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**| RESEARCH ARTICLE**

## **The Effectiveness of a Practical Flipped Process-Genre Model in Enhancing Informal Email Writing: A Moroccan High School Context**

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**| ABSTRACT**

The aim of this study is to investigate the effectiveness of a practical flipped writing classroom, integrating the process genre approach, on Moroccan high school students' informal email writing performance. To achieve this, a quasi-experimental pre-post-test design was used with 156 EFL learners who were divided into an experimental and control group. During the four-week study, the control group students were taught in a traditional non-flipped writing classroom, while the experimental group students were taught through a flipped model incorporating the process-genre approach. The quantitative data were analysed using ANCOVA to control for the covariate. The results revealed that the experimental group's writing performance in informal email writing was higher compared to the control group, which underscores the role of the flipped process-genre approach in enhancing writing proficiency in EFL contexts.

**| KEYWORDS**

Flipped Process-Genre Model; Informal Email Writing; Moroccan High School Context

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### **1. Introduction**

In recent years, teaching writing in English as a Foreign Language (EFL) has undergone a lot of changes because of the pedagogical and technological innovations, which have helped address challenges such as time constraints in the writing classroom, students' lack of proficiency, and lack of engagement. The Moroccan high school context is no different when teaching writing. It remains a particularly demanding skill area, where teachers feel the English syllabus is overloaded with writing tasks in addition to limited instructional time to complete the writing activities. Therefore, teachers feel compelled to assign writing as homework which potentially limits opportunities for guided instruction and feedback within the EFL classroom.

Amid these concerns, the flipped model has emerged as a promising alternative that uses classroom time for active engagement and collaborative learning (Bergmann and Sams, 2012). Rooted in constructivist and socio-cognitive theories, the flipped model gives learners the opportunity to be introduced to content outside of class through the use of videos and interactive materials, and during class time, students apply acquired knowledge and gain a deeper understanding of the learned material. Despite the growing global interest in flipped instruction, empirical research on its application in EFL writing classrooms in the Moroccan context remains underexplored. Even fewer studies have incorporated the process-genre approach to writing within flipped classroom environments to support structured and meaningful writing instruction.

This study responds to some critical research gaps. First, Moroccan EFL high school students often struggle to improve their writing skills due to time limitations and the demands of diverse language components, yet limited evidence exists on how

flipped instruction may help address this issue. Second, previous research has largely failed to establish a standardized, practical flipped writing model that incorporates a theoretically sound writing framework such as the process-genre approach.

Guided by constructivism, connectivism, Vygotsky's sociocultural theory, Bloom's taxonomy, and principles of mastery learning and formative assessment, this study adopts a multifaceted theoretical framework that informs the instructional design used to achieve the learning objectives.

The present study, therefore, investigates the effectiveness of a practical flipped writing model that integrates the process-genre approach in improving Moroccan EFL high school students' writing performance in informal emails.

To achieve this objective, the study is guided by the research question: (1) To what extent does the flipped writing model enhance students' informal email writing performance compared to a non-flipped classroom model?

By addressing this question, the study aims to contribute to the growing body of literature on flipped learning in EFL contexts and offer practical insights for teachers, curriculum designers, and policymakers seeking to implement effective and student-centered writing instruction in Moroccan high schools and beyond.

## **2. Literature Review**

### **2.1. Writing Instruction in EFL Contexts**

Writing in a second or foreign language is a cognitively demanding process that requires learners to engage with multiple linguistic, rhetorical, and contextual elements simultaneously (Adas & Bkir, 2013). In many EFL contexts, including Moroccan classrooms, writing instruction has traditionally been product-oriented, prioritizing grammatical accuracy over communicative effectiveness or genre awareness (Nur, 2012). As a result, EFL learners often struggle with real-world writing tasks such as informal email communication that requires students' understanding of the purpose of the message, the intended audience, the appropriate tone and register, and the structure of the genre.

