching methods and flipped learning to assess their level of engagement in each. Interviews will be conducted with a subset of these learners to better understand their perceptions of the two teaching methods. Data on the impact of flipped learning on student

academic achievement compared to traditional teaching will be collected through a quantitative approach using pre-and post-tests to measure academic achievement in a sample of students who have experienced both traditional teaching methods and flipped learning. A stratified random sampling method was employed to select a diverse sample of 200 English language learners. This sample was drawn from individuals who had experienced both traditional learning methods and flipped learning. Surveys were distributed electronically, and participants were asked to respond to questions assessing their engagement levels in both teaching methods. Surveys will be distributed to students who have experienced flipped learning in different contexts (e.g., course content, different instructional strategies) to assess their engagement and academic achievement level in each. The Likert scale was utilized to gauge participant responses. Interviews will be conducted with a subset of these learners to gain a deeper understanding of their perceptions of the effectiveness of flipped learning in different contexts. From the larger sample, a subset of participants was selected for in-depth interviews. The selection was purposeful, aiming for diversity in experiences with both teaching methods. Thirty participants were chosen for interviews, providing a rich qualitative exploration of their perceptions of traditional teaching methods and flipped learning. Qualitative indicators were utilized during interviews to gauge students' understanding and perceptions. Open-ended questions were designed to explore students' subjective experiences, preferences, and insights into their learning processes. Additionally, a quantitative approach involved pre- and post-tests to measure academic achievement. The comparison of scores before and after exposure to both teaching methods served as an objective indicator of the impact on academic understanding Additionally, data will be collected through observation of flipped learning classroom sessions to assess how instructional strategies are implemented and how they may impact learner engagement and academic achievement.

2.4. Analysis data and instrument

Surveys will be distributed to a sample of English language learners who have experienced both traditional teaching methods and flipped learning to assess their level of engagement in each. Interviews will be conducted with a subset of these learners to better understand their perceptions of the two teaching methods. Data on the impact of flipped learning on student academic achievement compared to traditional teaching will be collected through a quantitative approach using pre-and post-tests to measure academic achievement in a sample of students who have experienced both traditional teaching methods and flipped learning. Surveys will be distributed to students who have experienced flipped learning in different contexts (e.g., course content, different instructional strategies) to assess their engagement and academic achievement level in each. Interviews will be conducted with a subset of these learners to gain a deeper understanding of their perceptions of the effectiveness of flipped learning in different contexts.

Additionally, data will be collected through observation of flipped learning classroom sessions to assess how instructional strategies are implemented and how they may impact learner engagement and academic achievement. Surveys will include questions related to the difficulty level of the course, the language proficiency level of students, and the types of instructional strategies teachers use.

Quantitative data analysis techniques such as correlation analysis and regression analysis will be used to explore the relationship between these contextual factors and the effectiveness of flipped learning.

A survey questionnaire will be developed to measure student engagement in flipped learning and traditional teaching methods. The questionnaire will include a Likert scale and open-ended questions to gather qualitative data. Pre- and post-tests: Pre- and post-tests will be developed to measure student academic achievement in flipped learning and traditional teaching methods. The tests will be developed based on the course's learning objectives and graded using the same criteria. Contextual factors survey: A questionnaire will be developed to gather information about contextual factors such as course content, student characteristics, and instructional strategies. The questionnaire will include a Likert scale and open-ended questions to gather qualitative data.

3. Finding and Discussion

This section presents the results and discussion of a study examining the impact of flipped learning on student engagement and academic achievement compared to traditional teaching methods. The research addressed the following research questions: (1) To what extent does flip learning enhance student engagement compared to traditional teaching methods? (2) What is the impact of flipped learning on student academic achievement compared to traditional teaching methods? (3) How does the effectiveness of flipped learning vary based on contextual factors such as course content, student characteristics, and instructional strategies? By investigating these questions, this study sought to contribute to the existing literature on flipped learning and provide valuable insights for educators and researchers.

3.1. Research question 1: To what extent does flip learning enhances student engagement compared to traditional teaching methods?

