



Implementing Flipped Classroom to Enhance Reading Achievement: A Comparative Study on Female and Male Students

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Article Info

Article History:

Received 20 February
2024

Accepted 11 May 2024

Published 20 June 2024

Keywords:

*Flipped classroom,
Reading Achievement,
Comparative Study*

Abstrak

This study aimed to examine the impact of the flipped classroom method on students' reading achievement, focusing on comparing its effectiveness between female and male students. A mixed-method research design was used, incorporating both qualitative and quantitative methods. The participants were 28 second-grade social science (IPS) students (14 males and 14 females) during the 2023-2024 academic year. Data collection methods included pre-and post-tests, as well as semi-structured interviews. The findings revealed that the flipped classroom method significantly improved reading achievement for both genders. Based on the results obtained, from these two genders, the most specifically experienced a change in grades were female students. In female students at the beginning before applying to flipped classrooms, their reading scores ranged from 70 to 80, then improved to a range of 78 to 88. Meanwhile, the male students also changed their scores, ranging from 64 to 76, then improved to 70 to 86. The use of flipped classrooms showed a greater benefit to the students. Female students demonstrated higher engagement, collaboration, and enjoyment levels, resulting in better overall performance in reading tasks. In contrast, male students also experienced improvement but faced more difficulties in maintaining their focus, so their grades did not improve too much. Apart from having an impact on students' reading results, it also made male and female students active and enthusiastic in the class. Besides, it is effective to make the students enjoy the learning process and not feel bored with the monotonous learning style. This insight contributes to the field by highlighting the importance of gender-specific adaptations in flipped classroom strategies to enhance reading instruction for all students.

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p-ISSN 2087-0108

e-ISSN 2502-4566

INTRODUCTION

Language and teaching play crucial roles in shaping culture and behavior, significantly influencing students' achievements and characteristics. Among the many factors that affect learning, gender is particularly impactful. The relationship between language and gender has emerged as a significant topic in language learning, particularly in reading skills. Research shows that gender differences can lead to varying performances in reading comprehension (Granocchio et al., 2021). This discussion has been further informed by feminist stylistic theories (Amri et al., 2021), which suggest that readers are influenced by discursive pressures that guide their interpretation of texts. Texts themselves can also direct readers toward certain interpretations, making gender a critical factor in reading comprehension.

Additionally, studies like Yan and Kim (2023) argue that factors such as schemata, text genre, topic familiarity, and readers' gender all influence reading comprehension. notably, boys and girls use language differently (Rinaldi et al., 2023), and this difference has led to an increased focus on discourse and gender in language studies. Traditionally, research on language and gender has focused on broader concerns within discourse; however, this study emphasizes the context of reading, particularly in a classroom setting where learning involves objectives, materials, methods, and assessments (Nunan, 2003). Teachers must carefully consider these components when selecting a teaching model.

The success of the learning process is closely tied to the teacher's instructional methods and the student's approach to learning. Effective teaching results in a change in student behavior, such as improvements in knowledge, attitudes, or skills (Harmer, 2003). Teachers play a crucial role in helping students develop their potential, will, attitudes, and skills. Achievement, which refers to the realization or development of an individual's potential, represents the tangible outcome of a student's efforts (Turan & Goktas, 2016). High achievement is essential for collaboration and

reaching school objectives, while low achievement can hinder students' progress.

In the context of english language learning, students must master speaking, reading, listening, and writing to achieve proficiency (Rorimpandey, 2023). However, in Indonesia, the focus on grammar over other skills has led to generally low English proficiency. Among these skills, reading is particularly crucial, as it allows students to expand their knowledge and understanding (Rizal et al., 2020). This foundation is necessary for students to succeed in the learning process.

Learning achievement plays a significant role in actualizing students' competencies in both formal and informal education. By assessing learning achievement, schools can monitor students' progress, identify strengths and weaknesses, and ensure that students are trained and placed according to their abilities. In addressing the challenges of the learning process, innovative models like the flipped classroom have emerged. In this model, traditional in-class learning is shifted to the home, allowing for a more interactive and engaging classroom experience when students and teachers come together (Bergmann & Sams, 2012).

