

FLIPPED LEARNING FOR ENHANCING INTENSIVE READING COMPREHENSION VIA GOOGLE CLASSROOM: A QUASI-EXPERIMENTAL STUDY

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ABSTRACT

This research delved into the efficacy of the *flipped learning* strategy in enhancing students' intensive reading comprehension and explored their responses to its implementation via Google Classroom. A quasi-experimental study involved 66 seventh-grade students from a state junior high school in Cilegon, strategically divided into an experimental group adopting *flipped learning* and a control group utilizing traditional scientific methods. Data, gathered through pre-tests and post-tests to gauge reading comprehension and questionnaires to capture student perspectives, were analyzed using SPSS. An *independent sample t-test* revealed that the experimental group achieved significantly higher post-test scores (80.06) compared to the control group (74.27), underscoring the superior effectiveness of *flipped learning* in boosting reading comprehension. Furthermore, the questionnaire results showed a predominantly positive student outlook on leveraging Google Classroom within this flipped pedagogical framework. Consequently, this study concludes that *flipped learning*, powerfully supported by Google Classroom, stands as a robust and well-received strategy for refining students' intensive reading comprehension

Keywords: Flipped Learning, Google Classroom, Intensive Reading Comprehension, Quasi-Experimental Study

INTRODUCTION

In the era of globalization, reading has become an important academic skill, specifically intensive reading, which focuses on understanding complex texts in detail. According to (Brown, 2001), intensive reading assists students develop their vocabulary, enhance grammatical awareness, and improve reading comprehension. This skill is particularly essential for academic success, as it enables learners to interpret and analyze written materials effectively. Despite its importance, conventional classroom instruction often limits students' opportunities to engage in intensive reading because of time constraints and teacher-centered approaches. Traditional methods tend to focus on passive learning, where students only listen, take notes, and rely a lot on teacher explanations. This condition results in limited student interaction, lack of motivation, and inadequate development of reading strategies (Zainuddin & Halili, 2016).

To address these limitations, researchers have explored the use of flipped learning—a pedagogical model where students study basic materials at home and engage in interactive activities in class. In this model, students acquire foundational knowledge independently, which allows classroom time to be used for collaborative discussions, problem-solving, and deeper analysis (Kakaroungkas & Abdellatif, 2022). The integration of digital platforms such as Google Classroom into the flipped learning model enhances accessibility and flexibility. It enables teachers for delivering structured content, monitoring student progress, and promoting self-paced learning. Research conducted by (Osman et al, 2023) and (Febriyanti et al, 2023) indicate that using Google Classroom in a flipped classroom environment can improve students' engagement, readiness, and academic performance.

In Indonesia academic setting, specifically in one state junior high school in Cilegon, many seventh-grade students experience challenges in understanding English texts, particularly in intensive reading tasks. Classroom observations show that students often lack preparation, remain passive during lessons, and exhibit minimal engagement. Teachers have to spend significant time to explain material that students can have explored independently beforehand. This classroom dynamic reflects the issues noted in conventional instruction and underlines the need for a more interactive and student-centered approach. Although the flipped learning model has been widely explored, limited empirical studies have specifically addressed its impact on intensive reading comprehension in Indonesian junior high schools, particularly with the integration of Google Classroom. Furthermore, prior study has rarely focused on how flipped learning influences students' reading strategies, critical thinking, and classroom engagement in this context. Therefore, this study seeks to address this gap by examining the effectiveness of flipped learning—supported by Google Classroom—to improve students' intensive reading comprehension and identifying students' responses to its implementation

METHODS

This research employed a quasi-experimental study with a pre-test and post-test control class. The research aimed to examine the effectiveness of the flipped learning strategy using Google Classroom in improving seventh-grade students' intensive reading comprehension.

A total of 66 seventh-grade students from one state junior high school in Cilegon participated in this study, meticulously divided into two distinct groups: Class VII E serving as the experimental class (n=33), and Class VII B as the control group (n=33). Participant selection employed *purposive sampling*, guided by the English teacher's insights into students' academic performance and prevailing classroom conditions, ensuring a comparable baseline in reading ability. While the experimental class received instruction via the *flipped learning* strategy, integrally supported by Google Classroom, the control class adhered to conventional scientific teaching methods. Both groups underwent identical pre-tests and post-tests to quantify advancements in intensive reading comprehension."

