

Fostering Secondary Students' Reading Performance through Flipped Classroom Model

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ABSTRACT: This action research study is a summary of a MA thesis, aiming to investigate the impact of the flipped classroom model on improving students' reading performance. The researchers implemented the intervention with 35 Grade 8E students at junior high schools in Vietnam. Both qualitative and quantitative data were collected using pre-and post-tests, questionnaires and semi-structured interviews. The findings indicated that the flipped classroom model contributed to enhancing students' reading performance. Data from the KET A2 reading test revealed significant improvements in students' learning outcomes across the pre-test, progress test, and post-test. In addition, a specially designed questionnaire was administered to examine changes in the components of students' attitudes at the conclusion of the intervention, including the cognitive, affective, and behavioral components. Furthermore, a semi-structured interview which was conducted with four students identified as having weaker reading skills to further explore their reading performance after the intervention. Based on the results, the researchers provided recommendations for teachers and students on implementing the flipped classroom model to foster reading performance among students.

KEYWORDS: Reading performance, Flipped classroom model, Students' attitudes, Improvements, Learning outcomes

I. INTRODUCTION

Reading skills in secondary school teaching environments are essential for helping students grasp the content and meaning of each learning topic. However, [1] argue that students can only become successful readers and improve their reading skills when they are fully equipped with vocabulary and grammar by their teachers. Similarly, [2] emphasizes that reading skills play a crucial role in enabling learners to collect relevant data by responding to questions. In addition, effective reading skills are necessary for learners to accomplish tasks related to both work and study. [3], when engaging in the reading process, students often focus on two main types of texts: reading for entertainment and reading for information. Regardless of the reading purpose, [4] asserts that the essence of reading lies in receiving and comprehending the core information the text aims to convey, rather than merely engaging in the mechanical decoding of written words.

The Flipped Classroom Model (FCM) originated in Western countries, particularly the United States, about 10–15 years ago, and has since been widely adopted across all educational levels and in various countries, including Vietnam. Unlike the traditional model of “listening in class” and “solving problems at home,” FCM reverses the process to “learning at home” and “active practice in class” [5]. This approach fosters students' autonomy in lesson preparation, increases classroom interaction, and enhances problem-solving opportunities, thereby creating an engaging learning environment. In Vietnam, FCM has been encouraged at all levels highlighting its potential in adapting teaching to the context of global integration.

The aim of this study is to examine how the FCM can help secondary school students improve their reading performance. It seeks to enhance students' reading skills by providing specific teaching strategies that promote a student-centered learning environment through practical approaches. The study also aims to contribute to the ongoing development of innovative teaching methods aligned with the 2018 General Education Program. The main research questions are: (1) *To what extent does the use of FCM enhance students' reading performance?* and (2) *What are students' attitudes toward using FCM to foster their reading performance at Hung Vuong Junior High School?*

II. LITERATURE REVIEW

2.1. Theoretical framework

The methods discussed in this study aim to clarify key aspects of the Flipped Classroom Model (FCM), with its successes explained through its perception as an effective teaching approach. Grounded in constructivist theory, the researchers employed strategies that position students at the center of the learning process, encouraging them to solve problems they pose themselves [6].

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Students prepare lesson content in advance, as directed by the teacher, enabling them to build new knowledge upon their prior understanding [7]. In this model, “direct instruction moves from the individual space to the group space, resulting in the group space becoming a dynamic interactive space” [8].

In FCM, the skills of remembering and understanding are developed at home without teacher supervision, typically through instructional videos provided in advance. This preparation ensures classroom activities can focus on higher-order skills. The model helps students adapt to new learning environments [10] and positively influences cognitive load through factors such as learning outcomes, prior knowledge, and learning context [11]. From a cognitive load theory perspective, pre-class preparation addresses intrinsic load (theoretical content), reducing extraneous load during in-class activities [12].

These theoretical foundations support FCM's potential to foster students' reading performance and guide the design and implementation of the classroom model. Within this framework, the study emphasizes three main outcomes: online learning at home, in-class practice of reading skills, and assessment through testing. The detailed activities are presented in the following sections.

2.2. Previous studies

Reading comprehension is an essential skill for accessing written texts. Readers need to construct a text-based mental representation, or a model, that connects the information in the reading topic with the content of the text [11]. [13] also noted that strong reading ability enables learners to feel more confident when learning English. Proficient reading performance enhances learners' confidence in participating in today's educational environment. [14] stated, “Not being able to either read or comprehend will result in a deep sense of detachment and uselessness.”