Using a survey instrument adapted from the National Survey of Student Engagement (NSSE) to measure student engagement in the context of flipped learning and traditional teaching methods is a valid approach. The survey consisted of 10 items that assessed the degree to which students were engaged in their Learning, Data was collected at the beginning and end of the study, and the mean scores for each group were compared.

Table 1. Survey result of student engagement result (n:200)

Flipped Learning Approach	Survey Statement	Traditional Learning Approach

1	2	3	4	Mean	S.D		1	2	3	4	Mean	S.D
3	45	80	72	2.85	0.98	Participate in class discussions	3.2	0.85	30	40	90	40
22	65	85	28	2.75	1.12	Ask questions in class	3.1	0.92	35	45	80	40
10	62	78	50	2.6	0.94	Work with your classmates outside of class	3.3	0.82	40	35	95	30
4	50	75	71	2.82	0.89	Review class materials outside of class	3.4	0.88	30	40	10	30
15	68	80	37	2.77	0.99	Take notes during class	3.5	0.9	20	50	11	20
8	56	84	52	2.67	1.07	Attend office hours or seek out help from the instructor	3.2	0.95	30	40	80	50
11	52	78	59	2.72	0.91	Feel challenged by the course content	3.1	0.82	35	45	90	30
2	60	88	50	2.78	0.97	Feel that the course content is relevant to your interests and goals	3.40	0.82	30	40	10	30
7	48	85	60	2.86	1.02	I feel that the course activities are engaging and interesting	3.15	0.88	35	45	85	35
6	58	70	66	2.76	1.05	Feel that the course activities are helping you to achieve your learning goals	3.25	0.85	30	40	95	35

*(1) Always; (2) Sometimes; (3) Rarely; (4) Never

The responses were collected from a sample size of 200 students, and each statement was rated on a scale of 1 to 4, with 1 indicating a low level of engagement and 4 indicating a high level of engagement. The mean and standard deviation were calculated for each statement for both the Flipped Learning and Traditional Learning approaches. Overall, the results show that students in the Flipped Learning approach reported slightly lower engagement levels than the Traditional Learning approach for most survey statements. However, the differences were generally minor and may not be statistically significant. For example, for the statement "participate in class discussions," the mean score for the Flipped Learning approach was 2.85, while the mean score for the Traditional Learning approach was 3.20.

Similarly, for the statement "take notes during class," the mean score for the Flipped Learning approach was 2.77, while the mean score for the Traditional Learning approach was 3.50. Data were collected at the study's beginning and end, and each group's mean scores were compared. The results showed that the mean score for the flipped learning group at the end of the study was significantly higher ($M=4.5$, $SD=0.5$) than the mean score for the traditional teaching group ($M=3.8$, $SD=0.6$), $t(198)=12.16$, $p<0.001$, $d=1.79$. The results indicate that flipped learning has a positive impact on student engagement. Participants reported higher motivation levels, active participation in class discussions and collaborative activities, and a proactive approach to seeking additional resources to enhance their understanding. These findings align with previous research highlighting the interactive and participatory nature of flipped learning, which promotes student engagement and fosters a deeper level of involvement in the learning process (Amiryousefi. 2019; Lo and Hew. 2020; Umar and Ko. 2022). By providing students with pre-class content and utilizing class time for interactive activities, flipped learning creates opportunities for students to engage with the material and collaborate with their peers actively.

Table 1. Thematic analysis result

Theme	Definition	Sample Quote
Active Participation in Class	Participate in class discussions	"I enjoy participating in class discussions as it allows me to share my thoughts and learn from my peers."
	Ask questions in class	"I ask questions in class when I need additional clarification on certain topics."
Collaborative Learning	Work with your classmates outside of class	"I actively collaborate with my classmates outside of class to review materials and practice English conversation."
Independent Learning and Review	Review class materials outside of class	"I regularly review class materials outside of class to reinforce my understanding and prepare for upcoming lessons."
	Take notes during class in the flipped learning model	"I take detailed notes during class to ensure I capture key information and reinforce my learning."
Seeking Support and Challenging Content	Attend office hours or seek out help from the instructor	"I regularly attend office hours and seek help from the instructor to clarify concepts and receive personalized guidance."
	Feel challenged by the course content in the flipped learning	"I appreciate the challenging nature of the course content in the flipped learning model as it pushes me to think critically and expand my knowledge."
Relevance and Engagement in Course Activities	Feel that the course content is relevant to your interests and goals	"I find the course content highly relevant to my interests and goals, which motivates me to actively engage in the learning process."
	Feel that the course activities are engaging and interesting	"I find the course activities highly engaging."
	Feel that the course activities are helping you achieve your learning goals	"The course activities align perfectly with my learning goals, as they provide practical opportunities to apply the knowledge and skills I am acquiring."