To collect students' responses toward the flipped learning strategy, a questionnaire was distributed to the experiment class. The validity of the questionnaire was established through expert judgment by two English lecturers. The reliability of the instrument was

tested using Cronbach’s Alpha, resulting in a coefficient of 0.87, which indicates high internal consistency. Before data analysis, the researchers conducted a normality test (Kolmogorov–Smirnov) and a homogeneity test (Levene’s Test). Because the data were normally distributed and homogeneous, an independent sample t-test was applied using SPSS software to compare the post-test results between the two groups. Descriptive statistics were also used to analyze questionnaire results. Regarding ethical considerations, informed consent was obtained from students before data collection. Participants were informed that their responses would be kept anonymous and used only for research purposes. The headmaster also provided written approval for the implementation of the study during regular class hours.

RESULTS

This study involves data that has to be statistically assessed; quantitative approaches are used for data analysis. In addition, the researchers employed the software program SPSS (Statistical Product and Service Solution) for their computations. It helps with the process of finding correlation results from the collected data.

After gathering data from the pre-test and post-tests, the researchers processed, examined, and contrasted the test results. Before implementing the flipped learning approach, the students' pre-test scores were low, which is indicative of their poor comprehension of the context. Moreover, there are restrictions on the use of intensive reading strategies for comprehension instruction.

However, after the treatment, the post-test results showed the effects of the flipped learning strategy. Post-test results have improved, and the pre-test results support observations. Students are more receptive to teacher’s instruction. Additionally, because students share ideas and insights while reading a text, students are more engaged.

Results of Pre-test

In the pretest, there were 33 students who had been tested on the first experimental group, and 33 students on the control group. This is the result of pretest of reading comprehension:

Table 1. The result of reading comprehension pretest in experimental and control class

Experimental Class		Control Class	
Name	Score	Name	Score
AIR	65	AN	60
AVA	65	AFR	40
AZ	85	AKR	50
ASA	70	ALR	65
AAD	75	AM	70
AGS	75	AM	65
AEK	65	AR	75
C	60	BADMP	60
DEAG	70	CMHA	45
DA	70	DA	55

FHR	60	ENS	60
FA	65	ERM	65
GSA	75	FPH	60
HAR	55	HIS	55
KG	65	KZNH	70
KAS	80	KPR	55
LDI	75	KR	60
MAP	80	MET	75
MAP	70	MPSS	45
MDK	60	MNPP	65
MIF	70	MDAN	60
MRAB	75	MFR	75
MMA	65	MHPW	70
NI	70	MRS	55
PRW	65	NA	70
RA	50	NAH	50
RBP	65	NRA	55
RRP	75	QKR	60
RA	70	RD	70
SDR	75	RWPI	55
SM	55	RD	60
SGB	75	SF	45
TM	65	SAD	70
Σ	2260	Σ	1995
Average score	68,48	Average score	60,45
The Highest Score	85	The Highest Score	75
The Lowest score	50	The Lowest score	45

From the table above, it can be seen that the sample size (N) was 33 where in the experimental class, the mean score of the pre-test was 68.48, with a standard deviation of 7.755. The median score was 70, the variance was 60.133, the lowest score recorded was 50, and the highest score achieved was 85.

Meanwhile in the control class, the mean score of the pre-test was 60.45, with a standard deviation of 9.384. the sample size (N) was 33, the median score was 60, the variance was 60.133, the lowest score recorded was 40, and the highest score achieved was 75. The whole calculation

Results of Post-test

In the posttest, from 33 students who had been tested on the first experimental group, and 33 students on the control group, the result of reading comprehension posttest is as follow:

Table 2. The results of reading comprehension posttest in experimental and control class

Experimental Class		Control Class	
Name	Score	Name	Score
AIR	90	AN	70
AVA	75	AFR	75
AZ	95	AKR	65
ASA	95	ALR	80
AAD	80	AM	65
AGS	90	AM	75
AEK	85	AR	75
C	100	BADMP	80
DEAG	80	CMHA	75
DA	95	DA	65
FHR	75	ENS	70
FA	80	ERM	80
GSA	80	FPH	75
HAR	95	HIS	95
KG	75	KZNH	75
KAS	85	KPR	80
LDI	85	KR	65
MAP	80	MET	85
MAP	95	MPSS	65
MDK	90	MNPP	70
MIF	85	MDAN	75
MRAB	75	MFR	80
MZA	90	MHPW	90
NI	95	MRS	65
PRW	85	NA	70
RA	85	NAH	80
RBP	90	NRA	75
RRP	85	QKR	80
RA	85	RS	65
SDR	75	RWPI	75
SM	90	RD	70
SGB	90	SF	65
TM	80	SAD	80
Σ	2840	Σ	2455
Average score	86,06	Average score	74,27
The Highest Score	100	The Highest Score	90
The Lowest score	75	The Lowest score	65

The table shows that the experimental class, the mean score of the pre-test was 86.06, with a standard deviation of 7.263 the sample size (N) was 33, the median score was 85, the variance was 52.746, the lowest score recorded was 75, and the highest score achieved was 100.

