

Utilizing a Digital-Flipped Classroom Approach to Enhance Writing Skills and Foster an Active Learning Environment among Thai EFL Learners

Pongpatchara Kawinkoonlasate*

Department of Language Studies, Faculty of Liberal Arts, Huachiew Chalermprakiet University, Samut Prakarn, Thailand

Corresponding author: Pongpatchara Kawinkoonlasate, E-mail: fai_pimol@hotmail.com

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ABSTRACT

Technology and digitalization have significantly transformed the educational landscape, playing a crucial role in the teaching and learning. This study investigates the flipped digital classroom learning approach as an innovative method to enhance learners' writing skills. The research objectives are to: (i) evaluate the effectiveness of integrating the flipped digital classroom approach in enhancing EFL learners' writing abilities, (ii) examine the influence of the flipped digital classroom method on fostering an active learning environment for learners, and (iii) analyze EFL learners' attitudes toward applying the flipped digital learning approach. The study involved 30 participants from an Essay Writing course, selected through purposive sampling and grouped accordingly. Six research tools were employed: (i) flipped digital classroom lesson plans, (ii) achievement tests, (iii) questionnaires, (iv) flipped digital classroom learning technology, (v) interview questions, and (vi) focus group discussions. Data were collected during the second semester of the Academic Year 2022, with analysis conducted using SPSS for quantitative data and coding and content analysis for qualitative data. The results revealed that the flipped digital classroom approach effectively improved learners' writing tasks, boosted motivation, and created a more conducive learning environment, positively influencing writing quality. Learners responded positively to the flipped digital classroom model, noting increased engagement in active learning. The study recommends considering the flipped digital classroom approach as a viable instructional strategy to enhance classroom dynamics and improve academic outcomes.

Key words: Flipped Digital Classroom Learning Technology, English Writing Ability, Active Learning, Thai EFL Learners

INTRODUCTION

Advancements in science and technology, along with the integration of multimedia in education, have significantly enhanced English teaching methods. The incorporation of audio, visual, and animation effects presents a prime opportunity to innovate and explore new models in English instruction. In the 21st century, education has emerged as a primary area of scholarly interest, prompting a multitude of studies each year focused on improving educational and teaching practices. Contemporary instructional trends highlight the importance of restructuring teaching methods and activities to transfer responsibility and ownership of learning from instructors to learners, thus cultivating a more engaging learning environment (Chatta & Haque, 2020). In this paradigm, instructors serve as guides and facilitators, while learners are encouraged to become active creators of knowledge.

With the widespread availability of technology and online platforms, learners can now practice their language skills, especially writing, at any time and from any location. Given the vast opportunities provided by technology, language instructors are incorporating it into their classrooms to

the greatest extent possible. Among English language skills in Thailand, writing is one of the most crucial, serving as a fundamental mode of communication and as a key medium for expressing beliefs, opinions, and attitudes. Writing, in particular, is recognized as a challenging skill for learners of English as a Foreign Language (EFL) and is often considered one of the most difficult language skills to master. For EFL learners, the ability to write effectively in English is vital for clearly and accurately conveying ideas, opinions, and information.

However, writing is commonly acknowledged as a particularly challenging skill for these learners. Many EFL learners encounter difficulties in improving their writing due to the lack of personalized feedback, challenges in identifying and correcting their mistakes, and a lack of sufficient motivation. Numerous studies have underscored the challenges that EFL learners face when writing English paragraphs. Firstly, common problems include learners' inability to recognize the components of a paragraph, differentiate between various paragraph types, and effectively use cohesive devices (Sarani et al., 2020). Additionally, learners

frequently struggle with grammar, sentence clarity, and consistency (Tambunan et al., 2022). Moreover, Suntura (2021) found that Thai learners encounter difficulties with several aspects of writing, such as capitalization, punctuation, contractions, sentence fragments, run-on sentences, subject-verb agreement, spelling, conjunctions, tenses, and comma splices. Common mistakes include issues with sentence structure, vocabulary, tenses, subject-verb agreement, articles, and word order. Academic writing problems are particularly pronounced in vocabulary and the use of writing resources (Abdelmohsen et al., 2020). Another significant issue is the learners' readiness and their lack of exposure to books and reading materials.

Many EFL learners also struggle with different types of writing, such as expository writing, often due to inadequate teaching methods and factors like limited class time, reduced interaction, and insufficient motivation (Arslan, 2020). By acknowledging learners' challenges in acquiring writing skills, instructors can choose the most effective teaching strategies and provide suitable feedback and guidance to support their development. To improve learners' writing skills, English instructors must adopt creative and innovative strategies, leveraging technology to facilitate writing instruction. The incorporation of technology tools into writing education could help address these issues. The Flipped Digital Classroom approach marks a major departure from traditional teaching methods by moving instructional content outside of the classroom. This approach can benefit both instructors and learners by improving English language teaching procedures, boosting learners' overall performance, increasing motivation, and fostering lifelong learning. To explore this potential, the current study investigates the most effective learning styles within the Flipped Digital Classroom model in EFL contexts. Given the challenges faced by EFL learners with writing, this approach offers a dynamic learning environment that encourages active engagement and enhances motivation.