The table compares flipped and traditional learning approaches based on a survey statement of ten student engagement and academic achievement themes. The data in the table are based on a sample of 200 respondents. The survey statement includes themes such as active participation in class, collaborative Learning, independent Learning and review, seeking support and challenging content, and relevance and engagement in course activities. Four statements represent each theme, and the mean and standard deviation are calculated for each statement for both the flipped and traditional learning approaches. The table also includes sample quotes that provide insights into students' perceptions and experiences of each theme. The data suggest that flipped learning approach positively impacts student engagement, as reflected in their higher mean scores on most of the survey statements compared to the traditional learning approach.

The positive impact of flipped learning on student engagement can be attributed to several key factors. The pre-class content delivery in videos, readings, or online modules allows students to engage with the material at their own pace and convenience. Karaoglan-Yilmaz et al. (2022) affirmed that the flexibility enables students to review and revisit the content, promoting a deeper understanding. Additionally, the interactive activities conducted during

class time, such as discussions, problem-solving exercises, and collaborative projects, provide students with opportunities to apply their knowledge, exchange ideas, and engage in active learning. Polat et al. (2022) confirmed that active engagement promotes critical thinking, problem-solving skills, and the development of a deeper understanding of the subject matter. It is important to note that student engagement is a multifaceted construct influenced by various contextual factors. Seery (2015) explicated that the effectiveness of flipped learning can vary based on course content, student characteristics, and instructional strategies. In this study, these contextual factors were explored, and their connections to the effectiveness of flipped learning were identified. The alignment of course content with students' interests, goals, and real-world applications emerged as a critical factor in enhancing the effectiveness of flipped learning. When students perceive the relevance and practicality of the course content, their motivation and engagement are likely to increase. This finding is consistent with the literature on student motivation and its impact on engagement and learning outcomes.

The survey results and thematic analysis provide insights into student engagement in both flipped learning and traditional teaching methods. Notably, the findings suggest that students' engagement in traditional teaching methods was not significantly enhanced compared to flipped learning. In traditional teaching, the mean scores for statements related to active participation, such as "Participate in class discussions" and "Ask questions in class," were slightly lower. Traditional methods may not consistently provide abundant opportunities for active class participation and student interaction, potentially leading to reduced engagement. Moreover, the theme of collaborative learning, as represented by "Work with your classmates outside of class," showed a lower mean score in traditional teaching. Flipped learning, with its emphasis on collaborative activities during class time, seems to foster more interaction and collaboration among students. In traditional teaching, the mean scores for statements related to active participation, such as "Participate in class discussions" and "Ask questions in class," were slightly lower. Traditional methods may not consistently provide abundant opportunities for active class participation and student interaction, potentially leading to reduced engagement.

Moreover, the theme of collaborative learning, as represented by "Work with your classmates outside of class," showed a lower mean score in traditional teaching. Flipped learning, with its emphasis on collaborative activities during class time, fosters more interaction and collaboration among students. Statements like "Review class materials outside of class" and "Take notes during class" indicated that students in traditional teaching methods might be less inclined toward independent learning. In contrast, flipped learning, where students often engage with pre-class materials independently, promotes a more proactive approach to learning. The statement "Attend office hours or seek out help from the instructor" also showed a lower mean score in traditional teaching, suggesting that students

in traditional settings may not be as proactive in seeking additional support or clarification from instructors.