Meanwhile in the control class, the mean score of the pre-test was 74.27, with a standard deviation of 7.220 the sample size (N) was 33, the median score was 75, the variance was 52.122, the lowest score recorded was 65, and the highest score achieved was 95.

Results of Normality Test

Table 3. Tests of normality

Class	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Result Pre-Test Control Class	.118	33	.200*	.951	33	.143
Post-Test Control Class	.139	33	.107	.903	33	.007
Pre-Test Experiment Class	.145	33	.077	.959	33	.236
Post-Test Experiment Class	.134	33	.142	.924	33	.023

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

There were more than 50 samples analyzed in this study, so the Kolmogorov-Smirnov test was used. “The Shapiro-Wilk test is more appropriate for small sample sizes (<50 samples), while the Kolmogorov-Smirnov test is used for $n \geq 50$,” according to (Mishra et al , 2019). Each test has a null hypothesis stating that the data comes from a normally distributed population. The null hypothesis states that the data used in both tests should come from a regularly distributed population. If the significance value (P-value) is more than 0.05, the null hypothesis is accepted, and the data is considered normally distributed.

Based on table above, it shows that the Sig. (P-value) for pre-test and post-test in the experimental class are 0.077 and 0.142. Furthermore, the Sig. (P-value) of the control class is 0.107 for the post-test and 0.200* for the pre-test, with $\alpha = 0.05$. The fact that the results (P-value) $> \alpha$ indicates that the null hypothesis (Ho) is accepted. Therefore, it can be said that the data of the experimental and control classes follow a normal distribution.

Result of Homogeneity Test

Table 4. Tests of homogeneity of variances

	Levene Statistic	df1	df2	Sig.
Result Based on Mean	.812	3	128	.489
Based on Median	.797	3	128	.498

Based on Median and with adjusted df	.797	3	123.214	.498
Based on trimmed mean	.812	3	128	.490

According to Table 2, the Sig. (P_{value}) based on the mean was 0.489, with $\alpha = 0.05$. This indicates that the Sig. (P_{value}) is $> \alpha$, so the null hypothesis (H_0) is accepted. Therefore, the conclusion is that the data exhibit the same variance or are homogeneous.

Result of Hypothetical Test

Table 5. The results of hypothetical test

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence interval of the Difference	
								Lower		Upper
Result	Equal variances Assumed	.031	.862	6.385	64	<.001	11.667	1.827	8.016	15.317
	Equal variances not Assumed			6.385	63.884	<.001	11.667	1.827	8.016	15.317

Based on the results obtained from the independent sample t-test shown in the table above, it is observed that the significance value (Sig. or P_{value}) was < 0.001 , which is $< \alpha = 0.05$. Therefore, the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_a) was accepted. Based on the computation, it can be concluded that there was a significant effect of using Flipped Learning Strategy to improve Students' Intensive Reading Comprehension at seventh grade of one state junior high school in Cilegon.

Result of Questionnaire

The questionnaire results show that the majority of students have a positive perception of flipped learning using Google Classroom to improve their intensive reading skills. A total of 54.5% of students felt that this method was very effective, while the other 45.5% rated it as effective. Besides, google classroom was considered very helpful by 51.5% of students and helpful by 48.5% of students in flipped learning, and was considered useful by 100% of students (42.4% very useful, 57.6% useful). As a medium of learning, 45.5% of students found Google Classroom very influential and 51.5% found it influential, while only a few were neutral (3%). Dealing with improving text comprehension, Google Classroom was very impactful according to 51.5% of students, and another 48.5% agreed that the impact was positive. In terms of the completion of assignments, 33.3% were always on time, 63.6% were

mostly on time, and only 3% were sometimes late. During discussions, 24.2% of students felt very positive, 60.6% felt positive, and 15.2% were neutral. These results show that flipped learning using Google Classroom is seen as effective, relevant, and contributes positively to improve students' intensive reading skills.

DISCUSSION

The effectiveness of Flipped Learning Strategy

The flipped learning strategy, which allows students to study basic materials independently before class and engage in interactive activities during class, was indicated to be effective to improve intensive reading skills. The improvement was evident from the significant increase in students' post-test scores in the experiment class. These findings align with (Vygotsky, 1978), which emphasizes that learning is enhanced through social interaction within the zone of proximal development (ZPD).