Objectives and Research Questions

The study is driven by three primary objectives:

1. To evaluate the effectiveness of integrating the flipped digital classroom approach in enhancing EFL learners' writing abilities.
2. To examine the influence of the flipped digital classroom method on fostering an active learning environment for learners.
3. To analyze EFL learners' attitudes toward applying the flipped digital learning approach.

This study seeks to answer the following research questions:

1. Could the implementation of the flipped digital classroom approach enhance the writing skills of EFL learners in a classroom environment?
2. Does the flipped digital classroom approach support the creation of an active learning environment in writing instruction?

3. What are EFL learners' attitudes towards the flipped Digital classroom learning approach in the context of writing instruction?

Conceptual Framework

The conceptual framework is presented in this section.

As shown in Figure 1, this framework combines the flipped digital classroom model with technology-enhanced education to promote active and communicative learning, thereby supporting enhancing learners' academic writing skills and motivation. The flipped digital classroom approach involves engaging students in pre-class study to boost their participation and interaction during in-class activities. It incorporates various educational technology tools, such as an e-writing instructional design program, Microsoft Teams, and e-learning platforms, to support learning both before and during class. This study applied the flipped digital classroom model to a writing course designed in line with Bloom's Taxonomy. The pre-class activities target lower-order thinking skills (such as remembering and understanding), allowing in-class time to be dedicated to higher-order thinking skills (including applying, analyzing, evaluating, and creating). By aligning with Bloom's Taxonomy, this model systematically builds learners' abilities from fundamental knowledge to complex problem-solving and creative tasks. The flipped digital approach enhances learning by preparing learners for more advanced cognitive tasks in the classroom, leading to deeper understanding and mastery of the material. When both instructors and learners effectively utilize the Flipped Digital Classroom model integrating technology-driven pre-class learning with

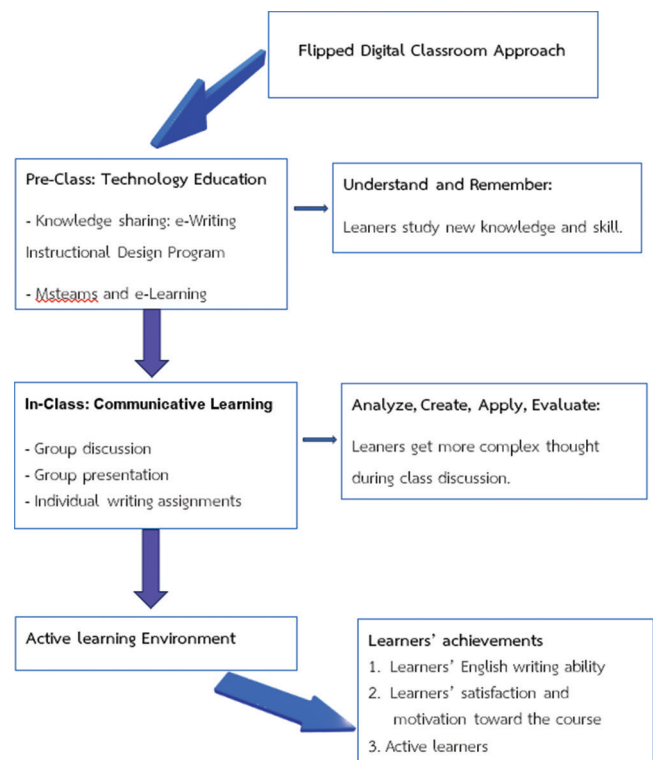


Figure 1. Conceptual framework of the study adopted from tabrizi & rideout (2017)

interactive in-class activities. It is expected that learners will show significant improvements in academic performance, skill development, and overall progress by the end of the course.

LITERATURE REVIEW

Flipped Digital Classroom in EFL Context

The Flipped Digital Classroom model is an instructional strategy that inverts the traditional teaching method by delivering content outside of the classroom, typically via online platforms. This approach shifts the responsibility for learning foundational material to learners in their own time, allowing classroom sessions to focus on deeper exploration and interactive activities (Alghasab, 2020). Instead of the conventional model, where lectures are given in class and individual work is assigned as homework, the Flipped Digital Classroom has learners engage with video lectures or readings before class. This approach allows more class time for discussions, problem-solving, and collaborative projects (Cheng et al., 2019). In this approach, learners are provided with online resources like reading materials, lecture videos, e-writing tools, and quizzes before attending in-person sessions. This pre-class preparation enables classroom time to be devoted to more complex tasks and the application of learned knowledge (Cheng et al., 2019).

The Flipped Digital Classroom model gives learners control over their study habits, allowing them to access materials at their own pace and as often as needed. This approach also frees up time for instructors to focus on facilitating learner-centered activities (Shafiee Rad et al., 2021). It encourages educators to rethink their roles and optimize instructional time through interactive engagement. In EFL settings, this model is particularly effective, offering a flexible and engaging environment that supports language skill development. By tailoring to the specific needs of EFL learners and effectively integrating technology, educators can enhance the learning experience and improve language outcomes.