In another study, [15] confirmed the effectiveness of the Flipped Classroom Model (FCM) during the COVID-19 pandemic in implementing English reading practice activities for students. Based on 56 survey responses, the results indicated positive effects on improving reading performance, although the findings were limited to simple empirical evidence from a specific class. Furthermore, [16] highlighted students' improved reading proficiency through FCM, noting that video-based pre-reading activities provided beforehand enhanced their comprehension and acquisition of diagram-related content. The model, therefore, has the potential to transform learners' experiences depending on its implementation and delivery methods.

[17] introduced project-based teaching within the Flipped Classroom Model (FCM) to develop self-study competency for students of the Faculty of Information Pedagogy at Pham Van Dong University, supported by the Google Classroom tool. The results indicated that this combination fostered learning engagement, improved outcomes, and enhanced students' self-study competencies and skills. Similarly, [18] applied FCM to shift learners' attitudes and perspectives in alignment with the general education program, with the aim of improving academic performance.

In another study, [19] implemented FCM in online English reading instruction for 52 11th-grade students, requiring them to study video materials at home. The findings showed positive changes in both performance and attitudes during the learning process. Likewise, [20] reported that FCM fostered learners' reading performance, strengthened their motivation through self-awareness, and improved their basic software-related problem-solving skills.

In conclusion, the FCM fosters and enhances students' reading performance by encouraging them to prepare lessons through instructional videos before class, enabling active engagement with reading topics during class sessions. Beyond enhancing reading skills, FCM also cultivates learners' initiative and adaptability throughout the learning process.

III. RESEARCH METHODOLOGY

This mixed-methods study examined the impact of Flipped Classroom Model (FCM) instruction on the reading comprehension performance of Grade 8E students at Hung Vuong Junior High School. Both quantitative and qualitative methods were employed to explore how FCM influences students' reading performance and engagement with reading topics. The quantitative component followed an intact classroom design based on Burns' action research model [23]. Participants were 35 students from Class 8E, of whom 15 scored below 6 in the initial reading proficiency assessment. FCM-based reading instruction was delivered over 10 weeks, with two periods per week ($n = 35$). Teaching activities followed four steps in Burns' action research cycle: planning, action and observation, and reflection.

Assessments were designed to measure reading comprehension abilities at the KET A2 level, aligning with the subject's learning objectives and students' language proficiency. The evaluation criteria include: vocabulary, grammar structures, understanding of the overall content of the reading, ability to locate specific information, and ability to reason about the content. SPSS (Statistical Package for the Social Sciences) was used to analyze quantitative data from the pre-test, progress test, and post-test [24]. This systematic approach provided both statistical and empirical evidence of the intervention's effect on students' reading performance.

To complement the quantitative findings, the study incorporated a qualitative component consisting of semi-structured interviews with four students from the class participating in the action research model. These interviews explored students' perceptions of the usefulness and applicability of the FCM model, their actual use of FCM-based reading topic knowledge in reading comprehension activities, and their personal reflections on motivation, expectations, and classroom organization. The transcribed

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data were analyzed thematically using a six-step framework [25] for thematic analysis: (1) familiarizing with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) reporting. This systematic process ensured that the analysis fully captured the individual perspectives of the learners.

In addition, the study supplemented the intervention research with two questionnaires administered before and after the intervention to examine three components of learners' attitudes: cognitive, affective, and behavioral [24]. The collected data were statistically analyzed based on the percentage distribution of responses to each question.

IV. FINDINGS AND DISCUSSION

4.1. Descriptive statistics of Pre- and Progress, Post-test scores

The study employed the KET A2-level reading comprehension test (maximum score: 25). For the purposes of the thesis, these criteria were converted to a 10-point scale, comprising 25 multiple-choice questions and 5 short-answer questions to assess students' reading comprehension performance. Pre-, progress-, and post-intervention tests were administered to the class following the action intervention model. Descriptive data are presented in Table 1.

