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# Integrating Training Pills and Flipped Classroom Model to Enhance B2-Level Writing Skills in EFL Learners: A Quasi-Experimental Study

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## Abstract

Writing proficiency, especially at the B2 level in English as a Foreign Language (EFL), poses challenges for learners, necessitating mastery of various competencies, including linguistic accuracy and content organization. This study investigates the effectiveness of integrating "training pills" into the Flipped Classroom model to enhance B2-level writing skills. The research adopts a quasi-experimental design conducted over two academic years (2020-2022) in Seville, Spain. The sample consists of 120 high school students, with the experimental group using training pills (short audiovisual lessons), while the control group follows traditional instruction. Pre- and post-tests measured the improvement in writing skills, supplemented by questionnaires assessing satisfaction and engagement. Quantitative data analysis revealed that the experimental group improved by 34.4%, significantly outperforming the control group (11.8%). Qualitative feedback highlighted the accessibility and engagement benefits of the training pills, particularly their role in improving students' organizational and communicative success in writing. The study concludes that training pills, when integrated into a Flipped Classroom model, effectively enhance B2 writing acquisition by providing flexible and self-paced learning opportunities. These findings have significant implications for technology-enhanced learning and offer practical insights for educators seeking to optimize writing instruction for EFL learners.

**Keywords:** B2 Writing Skills; EFL; Flipped Classroom; Training Pills; Technology-enhanced Learning; Writing Acquisition

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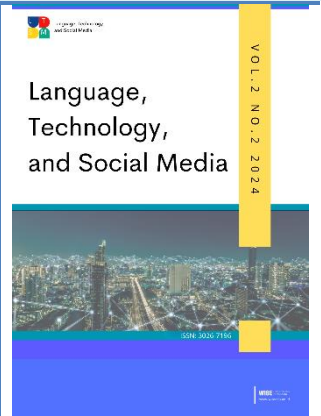


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## INTRODUCTION

The acquisition of writing skills, particularly at the B2 level in English as a Foreign Language (EFL), has long been recognized as a challenge for learners [1], [2], [3]. The complexity of written communication, which demands both linguistic accuracy and fluency, requires learners to master a wide range of competencies, from vocabulary and grammar to content organization and communicative success [4], [5]. Despite extensive traditional classroom instruction, many students continue to struggle with writing tasks that meet the criteria of coherence, cohesion, and context relevance expected at this proficiency level [6], [7]. To address this challenge, the integration of technology in education has been increasingly explored, offering new pedagogical frameworks such as the Flipped Classroom model.

The Flipped Classroom model shifts instructional time away from the classroom and into the learners' own time through pre-recorded instructional materials [8], [9], [10]. This model allows for classroom time to be used for active learning activities, such as discussions, problem-solving, and collaboration, guided by the teacher. Bergmann and Sams [11] first popularized this model, demonstrating its effectiveness in allowing students to learn at their own pace outside the classroom and apply the acquired knowledge in interactive classroom environments. Since then, numerous studies have validated the Flipped Classroom's efficacy across various educational settings, particularly in enhancing learner engagement and performance.

Several prior studies provide important context for the present research. First, So Lim Kim and Deokson Kim [12] investigated the role of writing in language learning and found that explicit instruction in writing, combined with scaffolded practice, significantly improves learners' writing performance. Their findings underscore the importance of structured writing activities to reinforce students' skills. Similarly, Yun Lin Sun et al. [13] examined the impact of the Flipped Classroom model on academic performance, revealing that students who engage with flipped learning materials show better retention of content and exhibit higher levels of motivation compared to those in traditional settings.

Additionally, Maria Ijaz Baig and Elaheh Yadegaridehkordi [14] explored the integration of audiovisual content in flipped learning, concluding that multimedia resources such as video tutorials can significantly enhance learners' understanding of complex concepts. This study aligns with the findings of Ehsan Namaziandost and Mehdi Nasri [15], who demonstrated that audiovisual aids, when paired with practical exercises, improve student outcomes in university-level statistics courses. Another important study by M. Abdulrahman et al. [16] examined the role of training pills short, focused learning materials delivered through digital platforms in improving language acquisition, particularly in writing. Their research emphasized the value of these training pills in enabling students to review materials multiple times at their own pace, resulting in better comprehension and performance.