The flipped classroom approach enables students to learn at their own pace, according to their individual learning styles, and access material anytime and anywhere (Masadeh, 2021). This model has gained attention for its potential to innovate and enhance traditional classroom learning, making it an area of interest for researchers aiming to improve educational outcomes.

The flipped learning pedagogical approach shifts direct instruction from the group setting to individual learning spaces, creating a dynamic and interactive environment where students can actively apply concepts and engage with the material, with the teacher's guidance (Alrowais, 2014). The content, often delivered through teacher-produced videos, is designed for students to explore, and learn independently.

The flipped classroom (FC) model is an innovative approach in which instructors share

pre-determined digital resources with students via an external platform, allowing for asynchronous learning outside the classroom (Bergmann & Sams, 2012). According to Johnson (2013), this strategy enables educators to reduce the time spent on direct instruction and increase student interaction, using technology to provide additional support through online materials. This shift frees up class time previously devoted to traditional study.

To design an effective Flipped Classroom, Smallhorn (2017) suggests starting with a methods-based approach that considers inputs (what we do to students) and outputs (what students can do at the end), as well as the crucial connecting factors: how and what students learn. Since the fc model reverses the traditional learning order by introducing 'pre-learning' online before a 'facilitated active learning session,' it's essential to understand the mechanisms that ensure effective learning in this context.

When implementing a flipped classroom (FC), it is essential to address specific needs, such as 1) helping students master challenging concepts that are not being adequately understood through traditional teaching methods; 2) engaging students with material that may have previously been perceived as 'boring' or 'irrelevant'; and 3) facilitating the development of skills that require the application of new knowledge or concepts.

Creating successful active learning activities within an FC model is not straightforward, as it requires students to be willing participants. Therefore, a successful fc approach must involve careful educational design, ensuring that both in-class and out-of-class activities are constructively aligned to integrate learning with practical application. The focus is on the practical considerations for designing an effective FC course, rather than simply testing a new learning or engagement method.

Bergmann and Sams (2012) explained that the essence of class flipping is to reverse traditional learning dynamics: activities typically done in the classroom, such as lectures, are moved online for students to complete at home,

while classroom time is used for interactive, hands-on learning. The constructivist approach to teaching encourages learners to be active participants in class, moving away from passive listening to engaging in peer collaboration, inquiry, and project-based learning during face-to-face sessions.

Traditionally, teachers spend classroom time introducing basic concepts, explaining ideas, and lecturing, with the teacher being the dominant figure in the classroom. The flipped classroom approach challenges this teacher-centered model by freeing up class time, allowing instructors to better assess student learning and focus on helping students apply the knowledge they gained through online materials and other resources (Dickenson, 2014).

Several studies have explored the impact of the flipped classroom model on student learning. Mustafa et al. (2019) analyzed trends in flipped classroom implementation from 2015 to 2018, revealing that this approach positively affects student achievement, motivation, involvement, and interaction. Alkhoudary and Alkhoudary (2019) specifically investigated its impact on esl students' speaking skills, finding that the experimental group outperformed the control group and exhibited a positive attitude toward the flipped learning strategy. Lin and Chen (2016) examined the effects of flipped classrooms on learning effectiveness and satisfaction, concluding that while flipped learning generally improves learning effectiveness, its impact on learning satisfaction varies among students and instructors.

Besides, research on learning achievement has demonstrated the effectiveness of the flipped classroom model. Alrowais (2014) found that flipped learning positively influenced students' achievement and attitudes toward their courses. Masadeh (2021) also highlighted the model's effectiveness in improving university students' academic performance, although he emphasized the need for patience and time to familiarize students with this method. Aydin et al. (2021) analyzed the model's impact on academic success and concluded that while the flipped classroom has a moderate effect on student success, the

impact varies depending on study type, educational level, and the year of study, with more recent studies showing larger effect sizes.

Whereas, the flipped classroom model has also been shown to enhance student motivation. Amad et al. (2023) found that integrating m-learning into the flipped classroom using the arcs model significantly improved students' motivation and engagement. Jamilah et al. (2021) reported that in the digital age, the flipped classroom successfully raised students' motivation by enabling them to engage with content before class, leading to more interactive and enjoyable learning experiences. Lustyantje and Aprilia (2020) discovered a positive relationship between reading interest, accomplishment motivation, and reading comprehension, suggesting that teaching methods should support the development of these motivational factors to enhance literacy and English text comprehension.