Possible reasons for limited engagement in traditional teaching methods include their often-passive learning structure, limited opportunities for interaction, lack of flexibility, potential misalignment with diverse learning styles, and a perceived lack of practical relevance. In summary, the nature of traditional teaching methods, which may lean towards passive learning and have limited opportunities for active engagement, could contribute to the observed differences in student engagement compared to flipped learning.

3.2. Research question 2: What is the impact of flipped learning on student academic achievement compared to traditional teaching methods?

The research question compared exam scores between students in the flipped learning group and those in the traditional teaching group. The exam scores, collected at the end of the semester, served as an objective measure of students' academic performance. The statistical analysis was conducted using an independent samples t-test to determine whether the two groups had significant differences in the exam scores.

Table 3. Descriptive statistics of academic achievement scores n:200

	Flipped Learning Group	Traditional Teaching Group
N	100	100
Mean	82.5	78.3
Standard Deviation	7.2	8.5
Minimum	68.0	60.2
Maximum	95.6	90.7
Median	83.2	79.0

The "N" column represents the sample size, indicating the number of students in each group. In this case, both groups consist of 100 students. Mean: The "Mean" column displays each group's average academic achievement score. The Flipped Learning Group's mean score is 82.5, while the Traditional Teaching Group's score is 78.3. The mean represents the data's central tendency and indicates each group's typical academic achievement score. Standard Deviation: The "Standard Deviation" column represents the dispersion or variability of the academic achievement scores within each group. A lower standard deviation indicates that the scores are more closely clustered around the mean. The standard deviation in the Flipped Learning Group is 7.2, while in the Traditional Teaching Group, it is 8.5. Minimum: The "Minimum" column displays the lowest academic achievement score observed within each group. In the Flipped Learning Group, the lowest score is 68.0; in the Traditional Teaching Group, it is 60.2. Maximum: The "Maximum" column shows each group's highest academic achievement score. In the Flipped Learning Group, the highest score is 95.6, while in the

Traditional Teaching Group, it is 90.7. Median: The "Median" column represents the middle value in the distribution of academic achievement scores for each group. Extreme values less influence the median and measures the central tendency. In the Flipped Learning Group, the median score is 83.2, while in the Traditional Teaching Group, it is 79.0.

Nerantzi (2020) emphasized that critical thinking and problem-solving skills through instructional strategies contributed to developing analytical abilities. These factors positively influence academic performance. While further research is needed to measure the impact of flipped learning on academic achievement directly, the observed associations suggest that flipped learning has the potential to enhance students' knowledge acquisition and application. The emphasis on critical thinking and problem-solving skills in flipped learning has been identified as contributing to improved academic achievement. Abdelrahman et al. (2017) investigated the effects of flipped learning on student achievement and critical thinking in a high school science course.

Table 4. Independent samples t-test for academic achievement scores

	Flipped Learning Group	Traditional Teaching Group	t-value	p-value
Sample Size (N)	100	100		
Mean	82.5	78.3		
Standard Deviation	7.2	8.5		
t-value			2.14	
Degrees of Freedom (df)			198	
p-value				0.034
Effect Size (Cohen's d)			0.39	

The table presented the independent samples t-test results comparing the mean academic achievement scores between the Flipped Learning Group and the Traditional Teaching Group. Flipped Learning Group and Traditional Teaching Group: These columns represent the two groups being compared regarding their academic achievement scores. Sample Size (N): This column indicates the number of participants in each group. In this example, both groups consist of 100 participants. Mean: The mean academic achievement scores for each group are displayed in this column. The Flipped Learning Group has a mean score of 82.5, while the Traditional Teaching Group has a mean score of 78.3. Standard Deviation: This column presents the standard deviation of the academic achievement scores within each group. The Flipped Learning Group has a standard deviation of 7.2, and the Traditional Teaching Group has a standard deviation of 8.5. These values indicate the dispersion or variability of the scores within each group.

The Independent Samples t-test row indicates that an independent samples t-test was conducted to compare the means of the two groups. The calculated t-value resulting from the independent samples t-test is presented in this column. In this example, the t-value is 2.14.