In response to these challenges, practitioners have persistently called for more learner-centered, process-oriented approaches to writing instruction (Yan, 2005). Among these, the process-genre approach which combines the strengths of process writing (e.g., planning, drafting, revising) with explicit genre instruction that helps learners understand the social and communicative purposes of texts (Badger & White 2000; Hyland, 2003). By promoting active learning and encouraging authentic language use, the process-genre approach helps develop students' linguistic accuracy and raises their awareness of the rhetorical elements such as purpose, audience, and the organization of a specific genre.

### **2.2 The flipped classroom model**

The advancements in information technology, along with practice-based evidence learning methods, have led to the emergence of the flipped classroom approach. This innovative learning model involves introducing the learning content to learners through videos or paper-based materials outside the classroom, so as to prepare them for higher order thinking tasks during in-class sessions (Bergmann & Sams, 2012; Tutancu and Aksu, 2018). Since writing is a complex skill that requires considerable time for learners to master and improve their writing quality, the flipped learning model provides ample time and more opportunities for learners to engage in the stages of process writing (putra 2021). Moreover, writing is considered a social activity that is context-based and requires genre knowledge (Tudor, 2017). The integration of genre knowledge and process writing strategies within the flipped classroom model can have a positive impact on EFL students' learning. In other words, in the flipped classroom, learners are expected to come to class prepared thanks to the pre-class learning tasks they are introduced to through videos and other learning materials (Abd et al., 2016). Thus, students become more autonomous and active participants rather than passive recipients of knowledge as in traditional non-flipped learning contexts (Al-harbi and Alshumaimeri, 2016). In fact, the flipped learning strategy has drastically redefined the roles of both teachers and students who now have sufficient time to interact and negotiate meaning in a stimulating learning environment (Bergmann and Sams, 2012).

### **2.3 The process-Genre Approach**

Several studies have investigated the effectiveness of the process-genre approach in enhancing EFL students' writing quality (Ahmad and Anwer, 2022; Gupitasari, 2013; Hyland, 2003 Truong, 2022). The study conducted by Lan and Anh (2022) revealed that ESL students improved their writing in different aspects such as grammar and mechanics, content, organization, and vocabulary while producing an expository text thanks to the process-genre pedagogy.

Similarly, Tuyen et al. (2016)' quasi-experimental study showed that the process genre approach had a positive impact on the Vietnamese ESL students as most of them scored higher in content, grammar and mechanics, and vocabulary compared to the control group students.

These findings are consistent with those of Elwarti and Maaroo (2017), which investigated the effects of this approach on students' writing performance. The results indicated that experimental group students taught through the process genre pedagogy performed better than the control group who were taught using the conventional writing methods, in the writing elements such as coherence and cohesion, grammar, vocabulary, content, and organization.

Therefore, it can be concluded that the process-genre approach can have a positive impact on students' overall writing performance as evidenced in the previous experimental studies.

## 2.4 Pedagogical Foundations

The flipped writing model in the present study is grounded in several pedagogical foundations: Bloom's revised taxonomy (Anderson & Krathwohl, 2001), the process-genre approach to writing (Badger and white, 2000), the principles of flipped learning (Bergmann and Sams, 2012), formative assessment which provides evidence of learners' performance and helps practitioners respond immediately to their learners' learning needs, Vygostkey's social constructivism (Vygotsky, 1978), which is based on the premise that learning takes place when learners collaborate with their peers and receive help in a social context to co-construct their own knowledge, and Bloom's (1968) mastery learning model, which emphasizes skill mastery before progressing to higher levels of competence. These theoretical underpinnings inform the design of the conceptual model adopted in this study

## 2.5 Conceptual framework

Figure 1 below presents the conceptual framework of a flipped classroom model designed to teach writing using a process-genre pedagogy. Flipped learning is broadly defined as the delivery of instructional content to students before they come to class through technological tools. This allows learners to engage more actively during in-class time. The teacher's role shifts to that of a facilitator, guide, and support provider, intervening only when necessary. With appropriate technology, learners can access materials anytime, anywhere, and at their own pace, fostering greater independence and self-regulated learning.