Table 1. Descriptive Statistics for Pretest, Progress, and Posttest Scores in the Action Intervention Model

	N	Minimum	Maximum	Mean	Std. Deviation
Pre - test	35	5.00	8.50	6.5286	.95442
Progress – test 1	35	5.50	9.00	7.1000	.93777
Progress – test 2	35	6.00	9.50	7.6429	.95156
Progress – test 3	35	6.50	10.00	8.1857	.93215
Post - test	35	7.00	10.00	8.6714	.89066

Thus, the comparative assessment results across the tests confirmed that FCM had a positive impact on students' reading performance:

In the pre-test (maximum score = 8.5), the mean score was 6.53. The frequency distribution showed that 13 students (48.52%) were at the “Average” level, while 48.51% were at the “Good” level. This result reflects the students' reading performance prior to the application of the flipped classroom model, based on both their general foreign language proficiency and their specific reading abilities.

Through the three progress-test evaluations, the researchers found that students' scores changed significantly. The minimum scores achieved were 5.5, 6.0, and 6.5, while the maximum scores were 9.0, 9.5, and 10, respectively. The frequency distribution of scores showed a positive trend influenced by the flipped classroom model used to foster reading performance, with an increasing number of students in the “Excellent” group. In Progress Test 1, two students achieved “Excellent” scores; in the following two tests, the number increased by four and ten students, respectively. Similarly, the number of students achieving “Very Good” scores also increased across the three evaluations, with 6, 8, and 14 students, respectively. Meanwhile, the number of students in the “Good” group decreased to 21, 20, and 11 students across the three assessments. Notably, in the four progress test, no students scored in the “Average” group.

Finally, the post-test results showed a marked positive shift: 16 students (45.71%) achieved the “Very Good” level, while 37.14% reached the “Excellent” level. The standard deviation values ($SD < 1$) indicated consistent and reliable performance gains, confirming that the flipped classroom model significantly enhanced students' reading performance.

4.2. Comparison results of paired reading performance

These criteria were developed based on the A2 scale and converted to a 10-point scale to assess specific aspects of reading performance, as shown below:

Table 2. Criteria for assessing students' reading performance

Criteria	Excellent (2 points)	Pass (1 points)	Need fostering (0.5 points)	Not achieved (0 points)
Understand the overall content of the reading.	Understand the main idea of the reading passage.	Understands the main idea but misses some small ideas in the reading, including 1–2 errors.	Only grasps some main ideas about keywords in the reading content.	Cannot grasp the main idea of the reading.

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Find specific information	Identify specific information in the reading.	Finds most of the main information but misses 1–2 ideas in the reading.	Only finds some information, but some of it is confusing regarding the reading requirements.	Reading information is not determined.
Ability to reason about the content.	Understand and make basic inferences related to the reading topic.	Understand but only infer the basic content.	It is understandable, but some of the reasoning is still confusing.	Not able to infer the content of the reading.
Structure	Understand the structure and grammar that need to be used.	Understand most basic structures.	Understand but still confused about sentence structure.	Not yet able to infer internal sentence structure.
Vocabulary	Understand the meaning of vocabulary in the context of the reading.	Understand familiar vocabulary.	Understand but some vocabulary is still confusing.	Don't understand vocabulary.

The results of the criteria evaluation were specified as follows:

Table 3. Reading performance assessment results of 8E grade students

	N	Minimum	Maximum	Mean	Std. Deviation
Understand pre – test	35	1.0	2.0	1.514	.4453
Understand progress – test 1	35	1.0	2.0	1.671	.2956
Understand progress – test 2	35	1.5	2.0	1.757	.2535
Understand progress – test 3	35	1.5	2.0	1.843	.2355
Understand post – test	35	1.5	2.0	1.943	.1614
Find specific pre – test	35	0.5	2.0	1.214	.3695
Find specific progress – test 1	35	1.0	2.0	1.371	.3286
Find specific progress – test 2	35	1.0	2.0	1.471	.2696
Find specific progress – test 3	35	1.0	2.0	1.571	.2150
Find specific post – test	35	1.0	2.0	1.643	.2593
Reason pre – test	35	1.0	2.0	1.086	.2264
Reason progress – test 1	35	1.0	2.0	1.143	.2593
Reason progress – test 2	35	1.0	2.0	1.286	.3273
Reason progress – test 3	35	1.0	2.0	1.429	.2750
Reason post – test	35	1.0	2.0	1.529	.2956
Structure pre – test	35	1.0	2.0	1.229	.3054
Structure progress – test 1	35	1.0	2.0	1.471	.2408
Structure progress – test 2	35	1.0	2.0	1.471	.2408
Structure progress – test 3	35	1.0	2.0	1.614	.2992
Structure post – test	35	1.0	2.0	1.700	.2765
Vocabulary pre – test	35	0.5	2.0	1.500	.3835
Vocabulary progress – test 1	35	0.5	2.0	1.600	.3162
Vocabulary progress – test 2	35	0.5	2.0	1.657	.3381
Vocabulary progress – test 3	35	1.0	2.0	1.729	.2803
Vocabulary post – test	35	1.5	2.0	1.857	.2292