There are challenges commonly faced by students prior to the intervention include a lack of interest in reading, poor mastery of reading strategies, and limited ability in text analysis. Lack of engagement is often related to the perception that reading activities are irrelevant to daily life. Recent studies conducted by (Yang & Chen, 2024) and (Chen & Yang, 2021) support that the flipped classroom increases students' motivation and engagement by making learning more autonomous and meaningful.

Moreover, students often lacked familiarity with effective reading strategies such as skimming, scanning, and inference-making. In flipped learning environments, students are introduced to these strategies prior to class, allowing them to engage in deeper analysis during discussion time. A study by (Lo & Hew, 2019) showed that integrating metacognitive reading strategies within flipped instruction significantly enhanced EFL students' reading comprehension and their critical thinking.

Students also struggled with analyzing texts and drawing inferences. These are higher-order cognitive processes that require repeated practice and scaffolding. Flipped classrooms provide opportunities for practicing through peer discussion and teacher-guided tasks. According to (Al-Harbi & Alshumaimeri, 2023) flipped learning enhances students' ability to engage in analytical reading through structured peer interaction.

The absence of sufficient reading practice in traditional classes was another obstacle. The flipped model provided additional reading opportunities outside the classroom and used in-class time for application and feedback. (Zainuddin & Halili, 2016) also highlighted that flipped learning increases time efficiency and deepens learning through deliberate practice.

Finally, allowing students to preview materials at home was a solution to overcome students' difficulty in understanding textual context. Rather than relying on classroom explanation, students can activate prior knowledge and contextual understanding before in-class tasks. Recent evidence by (Setiawan et al, 2022) confirms that flipped instruction in EFL contexts supports comprehension by facilitating more contextualized, student-prepared discussions.

Statistical data supported these findings. The experiment class's mean score increased from 68.48 (pre-test) to 86.06 (post-test), whereas the control class improved from 60.45 to 74.27. The hypothesis testing results (Sig. < 0.001) confirmed the significance of the flipped learning intervention.

Finally, this study confirms that flipped learning—particularly with the support of Google Classroom—promotes better comprehension of text structure, improves reading strategy use, and supports inference-making. These findings are consistent with recent research that advocates for flipped learning as an effective model in EFL instruction (Chen Hsieh et al, 2020); (Zainuddin & Halili, 2016).

Students' Respond to the implementation of Flipped Learning

The analysis of the questionnaire results showed that students had a highly positive perception of flipped learning facilitated by Google Classroom in enhancing their intensive reading comprehension. Most students agreed that the method helped them better understand the texts, complete assignments more effectively, and participate actively in class discussions.

These findings are appropriate to recent research indicating that flipped classrooms enhance student engagement and motivation in language learning environments. For instance, (Al Rowais, 2022) found that flipped learning promotes learner autonomy, increases interest in reading tasks, and creates a more student-centered learning environment. Additionally, the flexibility offered by Google Classroom allows students to revisit materials as needed, facilitating students to have better preparation and confidence during in-class activities (Nguyen et al, 2021).

In this study, Google Classroom served as a only one platform for content delivery, task management, and communication. Students reported that the google classroom was easy to use and allowed them to access materials anytime and anywhere, which aligns with (Osman et al, 2023), who emphasized the role of mobile and cloud-based applications in supporting asynchronous learning. The structure provided by Google Classroom enabled students to manage their learning more independently, reinforcing the principles of self-regulated learning (Pandero, 2017).

Dealing with assignment submission, over 95% of students reported submitting tasks either on time or mostly on time, indicating high accountability. This level of compliance and responsibility suggests that flipped learning promotes a stronger sense of ownership in the learning process. Previous studies (Setiawan et al, 2022) and (Lo & Hew, 2019) similarly report increased punctuality and task completion rates in flipped classrooms due to the clarity and accessibility of materials.

Student responses to class discussions were also extremely positive. Students expressed that they felt more prepared and confident to engage in group discussions, particularly because they had previewed the materials in advance. According to (Chen & Yang, 2021), flipped learning enhances student collaboration and peer interaction, which are crucial in developing higher-order thinking skills and deeper understanding.

In general, students viewed both the instructional strategy and the technological platform positively. This suggests that the integration of flipped learning and Google

Classroom not only improves students' intensive reading skills but also fosters better learning behaviors and classroom dynamics. These conclusions are supported by a growing body of literature affirming the effectiveness of flipped classrooms in English as a Foreign Language (EFL) contexts (Chen Hsieh et al, 2020); (Al-Harbi & Alshumaimeri, 2023).