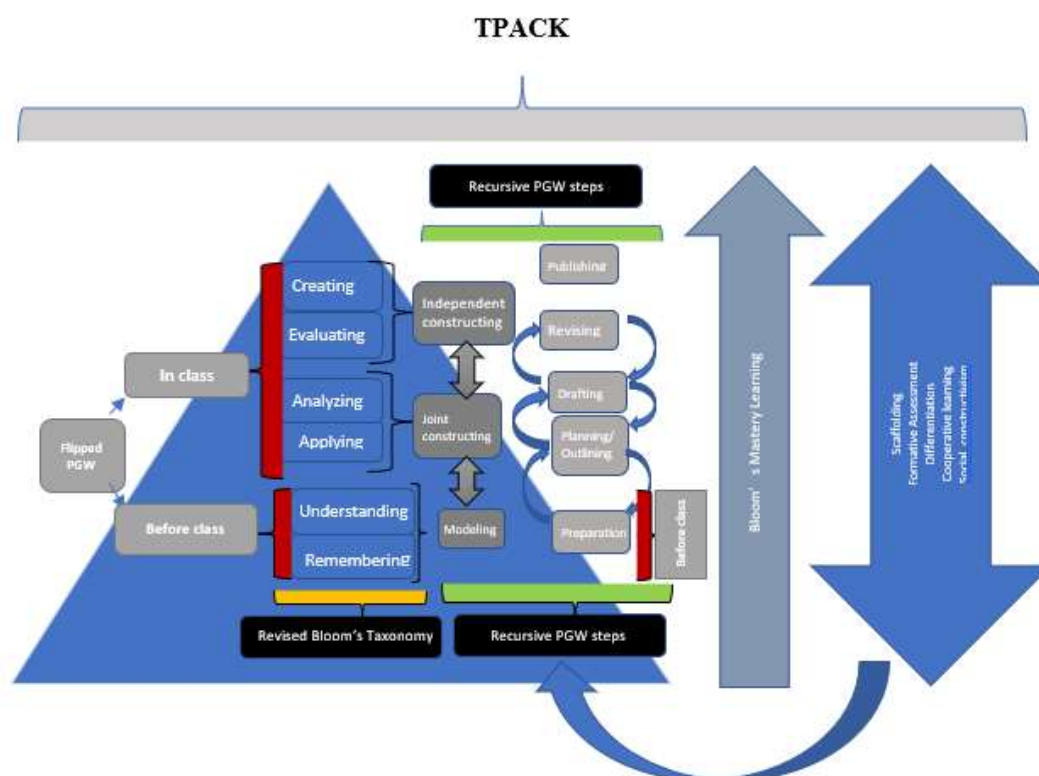


Figure 1: The Conceptual framework of a flipped writing classroom model

The model is informed by Vygotsky's social constructivism, which underpins cooperative learning in the flipped classroom. Valizadeh & Soltanpour (2020) emphasizes that collaboration helps learners recognize their strengths and address weaknesses in writing, fostering independence and joint knowledge construction. During the joint construction stage, students apply pre-class knowledge through peer-supported analysis and writing tasks, which enhances writing equity and narrows performance gaps.

### **2.5.1 Pre-Class Phase**

In the pre-class phase, students engage with content using laptops, smartphones, or tablets. Instructional materials, often in video format, are accessed via platforms such as Edpuzzle, Liveworksheets, or YouTube. Tasks are designed to build lower-order thinking skills (LOTS), specifically remembering and understanding—as defined in Bloom's revised taxonomy. The pre-class writing activities enhance learner autonomy by reducing overreliance on teacher guidance (Sergis et al., 2018). The flipped pre-class input content targets mainly the first stages of the process-genre approach such as modeling of text type organization and analysis of genre-specific conventions.