Application of the Flipped Digital Classroom in EFL Settings

The flipped digital classroom model has become increasingly popular in education and can be effectively adapted for global language learning. This approach involves reversing the traditional teaching model by providing instructional content outside of class, often through technology, and reserving classroom time for interactive activities, discussions, and the practical application of knowledge. To ensure successful implementation, it is essential to have a well-organized curriculum, clear communication, and active participation from both instructors and learners. Additionally, integrating technology should be accompanied by real-world language practice and cultural experiences to create a comprehensive language learning environment (Carhill-Poza, 2019). Ghufon and Nurdianingsih (2021) describe the Flipped Digital Classroom model, where learners receive new

information via videos to review outside of class at their own pace. Class sessions start with a review to confirm understanding, followed by group work on the material covered. Zhang (2019) breaks down the Flipped Digital Classroom into three key phases: pre-class, which involves modeling and pre-assessment; in-class, which focuses on clarifying concepts and solving problems; and post-class, which includes assessment, application, and knowledge transfer.

According to Alghasab (2020), flipping the classroom involves more than just using technology and assigning video content. It also includes pedagogical strategies such as providing relevant materials before class and using active learning techniques to foster critical thinking, problem-solving, and decision-making. For effective writing instruction with the Flipped Digital Classroom model, Shafiee Rad et al. (2021) emphasize focusing on three key components that define this learning environment. Incorporating this model into education can boost learners' motivation and interest in learning foreign languages. Furthermore, Carhill-Poza (2019) categorizes the flipped digital classroom into two main environments: outside and inside the classroom. Outside the classroom, learners engage with additional resources such as online information, videos, or audio materials provided by instructors. Inside the classroom, they participate in Q&A sessions, group discussions, projects, problem-based learning, and other interactive activities that focus on learner engagement. This model allows instructors to delve deeper into topics during class time, moving away from traditional lectures (Su Ping et al., 2020; Shafiee Rad et al., 2021). Successfully implementing a flipped classroom requires clear learning objectives, pre-class assignments, effective use of technology, well-designed classroom activities, a defined instructor role, learner engagement strategies, and methods for assessing and grading progress. The researcher compares the flipped digital classroom approach with traditional teaching methods for EFL writing instruction in Table 1.

Integration of the Flipped Digital Classroom Learning Technology Approach for Writing Instruction

Integrating the flipped digital classroom approach into writing instruction presents a valuable chance to utilize technology to improve learning outcomes. This method shifts direct instruction outside of class, allowing in-class time to focus on active learning. By incorporating various digital tools and platforms for both pre-class and in-class activities, this approach creates a more engaging and effective learning environment. It aims to overcome the limitations of time and location in teaching and learning. According to Alghasab (2020), flipped learning allows language instructors to emphasize interaction and socialization during class while expanding learning opportunities outside of class. Recent research has increasingly explored the potential of flipped learning in writing pedagogy. Ghufon and Nurdianingsih (2021) highlight the effectiveness of the flipped digital classroom model, which uses video content for pre-class instruction and reserves class time for interactive and collaborative activities. This method enhances learners' understanding of

Table 1. The flipped digital classroom approach for efl writing instruction

Activity	Traditional classroom	The Flipped classroom
Outside the class	<p>Instructor:</p> <ol style="list-style-type: none"> 1. Instructor prepares lecture. 2. Most of the learning activities and contents are held in the class by the instructors. <p>Learners:</p> <ol style="list-style-type: none"> 1. Learners sit and study within the classroom. 2. Learners are assigned to do activities and assignments. 	<p>Instructor:</p> <ol style="list-style-type: none"> 1. Instructor provides condensed content online via Msteams, video clips, e-Writing Instructional Design Program, e-Learning, or Supplementary reading materials and worksheets to the learners. 2. Instructor prepares learning activities and assignments. <p>Learners:</p> <ol style="list-style-type: none"> 1. Learners study by themselves and summarize what they have learned in each chapter
Inside the class and during the class	<p>Instructor:</p> <ol style="list-style-type: none"> 1. The instructor lectures throughout the session. 2. The instructor assigns the assignments or projects. <p>Learners:</p> <ol style="list-style-type: none"> 1. Learners follow the instructor’s lecture along with the content in each chapter. 	<p>Instructor:</p> <ol style="list-style-type: none"> 1. The instructor performs as a facilitator to guide the learning process, give feedback, and deliver mini-lectures. 2. The instructor responds to queries from learners and provides additional clarification for those who may find the topic less comprehensible. 3. The instructor assigns new topics for learners to study for the next session. <p>Learners:</p> <ol style="list-style-type: none"> 1. Learners discuss questions about the contents of their study (outside the classroom) with their peers and instructor. 2. Learners provide specific questions to guide their learning content. 3. Learners do activities and exercises using technological instruments. 4. Learners practice their writing skills themselves via writing assignments, individual work, group work, in-class discussion, group project, peer review, self-learning activities, and so on.

the material and encourages active engagement and teamwork. Additionally, Shafiee Rad et al. (2021) demonstrate the success of the flipped digital classroom approach in EFL writing instruction. Their study shows that role-reversal and discussion-oriented models, which shift the focus to learner-led instruction and interactive discussions, result in improved writing proficiency and greater learner engagement.