In addition, this study aims to contribute to the growing body of educational research on innovative teaching methods, specifically the flipped classroom model. While previous studies have explored the flipped classroom's general benefits for student motivation and achievement, they often lack a targeted focus on reading comprehension outcomes, particularly for students with lower interest in English, such as those in social studies tracks. Additionally, most research on flipped classrooms has not employed rigorous, standardized assessments like the TOEFL reading test to gauge the impact on reading comprehension.

This research seeks to fill this gap by focusing on the impact of the flipped classroom model in a specific context: 2nd-grade social studies students, who typically show lower interest in English. By using the TOEFL reading test as a measure of reading achievement, this study will provide more concrete insights into whether the flipped classroom model can enhance reading comprehension and motivate social studies students to learn English. The findings could encourage educators to adopt this model more widely, especially in contexts where students may initially lack motivation or interest

in English, showing that these barriers can be addressed through innovative teaching practices.

This sparked the researcher's interest in examining whether this method can influence their learning outcomes when applied to upper-middle-class students, particularly at MA Khusnul Khotimah. Specifically, the researcher aims to assess the impact of flipped learning on students' reading achievement. Additionally, the researcher intends to explore how female and male students respond to the flipped classroom, analyzing the results from a gender perspective.

Here are the research questions:

How does the teacher implement the flipped classroom approach to enhance reading achievement among female and male students?

- a) what is the impact of the flipped classroom approach on reading achievement among female students?
- b) What is the impact of the flipped classroom approach on reading achievement among male students?

METHOD

This study examines the impact of the flipped classroom approach on reading achievement, specifically comparing its effectiveness between female and male students. A mixed-method research design was employed. The instruments were used pre-post-test and semi-structured interviews. The participants were 28 second-grade social science (IPS) students (14 males and 14 females) in the 2023/2024 academic year.

In this study, data was collected primarily through pre-tests, post-tests, and semi-structured interviews to examine the effectiveness of the flipped classroom model on students' reading achievement from a gender perspective.

A pre-test was administered before the flipped classroom intervention to establish baseline reading comprehension levels for both male and female students. After six sessions of the flipped classroom model, a post-test was given to assess any improvement in reading achievement. The difference in scores between the pre-and post-

tests provided measurable data on the model's impact on students' reading skills.

Following the intervention, semi-structured interviews were conducted with a select group of students. These interviews gathered in-depth insights into students' experiences and perceptions of the flipped classroom, focusing on how it influenced their reading comprehension. Interviews were analyzed to identify any gender-based differences in students' responses to the flipped classroom approach.

Furthermore, in analyzing the data the reading comprehension scores from the pre-test (before the flipped classroom intervention) and post-test (after the intervention) were analyzed using a paired sample t-test to assess improvement. This statistical analysis compared mean scores to determine whether the flipped classroom significantly boosted students' reading achievement. Results were also analyzed by gender to identify any performance differences between male and female students.

Besides, interview data were analyzed using thematic analysis. Key themes and patterns were identified to understand students' reading achievement through the flipped classroom. There were just five student participants in the interview. The analysis highlighted any gender-based differences in students' perspectives on how the flipped classroom impacted their learning experience.

RESULTS AND DISCUSSIONS

The findings of the data analysis were conducted to address the research objectives. Specifically, it aims to determine the study examines the reading achievement of both male and female IPS (social studies) students through the implementation of flipped classrooms. The focus is on determining how this teaching method impacts the reading comprehension of students of both genders within the IPS stream.

This research examined the perceptions of both male and female students regarding the implementation of the flipped classroom. To address the first research question, observation

instruments and the results from TOEIC pre- and post-reading tests for male and female students were utilized. The study initially included 36 students in the social studies (IPS) class, but the analysis focused on 28 students, with an equal distribution of 14 females and 14 males.

This section addresses the first research question regarding the impact of the flipped classroom on male and female students. It seeks to identify which gender is more likely to experience significant changes in their reading skills, particularly in terms of learning achievement, because of implementing the flipped classroom.