Building on these studies, the current research aims to further investigate the role of training pills within the Flipped Classroom model, specifically in the acquisition of B2-level writing skills. While previous studies have explored the general benefits of flipped learning and audiovisual materials, the novelty of this study lies in its focused examination of training pills as a supplementary tool for writing instruction. Unlike other studies, which often concentrate on broader language skills, this research zeroes in on writing acquisition a particularly challenging area for B2-level learners. Moreover, this study not only examines the efficacy of training pills but also evaluates the importance of their accessibility outside classroom hours, providing a more nuanced

understanding of how learners engage with educational technologies in both formal and informal settings.

The research questions that guide this study are: (1) Do training pills, delivered through the Flipped Classroom model, improve the acquisition of B2-level writing skills? and (2) Does the accessibility of training pills outside classroom hours contribute to enhanced writing performance? By addressing these questions, this research contributes to the growing body of literature on technology-enhanced learning and offers practical insights into the optimization of writing instruction for EFL learners. In summary, this study builds on previous research that highlights the benefits of flipped learning and training pills, yet distinguishes itself by focusing specifically on B2 writing acquisition and the role of material accessibility. The findings are expected to have significant implications for educators seeking to improve writing outcomes in EFL contexts, offering an evidence-based approach to integrating technology into language instruction.

## METHODS

This research adopts a mixed-methods approach, combining both quantitative and qualitative data to evaluate the effectiveness of training pills in enhancing B2 writing skill acquisition among EFL learners. The study was conducted over two academic years (2020-2021 and 2021-2022) in Seville, Spain. The sample comprised 120 students from the Fomento Tabladilla and Entrealivos schools, divided into two groups: the experimental group, which utilized training pills, and the control group, which followed traditional in-class instruction.

### *Research Design*

The research design is quasi-experimental, with both groups (experimental and control) undergoing pre-tests and post-tests to assess the improvement in B2 writing skills. The experimental group used training pills, short audiovisual lessons accessible via Google Classroom, while the control group followed traditional in-class instruction without technological supplements.

### *Population and Sampling*

The population consists of high school students from private, differentiated education schools in Seville. The sample size of 120 students was divided into two groups: 1) Experimental group: 60 students (who used training pills); 2) Control group: 60 students (who followed traditional instruction).

### *Research Instrument*

Writing Tests, Both groups took pre-tests and post-tests to evaluate their writing skills based on B2-level criteria. The rubric used for scoring included elements like language use, communicative success, organization, and content.

**Table 1.** Writing Skills Rubric for Pre-Test and Post-Test

Criteria	Description	Score Range
Language Use	Accuracy in grammar, vocabulary, and sentence structure.	0-5
Communicative Success	Appropriateness of tone, style, and audience awareness.	0-5

Organization	Logical flow of ideas and use of connectors.	0-5
Content	Relevance and completeness of the response.	0-5
Total Score	Maximum possible score: 20	0-20

Questionnaires, to assess the perceptions and satisfaction of students, teachers, and parents, a questionnaire was distributed. The questionnaire used a Likert scale to measure agreement or disagreement with statements related to the use of training pills and the Flipped Classroom model.

**Table 2.** Student Satisfaction Questionnaire (Likert Scale)

Question	1	2	3	4	5
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The training pills helped me understand B2 writing better.					
I found the audiovisual materials engaging.					
I was able to access the training pills easily.					
The practical exercises were helpful in improving my skills.					
Overall, I am satisfied with the Flipped Classroom model.					

Observation Sheets, classroom observations were carried out to monitor student engagement, participation, and interactions with both the training pills and the teacher. These observations were particularly important in understanding how the Flipped Classroom model was implemented in practice. Performance Tracking, using Google Classroom analytics, data were collected to monitor how often students accessed the training pills, how long they engaged with the material, and whether they completed the assigned exercises.

**Table 3.** Google Classroom Performance Tracking Metrics

Metric	Description
Total Accesses	Number of times students accessed the training pills.
Average Engagement Time	Average time spent on each pill (in minutes).
Completed Practical Exercises	Percentage of completed exercises after viewing the pill.

### *Data Collection Procedure*



**Figure 1.** Data Collection Procedure

The research was conducted in three phases:

1. Pre-Test: A B2 writing pre-test was administered to both groups at the start of the academic year to establish a baseline for their writing proficiency. The pre-test evaluated skills using the criteria outlined in [Table 1](#).
2. Intervention: The experimental group was given access to 16 training pills over the two-year period. These pills included instructional videos and practical exercises focusing on B2 writing tasks such as essays, formal letters, and reports. The control group, meanwhile, followed a traditional approach without technological aids. The experimental group was encouraged to access these pills both in and outside the classroom.
3. Post-Test: At the end of the intervention period, a post-test identical to the pre-test was administered to assess improvements in writing skills for both groups.