Research on the flipped digital classroom has incorporated various technological tools and online platforms. Video tutorials, a core element of the flipped model, are typically created by educators and include narration, text, and annotations (Bhavsar et al., 2022). Khan and Abdou (2020) recommended using Facebook and Zoom to enhance conceptual understanding and facilitate direct interaction. Similarly, Ross and Disalvo (2020) and Marshall and Kostka (2020) supported the flipped classroom model for online second language instruction, noting that asynchronous technologies allow learners to learn at their own pace, while synchronous tools like Zoom aid in interactive practice sessions. As teaching strategies evolve and learner preferences change, it is essential to adopt innovative instructional techniques that enhance the learning experience. By utilizing these tools, instructors can create an engaging and interactive learning environment that supports the flipped classroom model and improves writing instruction. These tools might be effective tools used in the flipped digital classroom for enhancing English writing instruction:

1. Microsoft Teams: A collaboration tool offering chat, video conferencing, and file-sharing. It integrates well with Microsoft applications like OneDrive and Office 365, facilitating content delivery and class management.
2. YouTube: A platform for hosting and sharing educational videos. Educators can create channels to upload and organize video content, with features like closed captions and annotations to enhance learning.
3. Google Classroom: An intuitive learning management system that integrates with Google tools such as Drive, Docs, and Slides. It streamlines content sharing, assignment management, and communication, allowing easy distribution of video content and monitoring of learner engagement.
4. e-Learning Programs: Online educational initiatives that use digital tools and resources for flexible and accessible learning. These programs often include multimedia content, assessments, and collaborative features.
5. Canvas: A learning management system with integrated discussion boards for learner interaction. Instructors can create topics to organize discussions and promote engagement.
6. Padlet: A platform for collaborative review and reflection. Educators can set up walls for each unit or video, encouraging learners to ask and answer questions related to the content.
7. Quizziz: A tool for formative assessment that helps gauge learner understanding after viewing videos. It supports learner engagement with content and assessment.

8. ClassFlow: Facilitates interactive lessons and assessments, boosting learner engagement and allowing learners to access and study material from home.
9. Google Forms: A tool for creating quizzes and surveys with automatic grading and response summaries. It integrates well with Google Classroom.
10. Quizlet: A flexible platform for creating flashcards, quizzes, and study games. It tracks learner progress and supports collaborative study.

These tools, when effectively used, can significantly enhance the flipped digital classroom approach, making learning more interactive and supportive.

Writing Skill Development in EFL Learners

Writing plays a crucial role in language learning as it not only helps learners develop their ability to express thoughts clearly and coherently but also reinforces their understanding of language structures and vocabulary. When incorporating writing into language learning, it's essential to set clear goals and ensure regular practice. Balancing writing with other language skills like listening, speaking, and reading is important for developing comprehensive language proficiency (Schmidgall & Powers, 2020). Effective writing is a skill deeply rooted in the cognitive domain, encompassing learning, comprehension, application, and synthesis of new knowledge. It plays a crucial role in collecting, preserving, and communicating information to a broad audience. This is particularly significant in academic contexts, where the enduring nature of writing allows ideas to be revisited and assessed within a learning environment. Writing instruction often covers four primary types: exposition, description, argumentation, and narrative, each serving distinct purposes and reflecting how individuals interact in various contexts (Bhasin, 2020).

1. Expository Writing: The goal of expository writing is to explain. This style focuses on delivering clear and objective information about a topic without including personal opinions, emotions, or biases. It aims to inform the reader through factual content and straightforward explanations.
2. Descriptive Writing: Descriptive writing's purpose is to paint a vivid picture of a person, place, event, object, or action. Unlike expository writing, which is informational, descriptive writing is detailed, subjective, and often evokes sensory experiences. It provides rich details to help the reader visualize the subject, sometimes adopting a poetic or emotive tone.
3. Persuasive or Argumentative Writing: Persuasive writing aims to convince the reader of the author's viewpoint. This type includes the author's opinions and biases, supported by arguments, justifications, and reasons. It seeks to persuade readers to adopt a particular stance or believe in the author's perspective.
4. Narrative Writing: Narrative writing is designed to tell a story, whether real or fictional. It includes elements like characters, dialogue, and plot, encompassing situations such as conflicts, actions, and resolutions. Through

narrative, readers experience events as they unfold in a structured storyline.

These four categories expository, descriptive, persuasive, and narrative encompass most writing types. Understanding these styles helps writers identify their purpose and cater to their audience's needs effectively. In the classroom, instructors might ask learners to write stories to clarify concepts. To enhance learners' writing skills, the chosen teaching methodology is vital due to the complex nature of the writing process. Incorporating technology, such as online resources, can significantly improve learners' writing abilities. Additionally, A study by Rao (2019) found that writing is perceived as the most challenging of the four language skills, requiring English Language Learners (ELLs) to dedicate more time to practice (Rao, 2019). ELLs often need to immediately jot down their ideas and later organize them for writing. The lack of correspondence between English spelling and pronunciation can lead to confusion in spelling words correctly. Effective writing also demands systematic organization of ideas. To support this, English instructors should employ various techniques, such as group and pair work, allowing learners to discuss their ideas with peers and greatly enhance their writing skills in an ELL environment.