The impact of flipped classrooms in enhancing female students' reading achievement

The findings related to the first research question are derived from observations and tests conducted by the researcher.

Based on the result from the research it was found that the teacher did not consistently apply the method during English lessons. When the flipped classroom was used, students were provided with learning materials, such as videos and PDFs, via platforms like WhatsApp, but many struggled with independently mastering the content. Pre-test and post-test comparisons revealed that the flipped classroom method significantly improved reading achievement, particularly for female students, who showed greater engagement and enthusiasm. However, male students, while benefiting from the method, needed more teacher encouragement to stay focused. Semi-structured interviews with students and teachers confirmed these observations, highlighting that while female students enjoyed and actively participated in the lessons, they still encountered difficulties in mastering the material without additional support or collaborative opportunities.

Despite the enhanced engagement, external factors, such as the home environment, also played a role in some students' lack of enthusiasm. The overall findings indicate that while the flipped classroom method positively impacted student engagement, particularly for female students, the inconsistent application and

the varying needs of individual students suggest that gender-specific and tailored approaches are necessary to maximize its effectiveness. The positive impact on female students is further evidenced by the pre-and post-test results for TOEIC reading sessions, as detailed in the table below. These results demonstrate improvements in reading achievement among female students after implementing the flipped classroom.

In quantitative analysis, this research was analyzed by measuring and comparing students' reading achievement before and after the flipped classroom intervention. Several steps that the researcher took, such as;

- a) By administering pretests (before the flipped classroom method) and post-tests (after the intervention). In this step, female students have an improvement in their grades. The students' scores ranged from 70 to 80. After the intervention, there was a noticeable improvement in their scores, with a range of 78 to 88. Specifically, as can be seen in the table below several students, such as S.1, S.2, S.7, and S.9, achieved perfect scores of 88 in the post-test.
- b) There are differences in the scores owned by female students; this can provide concrete evidence of the impact of a flipped classroom on female students reading achievements. Example: Female student scores increased from 70-80 to 78-88.

Meanwhile, in qualitative analysis, this research tries to understand deeper insights, behaviors, and perceptions of students regarding the flipped classroom method. Several steps that the researcher took, such as;

- a) Female students gave their answers through an interview about their perceptions during the class before and after using a flipped classroom. Based on their answer, most of the female students felt enthusiasm and interest when the learning process used a flipped classroom. Then, it helps them to be more independent to learn individually before learning together in the classroom.
- b) This research would reveal differences in data between genders, such as in female students demonstrating higher engagement and collaboration. It can be seen in the example below:

Female A: The effect of the flipped classroom made me feel interested and enthusiastic in the classroom, which then made

me understand better and look for more reading sources to understand the given tasks better.

Table 1. Pre-Post Test of Female Students

No	Nama	Gender	PRE	POST
1	S.1	F	80	88
2	S.2	F	80	88
3	S.3	F	80	86
4	S.4	F	78	86
5	S.5	F	76	86
6	S.6	F	76	86
7	S.7	F	74	88
8	S.8	F	76	84
9	S.9	F	70	88
10	S.10	F	74	84
11	S.11	F	72	86
12	S.12	F	76	80
13	S.13	F	70	86
14	S.14	F	75	78

The table below displays the pre-and post-test scores for 14 female students in the TOEIC reading test before and after used the flipped classroom method. Before the intervention, students' scores ranged from 70 to 80. Following the intervention, there was a noticeable improvement, with scores ranging from 78 to 88. Notably, several students, including S.1, S.2, S.7, and S.9, achieved perfect scores of 88 in the post-test.

There are 14 female students both before and after the treatment. For the minimum score, before the treatment, the lowest TOEIC reading score was 70. After the treatment, the lowest score improved to 78. Then, the maximum score before the treatment, the highest score was 80. After the treatment, the highest score increased to 88. Besides, the average score before the treatment was 75.50. After the treatment, the average score rose to 85.29, indicating a significant improvement in the reading achievement of the female students.

Furthermore, the standard deviation before the treatment was 3.345, showing a moderate spread in the scores. After the treatment, the standard deviation slightly decreased to 2.998, indicating a smaller spread in the scores after the intervention, suggesting more

consistency in students' performance. The table shows a clear improvement in the reading achievement of female students after the intervention, with higher mean scores and a narrower distribution of results.