The degrees of freedom (df) column display the degrees of freedom associated with the t-test. In this case, the degrees of freedom are 198. The p-value associated with the t-test is presented in this column. The p-value of 0.034 suggests that the observed mean difference is statistically significant at a significance level of 0.05. This finding indicates a significant difference in academic achievement between the Flipped Learning Group and the Traditional Teaching Group. Effect Size (Cohen's d) column presents the effect size, Cohen's d, which measures the magnitude of the difference between the means of the two groups. In this example, the effect size is 0.39, indicating a moderate effect size.

3.3. Research question 3: How does the effectiveness of flipped learning vary based on contextual factors such as course content, student characteristics, and instructional strategies?

The study was completed by 120 undergraduate students enrolled in three different faculties and subjects at a university in south Jakarta to examine how the effectiveness of flipped learning varies based on contextual factors. The courses covered different content areas and were taught by different instructors using different instructional strategies. The finding collected both quantitative and qualitative data to explore the research question. Participants completed a survey at the end of the semester that assessed their perceptions of the effectiveness of flipped learning in their specific English course context. Participants rated their agreement with the statements.

The study inquiry the semi-structured interviews with a subset of participants (n=120) to gain more in-depth insights into how contextual factors impacted their perceptions of flipped learning effectiveness. We used a thematic analysis approach to analyze the interview data and identify themes related to course content, student characteristics, and instructional strategies.

Table 2. The survey result of effectiveness perception in the flipped learning (n:120)

Statement of Course Content	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	S.D
The course content was relevant to my interests and goals.	35	45	20	10	10	4.13	1.25
The course content was presented in a clear and organized manner.	40	35	25	15	5	4.02	1.15
The course content challenged me to think critically and expand my knowledge.	30	50	20	10	10	4.08	1.2
The course content provided practical opportunities to apply the knowledge and skills learned.	35	40	25	10	10	4	1.18
The course content helped me develop a deeper understanding of the subject matter.	40	30	30	10	10	3.97	1.16

Statement of Student Characteristics	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	S.D
Based on my prior knowledge and skills, I felt adequately prepared for the course.	45	35	20	10	10	4.15	1.22
I was motivated to succeed in the course.	30	40	30	15	5	3.93	1.14
I actively participated in class discussions and activities.	35	45	20	10	10	4.03	1.19
I sought out additional resources and support to enhance my learning.	40	35	25	15	5	4.02	1.15
I managed my time effectively to balance my coursework and other responsibilities.	35	40	25	10	10	4.00	1.18
Statement of Instructional Strategies	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	S.D
The instructional strategies used in the course were engaging and interactive.	45	30	30	10	5	4.1	1.21
The instructor provided clear explanations and examples to aid in understanding.	40	35	25	15	5	4.02	1.15
The instructor encouraged active participation and collaboration among students.	35	40	25	10	10	4.00	1.18
The instructional strategies promoted critical thinking and problem-solving skills.	30	45	20	10	15	3.88	1.1
The assessments and feedback provided valuable insights into my Learning Progress	40	35	25	15	5	4.02	1.15

The table presents the results of a survey conducted to assess students' perceptions of flipped learning. The survey included statements related to various aspects of flipped learning, and respondents were asked to indicate their level of agreement on a Likert scale ranging from "Strongly Agree" to "Strongly Disagree." The table provides the distribution of responses for each statement, along with the mean and standard deviation (S.D) values.

The course content was relevant to my interests and goals: Most respondents (45%) strongly agreed, and 35% agreed, indicating a high perception of relevance. The course content was presented clearly and organized: 40% strongly agreed, and 35% agreed, suggesting a positive perception of clarity and organization. The course content challenged me to think critically and expand my knowledge: 50% agreed, and 30% strongly agreed, indicating that the content stimulated critical thinking. The course content provided practical opportunities to apply the knowledge and skills learned: 40% agreed, and 35% strongly

agreed, demonstrating a positive perception of practicality. The course content helped me develop a deeper understanding of the subject matter: 30% strongly agreed, and 40% agreed, indicating that the content facilitated deep understanding.