Stages of writing process

Understanding these genres helps writers adjust their style to fit the purpose and audience of their work. The writing process approach emphasizes producing well-structured content by focusing on the entire writing process, with a strong emphasis on creating meaning. Effective academic writing involves thorough planning, drafting, and revising. Although individual writing processes may vary, five key steps, as shown in Figure 2, can help organize writing for different types of texts (Caulfield, 2020).

The process of teaching writing can be understood as a series of stages that contribute to the overall task and its outcome, emphasizing the creation of meaning. Today, many English instructors adopt a process-oriented approach in their teaching, which involves focusing on the different stages that writing undergoes. Effective essay writing is the



Figure 2. Writing process (Caulfield, 2020)

result of thorough planning from the initial idea to the final version of the paper. A proficient writer should navigate through each stage, from brainstorming to producing a finished piece intended for the audience. Writing is inherently a process that unfolds through various stages:

1. Prewriting: Think and Decide
2. Planning and Outlining: Search
3. Writing a First Draft: Write
4. Redrafting and Revising: Make it Better
5. Editing and Proofreading: Make it Correct

Guideline for improvement in writing instruction

Improving writing instruction, especially for Thai EFL learners, involves integrating effective strategies, tools, and methodologies that address learners' needs and learning preferences. When teaching writing, especially to EFL learners, it's essential to employ a variety of activities that cater to different stages of the writing process. Writing is indeed a process that culminates in a final product, which is evaluated based on specific criteria such as content organization, vocabulary use, grammatical accuracy, and mechanical considerations like spelling and punctuation (Ellis, 2021; Corder, 2021). To achieve a high-quality writing product, writers need to engage in a series of classroom activities that guide them through the stages of the writing process. Research by Ghufuron & Nurdianingsih (2021) highlights the benefits of applying a flipped digital classroom approach to enhance learners' engagement and understanding. Moreover, utilizing tools like Padlet, Quizizz, and ClassFlow fosters an interactive learning environment. These platforms enable teachers to create engaging activities that reinforce writing skills through quizzes, collaborative brainstorming, and interactive lessons (Al-Jarf, 2021).

In addition, A study by Little (2021) mentioned that encouraging the use of tools like Quizlet and e-learning programs allows learners to study independently, building their vocabulary and writing skills at their own pace. Active learning is crucial in developing self-regulation and motivation, which are essential for language acquisition. Meanwhile, a study by Gilmore (2021) and Garton & Graves (2021) insisted that using real-world materials like news articles, blogs, and academic journals in writing assignments makes learning more relevant and engaging. Providing writing prompts that connect to current events or topics of interest can increase learner motivation and engagement, as they see the practical application of their writing skills in real-life scenarios.

Furthermore, breaking down complex writing tasks into manageable steps provides the necessary support for learners as they develop their writing skills. Scaffolding is essential for helping learners build confidence and gradually take on more challenging tasks (Wood et al., 2021). Therefore, modeling is an effective way to teach complex skills, including writing. In terms of enhancing language proficiency, explicit instruction in grammar and vocabulary is essential for improving linguistic accuracy and fluency in writing. Reflection on the writing process and feedback also helps learners internalize the lessons learned and apply them to future assignments. Ferris (2021) argues that targeted feedback

helps learners to focus on their individual weaknesses, leading to more effective learning outcomes. These guidelines can serve as a framework to enhance writing instruction in the classroom, particularly for Thai EFL learners, helping them to develop the skills necessary for academic success.

Evaluation of writing

Assessment is the process of gathering information about learners' progress and can be used for either formative or summative purposes. Formative assessment focuses on adjusting instruction based on continuous feedback, while summative assessment evaluates learning outcomes at the end of a unit or course. Effective writing assessment should be implemented at various stages throughout a course and can take different forms (Brown, 2019).

There are three main types of writing assessment:

1. Primary Trait Assessment: This type of assessment measures a writer's ability to complete a specific, narrowly defined task, with an emphasis on achieving a particular goal. It is less commonly used in second-language writing assessments.
2. Holistic Assessment: This method provides an overall impression of writing through a single score, assuming that all writing abilities develop at a similar pace. Although it is less reliable than analytic assessment, holistic assessment remains widely used, such as in the scoring of the TOEFL writing section.
3. Analytic Assessment: Particularly effective for second-language learners, analytic assessment evaluates multiple aspects of writing separately, including organization, idea development, grammar, mechanics, and expression. This type of assessment recognizes that different writing skills may develop at different rates.

In addition to these types, formative and summative assessments serve distinct purposes. Formative assessment is conducted during the learning process, providing feedback that helps learners improve their writing over time. Summative assessment, on the other hand, is conducted at the end of a learning unit and typically includes final projects or standardized tests. However, standardized tests may not align with the principles of authentic assessment and often only measure lower-order thinking skills, limiting their effectiveness in assessing deeper learning (Villarreal et al., 2018). Overall, assessment plays a critical role in understanding and improving learners' writing abilities.