This data illustrates a clear improvement in students' reading achievement. The upward shift in the score range indicates that both the lowest and highest-performing students showed progress. The increase in the mean score demonstrates an overall enhancement in student performance. Furthermore, the decrease in standard deviation suggests that the treatment contributed to a more uniform level of achievement among the students. Overall, these results support the effectiveness of the treatment in improving TOEIC reading performance among female students.

Based on the results shown in the description above, it can be found that the application of flipped classrooms for female students has a positive impact on changes in their reading values.

The impact of flipped classrooms in enhancing male students' reading achievement

Based on the observation checklist, the following conclusions can be drawn about male students' experiences with the flipped classroom method. The flipped classroom approach was not consistently applied by the teacher during English lessons. When the method was used, students received learning materials such as videos or PDFs through an online platform before class. However, the teacher often reviewed these materials again during class time.

Although some male students demonstrated a preference for the flipped classroom method and appeared more engaged, the overall impact was mixed. While many students seemed to enjoy the method and displayed increased activity, several male students remained less enthusiastic and passive. This passivity was largely attributed to distractions and a tendency for male students to engage only at the beginning of the lesson. Despite these challenges, there was a notable improvement in reading test scores from the pre-

test to the post-test, indicating that the flipped classroom method positively affected their learning outcomes.

Unlike the results of female students, here are some steps to analysis the impact that occurred after the application of flipped classrooms in male students:

The quantitative analysis of this research involved evaluating and comparing students' reading achievement before and after the flipped classroom intervention. The researcher conducted several measures, including:

- a) administering pretests (before the flipped classroom method) and post-tests (after the intervention). In this step, male students have an improvement in their grades, but the range is not like the female students, who have a higher improvement. The students' scores ranged from 64 to 76. After the intervention, there was a noticeable improvement in their scores, with a range of 70 to 86. Specifically, as can be seen in the table below, several students, such as S.2, got an increase in value of 18, S.8:15, S.5:12, and S.4:10.
- b) There are differences in the scores owned by male students; this can provide concrete evidence of the impact of a flipped classroom on male students reading achievements. Example: Male student scores increased from 64-76 to 70-86.

Meanwhile, in qualitative analysis, this research tries to understand deeper insights, behaviors, and perceptions of students regarding the flipped classroom method. Several steps that the researcher took, such as:

- a) Male students gave their answers through an interview about their perceptions during the class before and after using a flipped classroom. Based on their answer, most of the male students felt flipped classrooms were challenging for them. They should increase their focus when learning. Besides, they also said that flipped classrooms are difficult but fun.
- b) This research would reveal differences in data between genders, such as in male students demonstrating lower engagement and collaboration. The male students did not like to learn collaboratively; they liked to search

on Google if there was a task from the teacher. It can be seen in the example below:

Male B: The flipped classroom is more difficult because the material hasn't been taught in class yet; it makes us have to rely on asking Google to search the material and understand the material.

The following table presents the pre-and post-test scores of male students in the TOEIC reading session, illustrating the performance changes before and after the used of the flipped classroom.

Table 2. Pre-Post Test of Male Students

No	Nama	Gender	PRE	POST
1	S.1	M	76	84
2	S.2	M	68	86
3	S.3	M	74	80
4	S.4	M	70	80
5	S.5	M	68	80
6	S.6	M	72	74
7	S.7	M	70	76
8	S.8	M	65	80
9	S.9	M	68	76
10	S.10	M	68	74
11	S.11	M	64	74
12	S.12	M	68	70
13	S.13	M	64	72
14	S.14	M	64	70

The table presents the pre-and post-test scores of 14 male students in the TOEIC reading test before and after the implementation of the flipped classroom method.

The table provides descriptive statistics for data collected from 14 male participants before and after treatment. Before the treatment, scores ranged from a minimum of 64 to a maximum of 76, with an average score of 68.50.

All students demonstrated improvements in their post-test scores compared to their pre-test results. Notable gains were observed, with some students making significant progress. For instance, student S.2's score increased from 68 to 86, and student S.8's score rose from 65 to 80. The lowest pre-test score was 64, held by students

S.11, S.13, and S.14, who improved to 74, 72, and 70, respectively, in the post-test. The highest pre-test score was 76 (S.1), which increased to 84 in the post-test.