### **2.5.2 In-Class Phase**

During the in-class writing session, focus shifts to higher-order thinking skills (HOTS) such as applying, analyzing, evaluating, and creating. These cognitive processes align with the process-genre approach's stages that include joint constructing, independent construction, and the recursive steps of the writing process, such as planning, drafting, revising and publishing. These recursive steps help learners gradually achieve mastery. According to Bloom (1968), students must demonstrate mastery before advancing to new content. To monitor students' progress, formative assessment tools such as Plickers, Kahoot, and Edpuzzle are employed.

As depicted in the conceptual framework, scaffolding and differentiated instruction are essential instructional methods during the in-class writing session. Tomlinson (2000, 2001) emphasized that differentiation should address content, process, and product to meet diverse learner profiles, including visual, auditory, kinesthetic learners, and students with varying levels of independence and social interaction preferences.

### **2.5.3 Teacher Knowledge Requirements**

The above framework integrates TPACK (Technological Pedagogical Content Knowledge) as an essential component to be considered by practitioners in a flipped learning environment. For this reason, teachers must possess:

- PCK: Knowledge of how to teach specific content.
- TCK: Knowledge of technological tools related to subject matter.
- TPK: Knowledge of integrating technology into teaching effectively.

Mastering TPACK empowers teachers to design engaging content (e.g., interactive videos with embedded feedback) and manage time efficiently for in-class support.

In short, the conceptual framework establishes a clear instructional design that distinguishes the pre-class LOTS tasks from in-class HOTS activities, and places learners at the center of the learning process. It also defines the roles teachers should play throughout the entire process. These roles include facilitating learning, scaffolding, providing instant feedback, assessing learning, and monitoring progress. Compared to traditional classrooms, where time constraints hinder personalized support (Pudin, 2017), this flipped model allows for deeper engagement, collaboration, and improved writing performance (Evseeva & Solozhenko, 2015; Ekmekci, 2017; Sergis et al., 2018).

## **3. Methodology**

The research was conducted in a Moroccan high school context with Grade 12 EFL learners. It integrates elements of constructivist and socio-cognitive learning theories, emphasizing student-centered learning, scaffolded writing instruction, and technology-enhanced engagement. This flipped model shifts direct instruction to pre-class interactive videos and preparatory tasks, allowing classroom time to be devoted to collaborative writing activities grounded in the process-genre approach.

The study is guided by the following research question:

*RQ 1:* To what extent does the implementation of this practical flipped writing classroom model significantly improve the writing performance of Moroccan EFL high school students compared with the non-flipped traditional writing classroom model?

*Alternative Hypothesis (H1):*

Moroccan EFL learners who are taught using the flipped writing classroom model will demonstrate a statistically significant improvement in writing performance compared to those taught using the non-flipped classroom model.

This question aims to evaluate not only the effectiveness of a pedagogical innovation but also its practicality, acceptability, and contextual fit within a Moroccan EFL learning environment. Therefore, the research design is informed by the need to produce quantitative evidence of students' learning gains.

### 3.1 Pre-post-test quasi-experimental design

Adopting a quasi-experimental pre-post-test design was necessary due to the unfeasibility of randomly assigning students to groups (Cresswell, 2014)). In this design, both experimental and control groups were pretested before intervention and were then given a post-test at the end of the study. The primary purpose was to investigate the impact of this flipped writing model (independent variable) on students' writing performance (dependent variable) in informal email writing.

### 3.2 Context and participants

This research study was a four-week experiment conducted on 156 students studying English as a Foreign Language (EFL) at Al Mansour Dahbi public high school in Sidi Kacem. It was implemented in the second semester of the 2024-2025 academic year. The participants were at the final stage of secondary education (grade 12). They ranged in age from 17 to 19 and willingly agreed to take part in the research study. They were offered no rewards or privileges for their participation. In addition, they were informed that there would be no consequences for declining participation or withdrawing from the research study.

Following ethical approval from the principal to have access to the target population, four intact classes were selected as a sample for the study. Since students were studying in their assigned classes, a random distribution of participants to two groups was unfeasible. Therefore, convenience sampling was employed. The four classes were informed of the research procedure. After that, the researcher randomly assigned two of the four classes to the experimental group (n=78) and the other two to the control group (n=78).