Motivation and Active Learning to Flipped Digital Classroom Language Learning Development

Incorporating motivation and active learning into a flipped digital classroom can significantly enhance language learning development. Technology, when used effectively, can significantly impact writing skills by enhancing the writing process, providing valuable feedback, and increasing motivation (Arslan, 2020). Studies have shown that technological tools improve writing quality and support the development of new literacy skills (Alharthi & Zhang, 2021). Technology

makes language learning more engaging and can motivate learners through interactive and meaningful experiences. The integration of technology in the classroom offers flexibility, allowing learners to learn at their own pace, revisit challenging material, and benefit from a range of apps and software that support traditional teaching methods (Shadiev & Yang, 2020). Educational institutions have increasingly adopted the flipped classroom model, which leverages technology to promote a learner-centered approach. This model enables learners to engage in active learning, closely tied to their autonomous learning experiences both inside and outside the classroom (Yang & Chen, 2020). Moreover, active learning in language education can enhance learners' critical thinking skills, fostering their development alongside language proficiency. Overall, integrating motivation and active learning in a flipped digital classroom not only enhances learner engagement but also promotes deeper language learning and skill development.

RESEARCH METHODOLOGY

Research Design

This study adopts a flipped digital classroom learning model, using an e-writing instructional design program, Microsoft Teams, and an e-learning platform as the main tools for learners' out-of-class learning. As developmental research, this study employs perception questionnaires to capture learners' perspectives. To further explore these perceptions, the study also includes interviews and focus group discussions, offering additional insights and feedback. The researcher enhances the findings by incorporating both transcript analysis and document-based data alongside interviews and focus group discussions. A mixed-methods approach is used, integrating quantitative and qualitative data collection methods. Through this approach, the study delves deeper into participants' ideas and responses. The learners engage in writing activities within the flipped classroom setting, with data collection designed to ensure it has no impact on their academic grades. The scores gathered from the research are exclusively for study purposes and do not contribute to the participants' final assessments.

Population and Participants

The study focuses on sophomore learners enrolled in the Essay Writing in English course during the academic year of 2023. The participants were selected from this group using quota sampling, resulting in a single group of 30 learners. Quota sampling was chosen due to the limited number of learners enrolled in the course, a limitation that is acknowledged in the study.

Research Instruments

1. Lesson Plans: These were designed to assess the suitability and completeness of English essay writing instruction in a blended learning setting. Three experts validated the lesson plans using the Item Objective

Congruence (IOC) method, resulting in an average IOC score of 0.25.

2. Flipped Digital Classroom Learning Technology with e-Writing Instructional Design Program: After participants completed the flipped e-writing lessons, five experts evaluated the lessons for content accuracy and design, offering feedback for improvements. The evaluation rated the program as "Good," with an average score of 4.35.
3. Learners' Perception Questionnaire: Piloted with 20 participants before the main study, this questionnaire was assessed for reliability. Three experts evaluated its IOC index, producing a mean score of 0.93.
4. Interview Questions: The interview questions were reviewed by experts to ensure they aligned with the study's objectives, yielding an average IOC score of 0.89.
5. Focus Group Discussion: Conducted to gather detailed qualitative insights from participants.
6. Achievement Tests: Pretests and post-tests were administered to assess the effectiveness of the instructional program.

Data Collection

The research, conducted over five months from January to May 2023, involved several key activities:

1. Pretest: Participants completed the writing section of the TOEIC test over eighteen weeks to establish a baseline for their writing abilities.
2. Online Self-Study: Following the pretest, learners engaged in online self-study modules focused on writing strategies and various essay types. These modules were structured according to the e-Writing instructional design program, with topics chosen based on the learner's interests.
3. Data Recording: The learners' scores were meticulously recorded throughout the study.
4. Post-Test: After completing the lessons, learners took a post-test identical in content to the pretest. These scores were not included in their final grades.
5. Questionnaire: After the post-test, learners completed questionnaires to provide feedback on the advantages and disadvantages of the teaching methods used in the study.
6. Interviews: In the final session, randomly selected learners participated in interviews to share their experiences and opinions on the e-writing program and paper-based activities in English writing instruction.
7. Focus Group Discussion: Each session concluded with a focus group discussion held in the classroom.

Data Analysis

The study employed both quantitative and qualitative methods to analyze the data collected.

Quantitative data analysis

1. Frequency and Percentage Analysis: The distribution of responses from the first part of the perception

questionnaires was analyzed using frequency and percentage calculations.

2. Mean and Standard Deviation Analysis: Data from the questionnaires were further analyzed by calculating the mean and standard deviation to understand the central tendencies and response variations.
3. Mean Score Calculation and Dependent t-test: The pretest and post-test scores were converted into mean scores, and a dependent t-test was conducted to determine the statistical significance of any differences between these scores.
4. Fisher's Exact Test: This test was used to explore potential relationships or differences between the pretest and post-test scores.

Qualitative data analysis

1. Data Coding and Categorization: Information from interviews was carefully reviewed, coded, and categorized, allowing for systematic organization of the data into relevant categories.
2. Content Analysis: Transcripts from focus group discussions were analyzed through content analysis, where responses were interpreted and categorized based on coded language, helping to identify recurring themes and gain deeper insights.

By combining these quantitative and qualitative approaches, the research provided a thorough and well-rounded evaluation of the findings, offering a comprehensive exploration of the study's objectives.

RESULTS

Writing Proficiency Assessment

This section presents an analysis of learners' writing proficiency before and after they engaged with the flipped digital classroom learning method, supplemented by the e-writing instructional design program, Msteams, and e-learning program.