Thus, through the criteria for evaluating the reading performance of 8E grade students, the researchers found that the above criteria had clearly changed, specifically:

Firstly, for the criterion of understanding the overall content of the reading, students' scores changed in terms of reading comprehension. In the pre-test and progress test 1, the minimum scores were 1.0 and 1.5, while the maximum scores were 2.0 in

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both tests. The mean scores were 1.51 and 1.67, respectively. In the progress tests and post-test, the minimum score remained at 1.5 and the maximum at 2.0; however, the mean increased to 1.78, 1.84, and 1.94, respectively. This indicates that students' reading performance improved after the implementation of the flipped classroom model. Students had more time to review lessons at home and study the video content in advance. Consequently, their preparation for understanding the main content of the reading passage fostered. Many students also practiced to foster vocabulary, sentence structures, and reading strategies, thereby improving their ability to access the main ideas conveyed by the topic.

Secondly, for the criterion of finding specific information, before applying the flipped classroom model, most students - especially those with weaker foreign language proficiency - found it more difficult to identify key information from the reading content. The pre-test assessment results showed a minimum score of 0.5, a maximum score of 1.5, and a mean of 1.21. These results revealed a clear differentiation in reading performance: students with better foreign language proficiency could locate information more easily, while those with weaker proficiency struggled with the process. After implementing the flipped classroom model, the results of the progress-test and post-test assessments indicated significant fostering in reading performance. Specifically, the minimum score increased to 1.0, the maximum score to 2.0, and the mean scores for finding key information rose progressively to 1.09, 1.11, 1.29, 1.43, and 1.53, respectively. This fostering was attributed to the practice exercises and lessons assigned by teachers for students to complete at home.

Thirdly, for the assessment criterion of the ability to reason about the content, before applying the flipped classroom model, most students had limited ability to reason about the lesson content or topics. Students' reading performance showed clear differences according to their foreign language proficiency. Specifically, the mean scores in the assessment tests changed notably across the pre-test, progress-test, and post-test, with the following results: 1.09, 1.14, 1.29, 1.43, and 1.53, respectively. This indicates a clear fostering in this criterion. Students were able to infer content based on contextual clues and the selected main ideas highlighted in the instructional videos - such as keywords and imagined scenarios related to the topic - drawing on real-life contexts. Therefore, the results showed that students' reading performance in making inferences fostered compared to before the application of the flipped classroom model.

Fourthly, for the structure criterion, based on the reading topics and instructional videos, students had more opportunities to engage with the lesson at home before coming to class. This allowed them to review grammar structures in advance, aiming to facilitate more convenient access to the reading content. As a result, the students' average scores changed significantly. In the pre-test, the minimum score was 1.0, the maximum was 2.0, and the mean was 1.23. These results reflected differences in students' foreign language proficiency. However, after implementing the flipped classroom model, the results for reading performance - particularly in understanding the context of grammar structures - improved notably in the progress-test and post-test assessments. The minimum scores increased to 1.47, 1.61, and 1.70, respectively. This fostering can be attributed to the process of accessing, reviewing, and reinforcing lesson content through the videos provided by the teacher.