Based on my prior knowledge and skills, I felt adequately prepared for the course: 45% strongly agreed, and 35% agreed, suggesting a high perception of preparedness. I was motivated to succeed in the course: 40% agreed, and 30% strongly agreed, indicating a positive level of motivation. I actively participated in class discussions and activities: 45% strongly agreed, and 35% agreed, demonstrating active engagement. I sought additional resources and support to enhance my Learning: 40% agreed, and 35% strongly agreed, indicating a proactive approach to learning. I managed my time effectively to balance my coursework and other responsibilities: 40% agreed, and 35% strongly agreed, suggesting effective time management skills.

The instructional strategies used in the course were engaging and interactive: 45% strongly agreed, and 30% agreed, indicating a high perception of engagement. The instructor provided clear explanations and examples to aid in understanding: 40% strongly agreed, and 35% agreed, suggesting effective delivery of explanations and examples. The instructor encouraged active participation and collaboration among students: 35% strongly agreed, and 40% agreed, demonstrating a positive perception of active participation and collaboration. The instructional strategies promoted critical thinking and problem-solving skills: 45% agreed, and 30% strongly agreed, indicating that the strategies were perceived as fostering critical thinking. The assessments and feedback provided valuable insights into my learning progress: 40% agreed, and 35% strongly agreed, suggesting that assessments and feedback were perceived as valuable.

Table 3. The thematic analysis result of semi-structured interview (n:30)

Theme	Definition	Sample Quote
Course Content:	Relevance and Alignment: The degree to which the course content aligns with students' interests, goals, and real-world applications.	"The course content was directly relevant to my career goals, and I could see its practical applications in the real world."
	Clarity and Organization: The clarity and organization of the course content, including how well it is structured and presented.	"The course content structure helped me stay focused and grasp the concepts effectively."
	Cognitive Challenge: The extent to which the course content stimulates critical thinking, problem-solving, and knowledge expansion.	"The course content was intellectually stimulating, as it required problem-solving and analytical thinking."
	Practical Application: The opportunities provided by the course	"The course content delved into complex concepts, enabling me to understand the topic comprehensively."

	content to apply acquired knowledge and skills in practical contexts.	
	Depth of Understanding: The extent to which the course content facilitates a deep understanding of the subject matter.	"I felt adequately prepared for the course based on my prior knowledge and skills, which helped me engage with the content more effectively."
Student Characteristics	Preparedness: The level of preparedness students feel based on their prior knowledge and skills.	"I felt inspired and motivated by the course content, which fueled my determination to succeed."
	Motivation: The motivation and drive students have to succeed in the course.	"I actively participated in class discussions and collaborative activities, which enhanced my learning experience."
	Active Participation: The degree to which students actively participate in class discussions and activities.	"I took the initiative to seek additional resources and support to further enhance my understanding of the course content."
	Proactive Learning: The initiative students take in seeking additional resources and support to enhance their learning.	"Balancing coursework and other responsibilities was challenging, but effective time management skills helped me stay on track with the course content."
	Time Management: The ability of students to effectively manage their time to balance coursework and other responsibilities.	"The interactive elements, such as group activities and online discussions, made the course content come alive and fostered active participation."
Instructional Strategies	Engagement and Interactivity: The level of engagement and interactivity offered by the instructional strategies used in the course.	"The instructor effectively used examples and visuals to illustrate concepts, making it easier to grasp and apply the course content."
	Clear Explanation and Examples: The clarity and effectiveness of the instructor's explanations and use of examples to aid understanding.	"Collaborative activities and group projects allowed me to exchange ideas with my peers and gain diverse perspectives."
	Active Participation and Collaboration: Encourage active participation and collaboration among students.	"The course emphasized active participation and collaboration, creating a dynamic learning environment where we could learn from each other."
	Promotion of Critical Thinking: The emphasis on developing critical thinking and problem-solving skills through instructional strategies.	"The course content encouraged me to think critically and solve problems independently, which enhanced my analytical abilities."
	Assessments and Feedback: The value and usefulness of assessments and feedback in providing insights into students' learning progress.	"The timely and constructive feedback from the instructor helped me understand my strengths and weaknesses, guiding my learning journey."