As shown in Table 2, there was a significant increase in the post-test scores (mean = 25.16) compared to the pretest scores (mean = 16.78), with the difference being statistically significant at the 0.001 level. This substantial improvement in post-test scores suggests that the combination of the flipped digital classroom approach positively impacted learners' ability to write English essays. The statistically significant difference in mean scores confirms the effectiveness of this instructional approach in enhancing learners' essay writing performance.

The data in Table 3 reveals the progression in learners' performance in the English Essay Writing course, where scores were evaluated on a scale of 30:

1. Pretest Results: In the pretest, 15 learners scored at the "Fair" level, 11 learners achieved "Good" scores, and 4 learners were categorized as "Poor."
2. Post-test Results: In the post-test, a significant improvement is evident, with 24 learners attaining "Excellent" scores and the remaining 6 learners achieving "Good" scores.

Table 2. Descriptive statistics of learners' perceptions of the flipped digital classroom learning approach

Achievement Test	N	M	SD.	t	p
Pretest	30	16.78	3.389	-13.166	0.000**
Post-Test	30	25.16	1.178		

Significance level: $P < 0.001$

Overall, all learners showed improvement in their post-test results, with a notable increase in the average scores, highlighting the positive impact of the instructional methods on their writing proficiency.

As shown in Table 4, the study examined the impact of the flipped digital classroom approach on the writing skills of English as a Foreign Language (EFL) learners by assessing their performance across four different essay types, focusing on elements like introductions, body content, conclusions, sentence structure, and transitions:

1. Explanatory Essay: Out of 30 learners, 24 scored "Good" and 6 scored "Fair."
2. Problem-Solution Essay: 18 learners achieved "Good" scores, while 12 attained "Excellent" scores.
3. Comparison-Contrast Essay: 15 learners received "Good" scores, and another 15 secured "Excellent" scores.
4. Persuasive Essay: 18 learners earned "Excellent" scores, with 12 receiving "Good" scores.

Additionally, a one-way analysis of variance conducted on the scores from the four essay writing assignments revealed notable results. In summary, the findings offer strong evidence that the integration of flipped digital classroom technology significantly improves learners' writing abilities. A comparison of pretest and post-test scores demonstrated considerable gains across multiple writing components, including introductions, body paragraphs, conclusions, sentence structure, grammar, spelling, and the use of transitions. Therefore, employing the flipped classroom approach in writing instruction proves to be an effective strategy for enhancing the writing proficiency of EFL learners.

Learners' Active Learning Environment Following the Implementation of the Flipped Digital Classroom Approach

As the results in Table 5 indicate, the perception questionnaires gathered learners' opinions on the effectiveness of the flipped digital classroom approach in fostering an active learning environment for writing instruction.

Across 15 items on a five-point rating scale, learners reported an overall satisfaction level with an average score of 3.97 and a standard deviation of 0.726, reflecting a generally positive consensus. The results indicate that learners responded favorably to the flipped digital classroom method, acknowledging its multiple benefits. They agreed that this approach promoted active learning, increased motivation, enhanced pre-class preparation, and supported the acquisition of academic knowledge. The flipped digital classroom was also valued for its convenience in accessing study materials, ability to create a relaxed and communicative learning

Table 3. Learners' levels at pretest and post-test

Evaluation Lists	Pretest		Post-test	
	N	%	N	%
Very Poor	-	-	-	-
Poor	4	13.3	-	-
Fair	15	50.0	-	-
Good	11	36.7	6	20.0
Excellent	-	-	24	80.0
Total	30	100	30	100

Table 4. Comparison learners' performance across four different essay types

Levels	Explanatory Essay		Problem- Solution Essay		Comparison -Contrast Essay		Persuasive Essay	
	N	%	N	%	N	%	N	%
Very Poor	-	-	-	-	-	-	-	-
Poor	-	-	-	-	-	-	-	-
Fair	6	20.0	-	-	-	-	-	-
Good	24	80.0	18	60.0	15	50.0	12	40.0
Excellent	-	-	12	40.0	15	50.0	18	60.0
Total	30	100	30	100	30	100	30	100

Table 5. Learners' opinions on active learning through the flipped digital classroom approach

Learners' Satisfaction	<i>M</i>	<i>SD</i>
1. Flipped Learning had effectiveness for EFL classrooms.	3.97	0.615
2. Flipped instruction enables learners to get ready for the class ahead of time, and the classroom activities have improved my writing skills.	4.07	0.691
3. Engaging in the Flipped digital Classroom approach while learning English provides learners with chances to interact with fellow learners.	3.77	0.817
4. The Flipped digital Classroom Technology Approach was successfully applied in the writing class, and the in-class activities enabled the instructor to provide feedback on your writing.	3.93	0.583
5. The flipped digital classroom simplifies and offers greater convenience for my English studies outside of the class.	4.00	0.643
6. The learner is satisfied and engaged in learning with a Flipped Digital Classroom Technology Approach.	3.87	0.629
7. Learners have the freedom to study from a Flipped Digital Classroom Technology Approach.	4.03	0.809
8. The Flipped Digital Classroom Technology Approach fosters an environment of active learning.	4.00	0.743
9. Learners gain academic knowledge with the Flipped Digital Classroom Technology Approach	4.07	0.691
10. Engaging in English learning through the Flipped Digital Classroom Technology Approach offers learners opportunities to communicate with one another.	3.73	0.868
11. The Flipped Digital Classroom Technology Approach incorporates valuable tools to support my learning.	4.07	0.640
12. Utilizing the Flipped Digital Classroom Technology Approach helps alleviate feelings of fear and tension, thanks to the preparatory work done beforehand.	3.87	0.860
13. Learners feel motivated towards the Flipped Digital Classroom Technology Approach.	3.90	0.759
14. The flipped digital classroom provided me with the chance to study independently before our class sessions.	4.07	0.828
15. The learner is motivated to practice writing by instruction with the Flipped Digital Classroom Technology Approach.	4.20	0.714
Average	3.97	0.726