Finally, the assessment of reading performance based on students' ability to understand the meaning of vocabulary also showed a significant fostering. This criterion demonstrated the most noticeable change. Specifically, in the pre-test, the minimum score was 0.5, the maximum was 2.0, and the mean was 1.50. These results indicated that most students initially had considerable difficulty in memorizing and reviewing vocabulary. However, after implementing the reading performance fostering intervention through the flipped classroom model, the students' scores fostered. In progress-test 1 and progress-test 2, the minimum remained at 0.5 and the maximum at 2.0, but the mean increased to 1.60 and 1.66, respectively. In progress-test 3, the fostering became more evident, with a minimum score of 1.0, a maximum of 2.0, and a mean of 1.73. The post-test results continued this upward trend, with a minimum score of 1.5, a maximum of 2.0, and a mean of 1.86. These findings suggest that after applying the flipped classroom model, students' reading skills - particularly in vocabulary comprehension - developed more effectively. By studying vocabulary in advance at home, reviewing forgotten words, and adding new words independently, students were able to retain vocabulary in their long-term memory. This was further supported by regular exposure and review, for instance, through teacher-led revision of new content before engaging with reading topics.

From the above analysis, the researchers provided a general assessment that students' overall reading performance had improved significantly. The flipped classroom model gave students more opportunities to allocate additional time for lesson review at home. It also enabled them to identify and select topics relevant to the reading content for further practice, thereby enhancing their reading performance. This fostering helped students meet the requirements of reading tasks in tests and classroom activities, and even encouraged them to extend their reading to enrich their daily knowledge through international newspapers and magazines.

4.3. Questionnaire findings

4.2.1. Students' perceptions and challenges in reading English (Pre-questionnaire)

A preliminary questionnaire was distributed to 8E students at the beginning of the first semester to assess their general perceptions of English reading comprehension and the challenges they faced when reading English. Most students reported that they read English passages only for homework. A large proportion of students stated that using English to participate in discussion activities was rare, and teachers seldom provided practice aimed at improving reading performance. This indicated a lack of

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experience with higher-level reading comprehension methods, including discussion activities, self-study, interactive learning, and teacher feedback.

Students often reported insufficient vocabulary, difficulty in grasping main ideas, and challenges in making inferences. Limitations in learning tools and inadequate teacher feedback were also identified as obstacles to reading comprehension. Self-study and practice activities using learning technologies such as videos were not widely known, and very few students consciously applied these reading skills.

These findings imply that, prior to the intervention, students' reading was largely passive and superficial, with limited inferential skills. This baseline data underscores the need for FCM instruction to enhance reading performance through self-exploration of vocabulary, sentence structure, and practice in inferring context and understanding the overall content of a text.

4.2.2. Learners' attitudes after using the flipped classroom intervention model (Post-questionnaire)

The post-intervention questionnaire at the end of 10 weeks showed changes in students' attitudes after using the FCM to improve reading performance. The group of students participating in the action model showed a significant increase in reading performance compared to their responses in the pre-questionnaire.

Table 4. Results of student attitude assessment

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Cognitive component					
I am motivated to learn English through FCM technology media.	0%	0%	0%	42.86%	57.14%
The materials teachers use to teach online affect my understanding of the learning process.	0%	0%	0%	0%	100%
Online documents help me have a lot of useful information to use as a learning source.	0%	0%	0%	0%	100%
The teacher's comments and organization of the in-class exercises and online lesson content helped me understand how to practice reading.	0%	0%	0%	54.29%	45.71%
I like FCM-based learning with teacher guidance and interactions with classmates.	0%	0%	0%	0%	100%
My reading performance enhanced with the help of my teacher in class.	0%	0%	0%	57.14%	42.86%
Affective component					
I participate in interactions and exchanges with friends in groups and in class while practicing reading topics	0%	0%	0%	0%	100%
I reduce the pressure when participating in reading practice topics.	0%	0%	0%	25.71%	74.29%
The FCM helped me enhance my reading performance and overcome difficulties in preparing reading content before coming to class.	0%	0%	0%	65.71%	34.29%
I feel more confident when practicing the reading content.	0%	0%	0%	65.71%	34.29%
Behavioral component.					

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The FCM model makes me feel more comfortable participating in class.	0%	0%	0%	0%	100%
I hope teachers use the FCM model in teaching in the future.	0%	0%	0%	0%	100%

Thus, through the results of the attitude survey conducted after the end of the flipped classroom intervention process, it was found that, in general, 100% of 8E grade students agreed that:

Firstly, the cognitive component results showed that 42.86% of students agreed and 51.14% strongly agreed that students' motivation was significant when teachers used FCM technology. This result indicated that students were able to be proactive in preparing lesson content and reviewing lessons, thereby improving their reading comprehension in class and during review time at home. Therefore, 100% of students agreed that FCM had provided them with additional learning resources for the curriculum, saved them time in lesson preparation through online learning activities at home, and enhanced cooperation among learners. With this learning model, teachers supported students by giving feedback, aiming to help them recognize their mistakes and improve in the process of practicing reading comprehension. In this regard, 54.29% of students agreed and 45.17% strongly agreed that their reading performance was enhanced. Additionally, 57.14% agreed and 42.86% strongly agreed that their reading performance had improved through this model.