### *Data Analysis Techniques*

Quantitative Analysis, data from the pre-tests and post-tests were analyzed using descriptive statistics and t-tests to identify any significant differences in writing skills between the experimental and control groups. The quantitative data helped determine the effectiveness of the training pills in improving students' writing abilities. Qualitative Analysis, feedback from the questionnaires and classroom observations was analyzed thematically to explore participants' experiences with the Flipped Classroom model and their perceptions of the training pills. The data provided insights into student engagement, satisfaction, and motivation.

## **RESULTS AND DISCUSSION**

This section provides a comprehensive analysis of the data collected through pre-tests, post-tests, questionnaires, and classroom observations. The discussion will focus on answering the two key research questions posed earlier: (1) Do training pills improve the acquisition of B2-level writing skills? and (2) Is the accessibility of these pills crucial to enhancing writing performance? Quantitative data from pre- and post-tests will be compared between the experimental and control groups, and qualitative feedback from satisfaction surveys will be discussed to provide a deeper understanding of the students' and teachers' experiences with the Flipped Classroom model.

### *Comparison of Pre-Test and Post-Test Results*

The pre-test and post-test scores serve as the primary data to assess the improvement in students' writing skills. [Table 4](#) shows the average pre-test and post-test scores for both the experimental and control groups.

**Table 4.** Comparison of Pre-Test and Post-Test Scores

<b>Group</b>	<b>Pre-Test Score (Average)</b>	<b>Post-Test Score (Average)</b>	<b>Improvement (%)</b>
Experimental Group	12.5	16.8	34.4%
Control Group	12.7	14.2	11.8%

The data reveal that the experimental group, which used training pills, showed a significant improvement in their writing skills. The average post-test score for the experimental group was 16.8, an improvement of 34.4% from their pre-test score of 12.5. In contrast, the control group only demonstrated an 11.8% improvement, from an average pre-test score of 12.7 to a post-test score of

14.2. The considerable improvement in the experimental group suggests that the training pills had a positive impact on writing acquisition. By allowing students to revisit the audiovisual materials and work through the practical exercises, the pills reinforced key writing concepts, which contributed to their overall writing skill improvement.

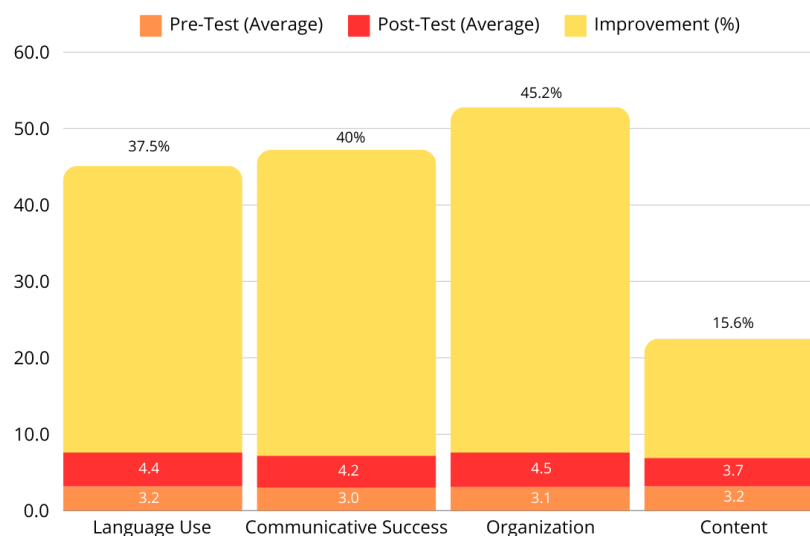
### *Analysis of Writing Skills Components*

A deeper analysis of the four writing components language use, communicative success, organization, and content provides insight into which aspects of writing the training pills most influenced. Table 5 shows the breakdown of the pre-test and post-test scores for these components in both groups.