### 3.3 Data collection methods

#### 3.3.1. The writing pre-post tests

The pre-post tests were designed to measure students' writing performance in a genre of writing selected from the student textbook "Ticket 2 To English". This genre is informal email writing in which participants were instructed to do the following task:

- a. Write an informal email to your pen friend telling him or her about a celebration in your country (see Table 1).

Table (1): General description of the test.

Writing tasks	Prompt	Question	Mark .../20
Informal email	<b>Write an Informal Email for a celebration.</b>	You are organizing a <b>small celebration</b> to mark a special occasion. It could be a birthday, an achievement, a wedding ceremony, a religious or national celebration or simply a gathering of friends. Your task is to write an informal email inviting your close friends or family members to join in the festivities.	

The students were required to respond to the prompt within 30 minutes and a word limit of 150 words, which is commonly accepted in Moroccan baccalaureate National exams. The pre-test was administered to students in November of the academic year 2024-2025, and it assessed students' writing performance prior to implementing the flipped writing model. As for the post-test, it took place in January of the academic year 2024-2025 after the intervention. Both the pre-test and post-test were taken under identical testing conditions to ensure that the learning outcome was the result of the intervention rather than differences in assessment measures.

- **Genre-specific rating scale**

The existence of different genres in written communication requires an evaluation criterion that aligns with the specific genre of writing to ensure accurate assessment of students' writing performance. An informal email has its own unique structure that should be highlighted. This includes specific components such as a greeting, an introductory statement, body paragraph(s), and a closing statement. Therefore, a genre-specific rating scale was provided to accurately assess students' overall writing in this genre of writing.

- **Scoring Rubric Development**

Assessing students' writing performance was achieved through creating an analytic scoring rubric that can be used to measure students' performance in informal emails related to tone and register, content, organization, grammar and mechanics. The purpose was to accurately appraise students' informal email writing. For this reason, Descriptors and scoring levels are provided for each criterion to increase consistency and accuracy in evaluating the writing task. The learning objectives and standards related to writing informal emails about celebrations were also considered during the development of the scoring rubric for informal email writing. Two supervisors participated in assessing the descriptors and verifying their relevance to the writing tasks.

### **3.4 Instructional design of the flipped writing classroom**

To measure the effect of the flipped writing classroom model on students' writing performance, one writing genre was chosen from the English textbook "Ticket 2 To English" designed specifically for twelfth grade students. After administering the pre-test, the experimental group students were taught using the flipped writing classroom model, while the control group followed the structure of a non-flipped model that does not use videos or learning materials as pre-class activities. However, both classrooms use the same in-class writing activities. The two groups were taught by the same researcher to ensure consistency in lesson delivery in each model.

#### **3.4.1 The structure of this flipped writing classroom model**

This treatment flipped informal email writing. In a traditional non-flipped writing classroom, there is often more emphasis on face-to-face content delivery by the teacher, with students expected to apply the information learned in class to the task without prior preparation. However, this intervention flipped this traditional model and included two basic elements: a) out-of-class writing activities and (b) in-class writing activities.

##### **a. Out-of-class writing activities**

Referring to Bergmann and Sams's (2012) model of the flipped classroom, instructional videos were either created by the teacher or taken from the YouTube Channel based on their relevance to the task and were used as a powerful teaching tool. The maximum length of the flipped videos was limited to 10 minutes, depending on the activity. The participants were first introduced to content via teacher-created instructional videos using Screencast-O-Matic screen capturing software and posted on Edpuzzle after modification for relevance. The two videos included interactive questions that enable students to receive instantaneous feedback and marks after completing the task. Students could review the videos many times anytime and anywhere, depending on their learning needs and abilities to understand the content and do the tasks independently. Another important feature of the interactive videos was that students had to answer the first question that popped up before being allowed to do the next one, which increased students' engagement with the content. In addition, the teacher monitored students' progress online which helped to identify the learning needs of each student. Interactive worksheets were also provided to differentiate instruction and support students with materials that can help them deepen their knowledge. The teacher used LiveWorksheets.com platform to deliver interactive content to the participants. Internet access was also made available at school for students who had difficulty being connected at home to watch the videos and complete the online tasks before attending the class.