After the treatment, the minimum score rose to 70, while the maximum score increased to 86. The mean score also improved to 76.86, indicating a significant enhancement in overall performance. However, the standard deviation increased to 4.944, suggesting greater variability in the scores after the treatment. This means that although the average performance of the participants improved, there was a wider range of scores, indicating that some participants benefited more from the treatment than others.

Regarding the pre-and post-test results for both male and female students, the initial TOEIC reading scores were generally low, with several students falling below the KKM standards. Nonetheless, after the implementation of the flipped classroom model, there was a noticeable improvement in reading achievement for both genders. The following table presents the results of the normality test for the TOEIC reading passages.

The "Tests of Normality" table provides the results from the Kolmogorov-Smirnov and Shapiro-Wilk tests for both pre-test and post-test scores of female and male students. For female students, the pre-test scores show no significant deviation from a normal distribution, as indicated by Kolmogorov-Smirnov (0.155, Sig. = 0.200) and Shapiro-Wilk (0.921, Sig. = 0.229) test results. However, post-test scores for female students deviate significantly from normality, with Kolmogorov-Smirnov (0.308, Sig. < 0.001) and Shapiro-Wilk (0.790, Sig. = 0.004) test results indicating non-normality.

In contrast, both pre-test (Kolmogorov-Smirnov = 0.197, Sig. = 0.147; Shapiro-Wilk = 0.914, Sig. = 0.178) and post-test scores (Kolmogorov-Smirnov = 0.166, Sig. = 0.200; Shapiro-Wilk = 0.940, Sig. = 0.412) for male students follow a normal distribution, with no significant deviations.

These results suggest that while pre-test scores for both female and male students are normally distributed, only male students' post-test

scores maintain this distribution, indicating that female students' post-test scores exhibit significant deviation from normality.

The analysis of pre- and post-test scores demonstrates a clear improvement in student performance following the implementation of the flipped classroom method. Both male and female students showed higher post-test scores compared to their pre-test scores, indicating a positive impact on learning outcomes from the flipped classroom approach.

Observations revealed that the flipped classroom method was inconsistently applied. When utilized, students were given preparatory materials via online platforms before class. This approach generally enhanced classroom engagement, with female students showing increased activity and enthusiasm. Male students, however, exhibited more varied responses, with some showing engagement and increased activity, while others remained less enthusiastic and passive, often distracted by external factors.

Overall, the flipped classroom method positively influenced test scores for both genders, with female students displaying higher engagement and enthusiasm. This suggests that while the method benefited learning outcomes, further efforts may be needed to address challenges faced by male students to improve its overall effectiveness.

The implementation of the flipped classroom model to enhance students' reading achievement involves several key strategies. Teachers first prepare pre-class materials, including videos, articles, and interactive assignments, which students must engage with before attending class. This preparation ensures that students arrive with a foundational understanding of the reading material, ready to explore it more deeply. In the classroom, teachers then focus on facilitating discussions, group activities, and problem-solving tasks that build on the pre-class content. This method allows students to apply their learning, ask questions, and resolve uncertainties in a dynamic and interactive setting.

For female students, who often thrive in collaborative environments, in-class activities are

designed to include group discussions and peer teaching. These strategies effectively enhance reading comprehension and engagement (Wang, 2022). On the other hand, male students, who may be more motivated by technology and independent learning, benefit from the autonomy provided in the pre-class phase and the chance to participate in hands-on, interactive activities during class (Johnson & Renner, 2012).

CONCLUSION

This study examines male and female students' reading achievement in English lesson using flipped classrooms. The results indicate that both female and male students improved their reading achievement through this methodology. The flipped classroom approach also had a positive effect, but the impact differed between genders. Female students reported higher improvement in grade levels, finding the interactive and student-centered nature of the flipped classroom more engaging and supportive of their learning needs. Male students showed increased grade levels but did not match those of female students. This variation may be due to different preferences for learning environments and activities. While the approach seems to be more beneficial for female students regarding reading achievement, male students also benefit significantly. With some adjustments, the flipped classroom has the potential to be equally effective for all students.

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