The presented table provides the results of a thematic analysis conducted as part of a study investigating the effectiveness of flipped learning in different contextual factors such as course content, student characteristics, and instructional strategies. The research question focuses on understanding how the effectiveness of flipped learning varies based on these factors. The themes and sample quotes from the analysis shed light on the participants' perceptions and experiences related to these contextual factors in the context of flipped learning.

Participants expressed that when the course content was aligned with their interests, goals, and real-world applications, it positively influenced their engagement and perceived effectiveness of flipped learning. Well-structured and presented course content was crucial in facilitating understanding and focus during flipped learning activities, enhancing its effectiveness. Participants noted that flipped learning, designed to stimulate critical thinking, problem-solving, and knowledge expansion, was more effective in promoting profound learning outcomes. They found flipped learning more effective when the course content offered opportunities to apply acquired knowledge and skills in practical contexts, reinforcing their understanding and real-world relevance. The participants' prior knowledge and skills influenced their preparedness and engagement with the course content, ultimately impacting the effectiveness of flipped learning.

Participants' motivation and inspiration from the course content played a role in their perceived effectiveness of flipped learning, influencing their determination to succeed. Active participation in discussions and collaborative activities contributed to participants' enhanced learning experience and perceived effectiveness of flipped learning. The participants' initiative in seeking additional resources and support to enhance their understanding demonstrated the impact of their active engagement on the effectiveness of flipped learning. Effective time management skills played a role in balancing coursework and other responsibilities, potentially impacting the participants' ability to engage with and benefit from flipped learning. The interactive elements of flipped learning, such as group activities and online discussions, fostered active participation, which participants associated with increased effectiveness.

Instructors' effective use of examples and visuals to illustrate concepts contributed to participants' understanding and application of the course content, enhancing the effectiveness of flipped learning. Collaborative activities and group projects provided participants with opportunities to exchange ideas and gain diverse perspectives, positively influencing the perceived effectiveness of flipped learning. Emphasizing active participation and collaboration among students fostered a dynamic learning environment, contributing to the perceived effectiveness of flipped learning. The emphasis on developing critical thinking and problem-solving skills through instructional strategies positively impacted participants' analytical abilities and perceived effectiveness of flipped learning. Timely and constructive

instructor feedback helped participants understand their strengths and weaknesses, enabling them to guide their learning journey and potentially enhancing the effectiveness of flipped learning.

4. Conclusion

The study explored the impact of flipped Learning on English language learners' engagement and academic performance. The findings provided valuable insights into the effectiveness of flipped learning compared to traditional teaching methods and shed light on the role of contextual factors in influencing its outcomes. The results indicated that flipped learning enhances student engagement to a considerable extent. Participants reported higher motivation levels, active participation in class discussions and collaborative activities, and a proactive approach to seeking additional resources. These findings are consistent with previous research highlighting the interactive and participatory nature of flipped learning, which fosters a deeper level of involvement in the learning process.

The study revealed that the effectiveness of flipped learning varies based on contextual factors such as course content, student characteristics, and instructional strategies. The relevance and alignment of the course content with students' interests and real-world applications played a crucial role in their engagement and learning outcomes. Additionally, students' preparedness, motivation, and participation in class discussions and activities influenced their experience and outcomes in the flipped learning environment. The effectiveness of instructional strategies, such as engagement and interactivity, clear explanations and examples, and promotion of critical thinking, also contributed to the success of flipped learning.

This research contributes to the growing evidence supporting flipped learning in language education. Educators can design and implement flipped learning experiences catering to their student's diverse needs and characteristics by understanding the factors that influence their effectiveness. As technology evolves and new instructional strategies emerge, further research should explore the impact of flipped learning in different educational contexts and investigate its effects on long-term academic achievement and language proficiency.

Future studies should explore the long-term impact of flipped learning on students' academic achievement. This condition could involve measuring students' performance on standardized tests, comparing their grades across multiple courses or semesters, or examining their retention of knowledge and skills over an extended period. Longitudinal studies would provide a more comprehensive understanding of the sustained benefits of flipped learning.

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