- **Description of the informal email writing video**

The flipped video was designed according to Bloom's Revised Taxonomy, which emphasizes lower order thinking skills such as remembering, understanding, and applying. The video showed experimental group students an example of an informal email with its main elements. The students had to answer questions related to the video while watching it, and they could not skip any question without answering it. However, they could review any part of the video as many times as they needed before moving on to the next question. After completing the task, they received immediate feedback to check their results by themselves, without the teacher's intervention. The teacher, however, could monitor their progress online at any time and provide feedback if necessary. Other tasks were assigned to students on the Liveworksheets.com platform. For instance, the first interactive task required students to label the parts of an email. The second task required students to match the phrases commonly used in greetings, introductions, body, and closings, and to classify them as formal or informal.

##### **b. in-class activities**

The activities implemented in the flipped writing classroom were based on multiple learning methods and approaches that have been evidenced in the literature to promote students' learning. For instance, at the beginning of each class, the teacher-researcher formatively assessed students' knowledge of both the main elements of an informal email and the common expressions used in this genre of writing. Based on the assessment results, the teacher immediately intervened

to adjust instruction to meet students' learning needs and provide more support and practice to enhance their learning. McMillan (2013:4) considers formative assessment as "the most powerful type of measurement in education that influences student learning". In addition, Bergmann and Sams (2012) emphasised that teachers need to make use of technological tools and class time to measure students learning to ensure the learning objectives are met. During class time, experimental group students did much writing practice using the process-genre writing steps. Moreover, they received immediate feedback from their peers through collaborative learning and their teacher. All students were asked to do some tasks in groups to improve their understanding of the learned material. They also worked in groups to do the tasks and negotiate the material.

### **3.5 Technologies used in this flipped writing model**

#### **3.5.1 Edpuzzle**

Edpuzzle is an innovative platform that provides teachers with a space to make interactive videos with embedded questions. It is a user-friendly interface with interactive features and data-driven insights, which makes it an essential tool for education in the 3rd millennium. As a dynamic video-based platform, edpuzzle can be used for either flipping your classroom or enhancing in-class learning.

#### **3.5.2 LiveWorksheets learning platform**

LiveWorksheets is a dynamic platform that converts traditional printable worksheets into self-correcting interactive exercises. It is used by millions of people worldwide, making it a reliable choice for both instructors and learners alike.

#### **3.5.3 Plickers as an assessment tool**

Plickers is a new educational technological tool used by teachers to assess student understanding and collect immediate results inside and outside the classroom. It also supports online distance learning similar to face-to-face traditional Plickers sessions. It requires a smart phone or a laptop connected to the internet to do online quizzes and receive instant feedback.

## **4. Data analysis and results**

### **4.1 Descriptive statistics**

#### **4.1.1 Informal Email Writing Performance**

The table below shows the descriptive statistics for the four informal email writing elements: tone and register, content, organization, and grammar and mechanics and the total scores. The analysis depicts the mean, median, standard deviation, minimum, and maximum for both the experimental and control groups both before and after the treatment.