CONCLUSION

Based on the findings of this study above, it can be concluded that the implementation of a flipped learning strategy using Google Classroom significantly improves seventh-grade students' intensive reading comprehension. Students in the experiment class demonstrated greater academic gains and showed more active participation and responsibility in the learning process compared to the control class. The flipped model allowed students to study material in advance, thereby enhancing the effectiveness of in-class discussions and text analysis. Furthermore, students responded positively to the integration of Google Classroom, perceiving it as a helpful and engaging platform to support their learning.

The flipped learning strategy was proven to be more effective than conventional scientific teaching methods, as evidenced by the higher post-test mean score of the experiment class (86.06) compared to the control class (74.27). Therefore, flipped learning—supported by digital platforms like Google Classroom—can be considered a viable instructional model for improving reading comprehension in junior high school EFL contexts.

This research has several limitations. First, the sample size was relatively small and limited to one school only, which may affect the generalizability of the results. Second, the duration of the intervention was short (limited to one instructional unit), which might not fully capture the long-term effects of flipped learning on students' reading skills. In addition, students' perceptions were collected through questionnaires, in-depth qualitative insights such as interviews or classroom observations were not included.

For future study, it is recommended to:

1. Conduct longitudinal studies involving multiple schools and a larger sample size;
2. Explore the impact of flipped learning on other language skills such as writing or speaking;
3. Incorporate qualitative methods to provide deeper insights into students' learning experiences and challenges;
4. Investigate how individual student characteristics (e.g., motivation, learning style, digital literacy) interact with flipped learning environments.

Regarding these aspects above, future studies can provide a more comprehensive understanding of how flipped learning supports language acquisition in diverse educational settings.

REFERENCES

- Al-Harbi, S., & Alshumaimeri, Y. (2023). Flipped learning for EFL reading: An analytical study of Saudi middle school learners. *Journal of Language Teaching Research*, 14(2), 155–168.
- Al Rowais, A. (2022). Learner autonomy in flipped classroom: voices from ELF learners. *International Journal of Instruction*, 15(1), 21–36.
- Brown, H. D. (1995). Teaching by principles: An interactive approach to language pedagogy. In *Prentice Hall Regents*.
- Chen, Y.-L., & Yang, S. C. (2021). Enhancing EFL students' learning motivation and self-efficacy through a flipped writing class. *Educational Technology & Society*, 24(1), 150–163.
- Chen Hsieh, J. S., Wu, W. C. V., & Marek, M. (2020). Using the flipped classroom to enhance EFL learning. *Computer Assisted Language Learning*, 33(5–6), 418–442.
- Febriyanti, M. P., Bektiarso, S., & Maryani, M. (2023). The effect of the flipped classroom model assisted Google Classroom on learning result and student's responses in subject straight motion dynamics in senior high school. *Journal of Social Research*, 3(1), 84–94. <https://doi.org/10.55324/josr.v3i1.1661>
- Kakarougkas, A., & Abdellatif, R. (2022). A flipped classroom approach and digital learning in an undergraduate molecular biology course. *Journal of College Science Teaching*, 51(33), 43–50.
- Lo, C. K., & Hew, K. F. (2019). The impact of flipped classrooms on student achievement in engineering education: A meta-analysis of 10 years of research. *Journal of Engineering Education*, 108(4), 523–546. <https://doi.org/10.1002/jee.20293>
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., & Sahu, C. (2019). Descriptive statistics and normality test for statistical data. *Annals of Cardiac Anaesthesia*, 20(4), 437–441.
- Nguyen, T., Netto, C. L. M., Wilkins, J. F., et al. (2021). Online teaching and learning strategies: A practical guide. *Education and Information Technologies*, 26, 703–734.
- Osman, N., Mohd Noor, S. S., Che Hat, N., Mohmad Rouyan, N., Mat Saad, K. N. (2023). Students' Acceptance of Flipped Learning Through Google Application. *Online Journal of Communication and Media Technologies*, 13(4).
- Pandero, E. (2017). A review of self regulated learning: Six models and four direction for research. *Frontiers in Psychology*, 8, 422.
- Qiaoying Yang & Chongbin Chen. (2024). The effectiveness of flipped classroom on autonomous learning ability: a meta-analysis. *Asia Pasific Education Review*, 22(4). <https://doi.org/10.1007/s12564-024-10013-2>
- Setiawan, A., Asib, A., & Drajadi, N. A. (2022). The effectiveness of flipped classroom to foster reading comprehension in EFL context. *Asian EFL Journal*, 29(3), 80–101.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Zainuddin, Z., & Halili, S. H. (2016). Flipped classroom research and trend from different fields of study. *International Review of Research in Open and Distributed Learning*, Vol. 17, N, 313–340.