atmosphere, and effectiveness in overcoming common language learning challenges. In conclusion, the findings underscore the adaptability and advantages of the flipped digital classroom approach in English as a Foreign Language (EFL) education, particularly in writing classes. The approach not only boosted learner motivation but also contributed to a more dynamic and supportive learning environment.

Learners' Attitudes Toward the Integration of the Flipped Digital Learning Approach

The results from interviews and focus group discussions highlight learners' positive attitudes toward the integration of a flipped digital learning approach in the writing classroom. Learners exhibited a favorable and optimistic outlook

on the combination of the flipped digital learning approach, reflecting their approval of this instructional method.

The flipped digital learning method, where learners engage with educational materials and content before class to enable more interactive and engaging in-class activities, was effectively implemented within the writing classroom. e-Writing Instructional Design Program, Msteams, and an e-learning program: a digital platform designed to enhance writing instruction by providing various tools and resources played a key role in supporting the development of writing skills. The flipped digital learning approach was specifically adapted for the writing classroom, indicating that it was tailored to meet the unique goals and needs of writing instruction.

In conclusion, the findings indicate that the combination of the flipped digital learning approach was well-received by learners. Their positive attitude suggests they found this instructional method to be effective, engaging, and beneficial for improving their writing skills.

DISCUSSION

The discussion of the findings from this study reveals several significant insights into the implementation of the flipped digital learning approach in a writing classroom. First, the study demonstrates that the flipped classroom approach has a positive impact on learners' writing abilities, highlighting its effectiveness in enhancing writing skills. This finding aligns with previous research, which consistently shows that the flipped digital classroom model improves writing proficiency among English as a Foreign Language (EFL) learners (Cheng et al., 2019; Arslan, 2020; Shafiee Rad et al., 2021). The approach facilitates collaborative writing, encouraging idea exchange and peer feedback, which ultimately enhances learners' abilities to write various types of essays.

Second, beyond improving writing skills, the flipped digital classroom approach also boosts learners' motivation and interaction. This observation is consistent with the findings of Ghufron & Nurdianingsih (2021), who noted that the flipped digital model not only enhances academic achievement but also fosters a more engaging and motivating learning environment. The flexibility of this approach accommodates individual learning preferences, allowing learners to progress at their own pace (Qadar & Arslan, 2019; Alghasab, 2020).

Next, learners in the flipped digital classroom setting showed significant improvements in their understanding of essay structure and organization, achieved higher test scores, and enhanced their overall writing skills. This method is particularly valuable for improving language accuracy and developing writing proficiency efficiently (Su Ping et al., 2020; Shafiee Rad et al., 2021). Moreover, the flipped digital classroom was recognized by learners as an active learning environment that promotes engagement and participation. This aligns with the research by Turan and Akdag-Cimen (2019), which highlights the benefits of increased classroom interaction and motivation.

The flipped model encourages hands-on practice through group work, ensuring that class time is dedicated to active

learning and collaboration (Alexander, 2018; Chen et al., 2019; Alharthi & Zhang, 2021). Learners expressed a favorable attitude towards the flipped classroom approach, appreciating the changes it brought to the learning environment and its flexibility. This positivity aligns with previous studies (Fauzan & Ngabut, 2018; Alghasab, 2020; Alharthi & Zhang, 2021). The approach enhances learners' responsibility for their learning, fosters self-directed learning skills, and encourages active participation in their education. Preparing for lessons before class allows for more meaningful and in-depth group discussions, which is a central feature of the flipped classroom model (Yang & Chen, 2020; Bhavsar et al., 2022).

In summary, the learners in this study displayed a positive attitude towards the flipped digital classroom approach in the writing classroom. The method's flexibility, ability to increase motivation and interaction, and consistency with previous research findings contribute to its favorable reception among learners.

CONCLUSION

Implementing the flipped digital classroom method in writing courses has proven highly beneficial. This approach enhances educational outcomes and introduces an innovative technology that supports both learners and educators. By accommodating various learning preferences, the flipped digital classroom effectively improves writing skills and fosters learner success, making it a valuable teaching strategy. The proposed directions for future research in this study cover various aspects of the flipped digital classroom model in English language education. These include examining its effectiveness, understanding instructors' perspectives, and assessing its impact on learners' English proficiency. Investigating these areas can offer important insights for educators and researchers, enhancing the practical application of the flipped digital classroom approach in language learning.

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