Table 2  
Descriptive statistics for informal email writing elements

Writing element	Group	Mean	Median	Std. Dev.	Min.	Max
Tone and register	Control pretest	1,97	2,00	,52	,75	3,00
	Control posttest	3,11	3,12	,55	1,75	4,25
	Experimental pretest	1,90	2,00	,51	,75	3,25
	Experimental posttest	3,30	3,25	,58	2,00	4,75
Content	Control pretest	2,04	2,00	,56	,75	3,25
	Control posttest	3,06	3,00	,55	1,75	4,25
	Experimental pretest	2,19	2,25	,50	1,25	3,50
	Experimental posttest	3,32	3,25	,51	2,25	4,75
Organisation	Control pretest	2,10	2,00	,51	1,00	3,25
	Control posttest	3,16	3,25	,52	2,00	4,5
	Experimental pretest	1,96	2,00	,51	,75	3,00
	Experimental posttest	3,34	3,25	,55	2,00	4,50
Grammar and mechanics	Control pretest	2,04	2,00	,56	1,00	3,5
	Control posttest	3,08	3,00	,50	2,00	4,5
	Experimental pretest	1,96	2,0	,54	,75	3,25
	Experimental posttest	3,12	3,12	,49	2,00	4,25
Total (all elements)	Control pretest	8,17	8,25	1,70	4,25	11,75
	Control posttest	12,42	12,5	1,60	9,50	16,0

						0
	Experimental pretest	8,02	8,00	1,46	4,75	12
	Experimental posttest	13,09	13,00	1,31	10,50	16

#### **Control group:**

The mean and median scores of the control group indicated significant progress from pretest to posttest for the tone and register, content, organization and grammar and mechanics writing elements. Yet, the level of performance for the control group remained somewhat limited compared to the experimental group.

#### **Experimental group:**

Students in the experimental group showed notable improvement in the tone and register, content, organization and grammar and mechanics writing aspects, with higher mean, median, and maximum scores compared to the control group. The increase in standard deviation indicates that the flipped learning approach probably helped a broader range of students improve their performance.

### **4.2 Normality Check for Informal Email Writing Elements**

Table 3

Results of Shapiro-Wilk and Kolmogorov-Smirnov Tests for Normality of Pretest and Posttest Scores in Informal Email Writing Elements for Control and Experimental Groups

Tests of Normality							
	Groups	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Pretest_tone and register	Control group	,096	78	,071	,972	78	,088
Posttest_tone and register	Control group	,095	78	,076	,978	78	,187
Pretest_content	Control group	,093	78	,095	,973	78	,095
Posttest_content	Control group	,097	78	,067	,978	78	,184
Pretest_organisation	Control group	,100	78	,052	,972	78	,080
Posttest_organisation	Control group	,099	78	,054	,975	78	,123
Pretest_grammarandmechanics	Control group	,098	78	,061	,971	78	,069
Posttest_grammarandmechanics	Control group	,099	78	,057	,976	78	,149
Pretest_total	Control group	,055	78	,200*	,990	78	,803
Posttest_total	Control group	,088	78	,200*	,974	78	,113
Pretest_tone	Experimental group	,098	78	,064	,976	78	,149
Posttest_tone	Experimental group	,099	78	,055	,978	78	,203
Pretest_content	Experimental group	,100	78	,054	,970	78	,066
Posttest_content	Experimental group	,096	78	,070	,975	78	,133
Pretest_organisation	Experimental group	,097	78	,066	,972	78	,083
Posttest_organisation	Experimental group	,098	78	,062	,974	78	,110
Pretest_grammar	Experimental group	,100	78	,051	,972	78	,078
Posttest_grammar	Experimental group	,099	78	,054	,973	78	,096
Pretest_total	Experimental group	,054	78	,200*	,988	78	,700
Posttest_total	Experimental group	,080	78	,200*	,973	78	,092
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

Based on the statistical results of the Shapiro-Wilk and Kolmogorov-Smirnov tests, the pretest and posttest scores for the informal email writing task indicated that all four writing elements -tone and register, content, organization, grammar and mechanics and total scores- in both control and experimental groups were normally distributed ( $p > .05$ ), thus justifying the use of ANCOVA as a parametric statistical analysis.