**Table 5.** Writing Component Scores (Experimental Group)

Writing Component	Pre-Test (Average)	Post-Test (Average)	Improvement (%)
Language Use	3.2	4.4	37.5%
Communicative Success	3.0	4.2	40%
Organization	3.1	4.5	45.2%
Content	3.2	3.7	15.6%

The greatest improvements were seen in organization and communicative success, with increases of 45.2% and 40%, respectively. These components were explicitly emphasized in the training pills, which focused on teaching students how to structure their writing effectively and adapt their tone and style to the target audience. Students in the experimental group reported that the training pills helped them better understand how to organize their essays and letters, and the repeated access to video tutorials allowed them to practice these skills more effectively. Language use also showed a marked improvement of 37.5%. The audiovisual materials provided detailed explanations of grammatical structures and vocabulary, which helped students avoid common mistakes and use more varied language in their writing. The content component showed the least improvement (15.6%), which suggests that while students could organize their writing better, generating original and relevant content remained a challenge. This indicates that future iterations of the training pills could focus more on content development strategies.



**Figure 2.** Graph of Writing Component Scores (Experimental Group)

### *Accessibility and Usage of Training Pills*

The second research question addressed the importance of accessibility in improving writing performance. As seen in [Table 6](#), data collected from Google Classroom provided insights into how often students accessed the training pills and for how long.

**Table 6.** Google Classroom Engagement Data

<b>Metric</b>	<b>Description</b>	<b>Value (Experimental Group)</b>
Total Accesses	Average number of times pills accessed	8.2 times per student
Average Engagement Time	Average time spent on each pill	18 minutes
Completion of Practical Exercises	Percentage of students completing exercises	85%

Students in the experimental group accessed the training pills an average of 8.2 times, spending approximately 18 minutes on each pill. This data supports the idea that students benefitted from the flexibility of the pills, as they could revisit specific sections as needed. Additionally, 85% of students completed the practical exercises associated with each pill, which shows a high level of engagement with the material. The accessibility of the training pills, available both inside and outside the classroom, was crucial in enhancing students' learning. Many students reported that they used the pills to review challenging concepts at their own pace, pausing and replaying sections until they felt confident in their understanding. This self-paced learning approach is particularly valuable in writing acquisition, where individual practice and reflection play key roles.

### *Student and Teacher Satisfaction*

To gain qualitative insights into the effectiveness of the training pills, satisfaction questionnaires were administered to students, teachers, and parents. The results, summarized in [Table 7](#), show high levels of satisfaction across all groups.

**Table 7.** Satisfaction Survey Results (Likert Scale)

<b>Question</b>	<b>Average Score (1-5)</b>
The training pills helped me understand B2 writing better.	4.7
I found the audiovisual materials engaging.	4.5
I was able to access the training pills easily.	4.8
The practical exercises were helpful in improving my skills.	4.6
Overall, I am satisfied with the Flipped Classroom model.	4.7

Students reported high satisfaction (average score of 4.7 out of 5) with the training pills, particularly noting that the audiovisual materials made complex writing concepts easier to understand. Teachers also expressed satisfaction with the Flipped Classroom model, noting that students who used the training pills showed more initiative and confidence in their writing. Parents reported that their children seemed more engaged and motivated, as they had the flexibility to learn at their own pace.



**Figure 3.** Satisfaction with Training Pills

### Discussion

This study explored the impact of training pills within the Flipped Classroom model on the acquisition of B2-level writing skills among high school EFL students. The findings indicate significant improvements in the experimental group, suggesting that the combination of audiovisual materials and practical exercises plays a crucial role in enhancing writing skills. These results align with prior studies emphasizing the effectiveness of the Flipped Classroom model in improving student engagement and academic performance. Bergmann and Sams [11] demonstrated that this model supports self-paced learning, reinforcing concepts through repeated access to instructional materials. Similarly, Strelan et al. [17] reported that flipped learning methods enhance retention and motivation. Our study corroborates these findings, showing that students who engaged with training pills experienced substantial improvement, particularly in areas such as organization and communicative success. This indicates that the audiovisual materials and exercises integrated into the Flipped Classroom are effective in developing complex writing skills.

The use of audiovisual materials, particularly in the form of short, focused training pills, positively impacted student engagement and learning outcomes. Chaohua Ou et al. [19] highlighted that multimedia tools, such as video tutorials, help simplify complex concepts by breaking them down into manageable segments. This approach aligns with the current study, where the training pills focused on specific B2-level writing components like essay structure, grammar, and content organization. The flexibility of accessing these pills both inside and outside the classroom allowed students to review difficult concepts at their own pace, contributing significantly to their writing improvement. Furthermore, Darling-Hammond et al. [20] emphasized the importance of flexible learning materials in promoting self-directed learning. Our study builds on this by showing that students who repeatedly accessed the training pills outside the classroom showed higher levels of engagement and retention, which further facilitated their learning.