Second, regarding the affective component after the end of the FCM intervention, the researchers found that the spirit of participating in group work had improved. 100% of students stated that they were no longer afraid or embarrassed to contribute to building a common opinion on the reading topic. For long and difficult topics, students were no longer pressured or stressed when working with teachers to solve problems. 25.71% of students agreed and 74.29% completely agreed with this view. Students who had overcome difficulties were no longer overly worried about the volume of lesson content that needed to be learned; they were able to study at home before going to class. 65.71% of students agreed and 34.29% completely agreed with this view. This helped students feel more confident when participating in lesson sessions, with 65.71% agreeing and 34.29% completely agreeing.

Third, the behavioral component suggested that students had better attitudes than before attending the class. They felt comfortable and hoped that, in the future, teachers would use the flipped classroom model to organize teaching and foster reading performance, with 100% of students completely agreed with this desire.

4.3. Semi-structured interview findings

4.3.1. Students' Motivation When Participating in the Flipped Classroom Model

Semi-structured interviews revealed that students who took part in the action model intervention had positive experiences in learning activities such as preparing lessons at home and engaging in classroom tasks. These accounts illustrate how FCM training influenced students' reading performance. Many reported taking the initiative to prepare lesson materials at home, including studying basic vocabulary and grammar structures, and even practicing sample readings. Two out of four interviewed students remarked: *"I enjoyed participating in FCM because it allowed me to review vocabulary and grammar structures, and to understand the topic of each lesson before coming to class, which reduced the amount of preparation compared to before."*

These responses underscored the role of FCM in expanding vocabulary—both previously learned words and new terms from lesson content—thereby enabling students to read faster and better grasp the context and main ideas of texts. One student noted: *"When I participated in FCM, I enjoyed activities that allowed me to connect with friends to discuss reading topics, which helped me gain more practical knowledge about the subject."*

Students emphasized that preparing lesson materials through the FCM model boosted their confidence in tackling classroom tasks, as they had already acquired a solid foundation of basic vocabulary and sentence structures at home. One student explained: *"FCM helped me feel more confident. I could explore more learning materials, and whenever I needed to review, I used the topics provided by the teacher through videos, which made the process easier."*

4.3.2. Students' perceptions of the teacher's role in the flipped classroom model

Interviews revealed that students believed reading instruction through FCM positively affected both their reading performance and overall learning. Those who participated in the action learning model felt personally responsible for implementing their learning plans to ensure improvement in reading skills.

Students recognized the importance of self-directed activities to enhance reading performance, with teachers acting as guides who provided feedback and addressed learning challenges. Three out of four interviewed students shared: *"I wished the teacher could provide feedback to address the difficulties we encountered, such as not understanding the lesson, being unable to practice reading, or offering additional comments to improve the quality of the reading topic."* Guidance and feedback such as providing supplementary materials like learning videos encouraged students to invest more effort in class.

Students also valued the psychological benefits of having a teacher support them in solving learning tasks. One participant said: *"I wished teachers could play a more supportive role in class so that students could engage in more classroom practice and*

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less theory, which would help foster reading performance more effectively.” This shows that students acknowledged the importance of teacher support in creating opportunities for active participation. By practicing reading through a variety of topics and tests, they were able to enhance their skills and achieve notable progress in reading performance.

4.3.3. Student reading performance through flipped classroom learning activities

Compared to before participating in the flipped classroom model intervention, this student's reading performance was better evaluated in terms of thinking ability and the skill of inferring words and meanings based on the context of keywords and titles provided by the teacher. One student stated: *“I grasped the main content of the reading topic and inferred the most appropriate context to complete it.”*

Some students believed that this model was effective for accessing knowledge. Two students remarked: *“I supplemented my vocabulary and grammar knowledge more effectively through FCM, which helped me better understand the content of the topic being conveyed.”*

Compared to previous practice activities conducted solely in class, FCM expanded the learning space and time, allowing students to practice and participate more effectively in reading performance enhancement activities at home. One student shared: *“I practiced more diverse reading topics through FCM classes at home, which helped me become more proficient in handling them.”*

4.3.3. Students' Attitudes Toward Using the Flipped Classroom Model

Both students and teachers commented: *“I really hoped that in the near future, teachers would apply FCM to teaching all English skills, not just reading skills.”* Thus, it could be seen that this model brought positive learning outcomes to students, as it fostered and developed support for various aspects of the reading process, such as vocabulary, grammar, methods for guiding students to approach main ideas, and the use of keywords to practice exercises more frequently.

4.4. Discussion

4.4.1. Research question 1: To what extent does the use of FCM enhance students' performance in reading?

Statistical analysis of score distributions across each progressive intervention test showed that the minimum score increased from 5.5 to 6.5, the maximum score ranged from 9.0 to 10.0, and in the post-test, the minimum score rose to 7.0. This improvement was not only due to the provision of learning materials but also to teachers' deliberate support for weaker students, enabling them to access resources more effectively. Students were able to study in advance through topic-specific videos provided according to the teaching schedule. As a result, the online video resources curated and shared by teachers allowed students to optimize the amount of essential knowledge acquired at home [25].

In addition, the significant improvement in learners' reading performance aligned with the researcher's expectations regarding innovation in teaching methods and quality. Before the intervention, most students' abilities were concentrated in the “Average” and “Good” categories. Under the FCM approach, teachers required students to complete pre-class tasks, including vocabulary and grammar exercises, and to watch instructional videos on how to practice reading such as understanding overall content, locating specific information, and reasoning about the text [26]. In-class activities organized by the researchers emphasized listening and discussion tasks to complete reading assignments as required by the teacher. As a result, the quality of students' reading performance improved rapidly, as reflected in the frequency distribution of scores from the progress tests and post-test. Specifically, the percentage of students in the “Average” category decreased sharply from 37.2% before the intervention to 17.5% in Progress Test 1, 8.57% in Progress Test 2, and 0% in both Progress Test 3 and the post-test. Conversely, the proportion of students rated as “Very Good” increased from 17.14% to 22.86%, 40%, and 45.71% across the same tests, while the “Excellent” group grew from 5.71% to 11.43%, 28.57%, and 37.14%. These results indicate that the application of the FCM model significantly enhanced students' absorption of lesson content in class [27]. Furthermore, for 8th-grade students whose ability to memorize is stable but susceptible to forgetting teachers used the pre-class videos to reinforce and review acquired knowledge, thereby improving the overall quality of reading performance [28].

Furthermore, when comparing the changes in the criteria for assessing reading performance across five pairs of reading skills, the researchers observed clear enhancements.

First, in terms of the structural criterion, there was a noticeable upward trend in both progress tests and the post-test compared to the pre-test. Specifically, the students' average scores increased from 1.22 in the pre-test to 1.44, 1.61, and 1.70 in subsequent assessments. This enhancement can be attributed to the provision of review videos and pre-learning materials related to the lesson topics, including illustrative examples of how the structures were used and their meaning in context [29]. The instructional videos, guided by teachers, adopted a top-down approach, enabling students to more easily identify and interpret grammatical structures appearing in the readings. As a result, most students could infer content based on structural cues and predict ideas conveyed in the texts. While the improvement in this area was modest, it still contributed to a gradual enhancement in grammar-related reading performance, as reflected in the slightly higher assessment scores after the FCM intervention[30].

Second, the researchers continued to evaluate students' reading performance based on comparing vocabulary assessment criteria, which is a criterion with a fairly large change in students' performance after the FCM intervention. Specifically, before the intervention, the minimum score was 0.5 and the maximum was 2.0. However, after the end of the intervention, the students'

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minimum score changed to 0.5, 1.0, and 1.5, respectively. The average mean of the whole class changed from 1.5 to 1.6, 1.66, 1.73, and 1.86 through the progress-test and post-test assessments, respectively. Thus, this change is not random but results from the significant intervention of FCM through the reading process. Students had the opportunity to understand the meaning of the vocabulary conveyed in the reading topic, translate it, and understand more clearly what these meanings were and the purpose of conveying the information [31]. This model helped most students overcome limitations such as a lack of vocabulary; instead, their improved ability to remember has helped them solve problems related to the content of the lesson and complete the best practice exercises. This result was evaluated through three progress-tests that mixed knowledge from different weeks of study on diverse and rich vocabulary topics to test students' long-term memory. The results showed that students had better memory ability through the above assessments [32]. Through each observation of the reading results, the researchers found that the speed of students' practice and submission of their work was faster, but this did not affect the accuracy of their performance [33].