The audiovisual format of the training pills also played a critical role in enhancing student motivation. Skulmowski and Xu [21] noted that dynamic and interactive materials reduce cognitive load, making learning more enjoyable. This was reflected in the high satisfaction levels expressed by students in our study, with many indicating that the pills made writing tasks more approachable and less intimidating. This finding supports the idea that engaging, multimedia-based resources can positively affect student attitudes toward learning, particularly in challenging areas like writing. In addition, this study emphasizes the importance of providing individualized practice opportunities,

which traditional classroom instruction often lacks. Baharudin et al. [22] discussed writing as a cognitively demanding skill that requires sustained practice. The integration of training pills into the instruction process addressed this gap by offering students repeated opportunities to refine their writing skills, which traditional instruction often fails to provide. Igado [23] supported the use of e-learning platforms to supplement classroom instruction, particularly for skill-based subjects like writing. Our study corroborates this, showing that students who utilized the training pills outside of class exhibited greater improvement in their writing abilities. Moreover, the practical exercises in each training pill helped reinforce concepts introduced in the audiovisual lessons, providing immediate opportunities for students to apply what they had learned. This aligns with the findings of Teng [23], who emphasized the value of practical exercises in reinforcing learned concepts.

The novelty of this research lies in its focus on the acquisition of B2-level writing skills through the use of training pills, a specific language skill. While previous studies, such as those by Senjaya and Muhtadi [24], have explored the broader benefits of flipped learning, this study narrows the focus to writing, offering detailed insights into how audiovisual aids and practical exercises can be tailored to meet the needs of students struggling with this complex skill. Additionally, this study addresses the importance of accessibility, showing that students who had access to training pills outside of the classroom through various devices demonstrated greater improvements in their writing skills. This finding adds to the growing literature on mobile learning (m-learning), highlighting its role in promoting self-directed learning [28], [29], [30].

This research also integrates multiple data sources, including pre- and post-test scores, satisfaction surveys, and Google Classroom engagement metrics, providing a comprehensive evaluation of the effectiveness of training pills. The multi-faceted approach enables a deeper understanding of how these tools influence writing acquisition and addresses gaps in previous research that often relied on either qualitative or quantitative data alone. The findings underscore the potential for integrating technology into the writing instruction process, particularly for intermediate-level EFL learners. In conclusion, the results of this study have significant implications for educators and researchers. Educators can improve writing outcomes by incorporating training pills into the Flipped Classroom model, which provides more flexible and engaging learning opportunities. Future research should explore the long-term effects of training pills on writing proficiency and their application in other language skills, such as reading or speaking. Furthermore, the potential for mobile learning to provide greater accessibility to training materials in under-resourced educational environments should be further investigated to enhance learning opportunities for all students.

## CONCLUSION

This study highlights the effectiveness of integrating training pills into the Flipped Classroom model to improve B2-level writing skills in EFL learners. The experimental group showed significant improvements in organization, communicative success, and language accuracy compared to the control group. The flexibility of accessing audiovisual content both inside and outside the classroom promoted self-directed learning and increased engagement. These findings suggest that technology-driven tools, like training pills, can enhance writing instruction by making it more accessible and engaging. The high satisfaction levels from both students and teachers further support the effectiveness of this approach. Future research should explore the long-term impact of

training pills, their use in other language skills, and their applicability in diverse educational settings.

## LIMITATIONS

This study has several limitations. First, the short duration of the research limits the ability to assess long-term effects on writing proficiency. Second, the sample was limited to high school students in Seville, Spain, which may affect the generalizability of the findings. Additionally, the use of self-reported satisfaction surveys may introduce bias, as students' perceptions might not fully reflect their actual learning outcomes. Future studies should extend the intervention period, include more diverse populations, and use objective assessments to better understand the effectiveness of training pills in writing instruction.

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## AUTHOR CONTRIBUTION

J.M.F.M. was responsible for conceptualizing the study, designing the research methodology, and conducting data collection. N.S. contributed to the development of the training pills, provided guidance on data analysis, and reviewed the manuscript. L.C. assisted in the analysis of qualitative data and contributed to the interpretation of the results. M.H.A. supervised the overall research process, offered critical insights during the data analysis phase, and edited the manuscript. All authors collaborated on the interpretation of the results and the final revision of the manuscript. All authors read and approved the final version of the manuscript for publication.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## DECLARATION OF USE OF AI IN SCIENTIFIC WRITING

The authors used ChatGPT for improving wording and visualizing data into images or graphics. The content was thoroughly reviewed and edited by the authors, who assume full responsibility for the publication's content.

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