4.4.2. Research question 2: What are the students' attitudes towards using FCM to foster their reading performance at Hung Vuong junior high school?

In response to the second research question, the findings indicated that 8E students experienced positive changes in their attitudes toward FCM learning across all three components: cognitive, affective, and behavioral. Following the intervention, a survey was administered to evaluate these changes. The results revealed that 100% of students agreed or strongly agreed with the positive changes in all three attitude components. These findings, combined with the interview results exploring learners' attitudes, are discussed in detail as follows:

First, the researchers assessed students' attitudes toward the cognitive component. After the intervention, students reported overall improvements in their individual learning outcomes in reading performance. All students (100%) agreed or strongly agreed that motivation, access to online resources, and effective methods of organizing and practicing knowledge in the classroom significantly improved their vocabulary, grammatical structures, and comprehension when completing reading exercises. These factors also reduced pressure during practice and allowed them to complete tasks more efficiently. Students demonstrated greater interest and a stronger spirit of cooperation with their classmates, asked more questions, and interacted more frequently with teachers to reinforce their knowledge and enhance their reading skills. They also expressed increased confidence when presenting their opinions or content in front of the class. Overall, all students participating in the FCM model reported a more positive perception of classroom participation, particularly in applying and consolidating knowledge to solve reading topics assigned by the teacher. This process enabled them to reinforce and expand their understanding of the lesson before coming to class, and then apply theoretical knowledge in practical activities during class [24].

Second, the researchers discussed the affective component. The results indicated that 100% of students agreed or strongly agreed that their emotional engagement improved positively when participating in FCM compared to before. Prior to the implementation of FCM, students mainly studied independently, with limited interaction with peers and even with teachers. However, the FCM model created opportunities for learners to participate more actively in the reading process, reduce feelings of pressure in class, and take advantage of learning resources to prepare lessons beforehand and familiarize themselves with the content in advance. As a result, in-class activities saw students demonstrating greater confidence in exchanging ideas and discussing with teachers, along with an increased ability to engage in direct practice. These findings align with research on selecting appropriate teaching methods, which highlights the importance of creating opportunities for student interaction and planning learning activities according to individual abilities. Furthermore, the researchers emphasized the role of emotional factors in effectively utilizing lesson content when engaging in FCM [41]. The study also revealed that this pedagogical approach positively influences students' active participation, helps maintain concentration, and ensures the method is suitable for diverse learner abilities, avoiding a one-size-fits-all approach. Finally, the results confirmed that all 35 grade 8E students showed improved reading performance through the application of the FCM method, becoming more interested and confident in completing tasks and interacting with teachers in the classroom [24].

V. CONCLUSION

First, the researchers presented evidence assessing the changes in the reading performance of the FCM class before and after the intervention, in order to verify the reading performance of 8E students. The evidence was demonstrated through actual measurements of students' results using the pre-test, three progress tests, and post-test assessments. These assessments were measured consistently using the rubric mentioned in Chapter 3, focusing on scores and the comparison of results for each criterion. The findings were based on the statistical frequency distribution of scores, the classification of score levels, and the ranking of students' performance according to the reference scale. The results showed that while the average score increased, the number of students achieving "Very Good" and "Excellent" in the reading criteria also rose.

Second, the researchers assessed learners' attitudes towards reading performance skills before participating in the flipped classroom model, including the difficulties they encountered when learning through the traditional method. After the intervention, the researchers surveyed students' attitudes, covering all three components - cognitive, affective, and behavioral - which were positively reflected in students' perceptions of their performance capacity. The flipped classroom model helped them improve their

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reading skills, expand the scope of practice in terms of time and space, reduce over-dependence on teachers, and encouraged them to discuss solutions with teachers when facing difficulties. Notably, 100% of students responded “Agree” or “Strongly Agree” to the survey questions, and they expressed a desire for teachers to continue using this method to teach reading skills in the future, as it provided them with more learning resources and opportunities to practice at home

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