### 4.3 Inferential statistics

Inferential statistical analyses were applied to the pretest and posttest scores of various writing elements. The analysis compares the pretest and post-test scores between groups (control vs. experimental). The use of ANCOVA test in this study is meant to measure the effectiveness of the flipped classroom in promoting Moroccan EFL students' writing performance in different writing elements such as tone and register, content, organisation, and grammar and mechanics for informal email writing. The results of the ANCOVA test will help us gain a deeper understanding of the effectiveness of this flipped writing model on different writing skills and whether it yields positive outcome compared to the traditional non-flipped classroom model. To run the test, the researcher checked three main assumptions for the informal email writing elements:

- Homogeneity of Regression Slopes: This assumption makes sure that the interaction between the covariate and the group variable should not be significant
- Linearity: it refers to the extent the connection between the covariate (pretest scores) and the dependent variable (posttest scores) are linear.
- Homogeneity of Variances: Levene's test is used to check for the error variances across groups. That is, equality of variances must be satisfied.

#### 4.3.1 The results of Assumption Testing for ANCOVA

The results of the assumption testing for ANCOVA revealed that the assumptions of Homogeneity of Regression Slopes, Linearity, and Homogeneity of Variances for the tone and register, content, organization, and grammar and mechanics writing elements and total scores in informal email writing are all satisfied, which allows for a valid ANCOVA analysis.

#### 4.3.2 ANCOVA results for informal email writing

To examine the effect of the flipped classroom model on students' informal email writing performance, ANCOVA was conducted for each of the four writing elements (tone and register, content, organization, grammar and mechanics) and the total score, using pretest scores as the covariate.

The ANCOVA results indicated statistically significant differences between the experimental and control groups in all writing elements and the total score after controlling for pretest performance. The experimental group outperformed the control group across all categories, with small to moderate effect sizes. A summary of the adjusted means, mean differences, F-values, significance levels, and effect sizes is presented in Table 4

Table 4  
ANCOVA Results for Informal Email Writing Elements and Total Score (N = 156)

Writing Elements	Adjusted Mean (Experimental)	Adjusted Mean (Control)	Mean Diffirence	F(1, 153)	p	Partial $\eta^2$
Tone and Register	3.33	3.09	0.24	11.75	.001	.071
Content	3.26	3.12	0.14	5.02	.026	.032
Organization	3.39	3.12	0.28	14.71	<.001	.088
Grammar and Mechanics	3.45	3.07	0.18	9.14	.003	.071
Total Score	13.14	12.39	0.76	24.74	<.001	.139

\*Note.  $p < .05$  indicates statistical significance.

As can be seen from the table above, the experimental group students showed notable improvement in the total and across all informal email writing post-test scores compared to the control group students' performance. These results are evidence of the efficacy of the flipped writing model in enhancing EFL students' writing quality.

## 5. Discussion of findings

### 5.1 Writing performance (RQ1)

The ANCOVA results revealed that this flipped writing classroom model had a positive effect on experimental group students' overall writing performance in informal email writing. These positive findings are in line with a plethora of studies. For example, Soltanpour and Valizadeh (2018) found that students in the experimental group taught through the flipped classroom performed better than the traditional classroom students regarding the overall quality of argumentative essay writing. Similarly, Afrilyasanti, Cahyono, & Astuti (2016) also investigated the effect of flipped learning on EFL high school students' writing performance. The

findings revealed that flipped classroom students scored higher than the control group students who learned through the non-flipped classroom approach.

The significant learning gains of the experimental group students in the informal email writing were also attributed to the use of technological devices, learning platforms such as Edpuzzle and LiveWorksheets, and the theories of learning that are proven to increase interaction and place the learner at the center of the learning process. This is supported by the study conducted by Sukerti, Rudiastari, & Susana (2020) which examined "the Effectiveness of Flipped Learning in Teaching Writing". The results obtained after the experiment were in favour of the flipped classroom students. It was found that students' writing of essays improved significantly thanks to the use of technology inside and outside the classroom and ongoing interactions while completing the writing assignments under the supervision of the teacher.

Since writing is a complex skill that also requires students to master grammar and mechanics, this study showed that most students did better in the post-test grammar and mechanics writing element in informal email writing. These findings are similar to El-Bassuony (2016) who investigated the effect of the flipped model in increasing both underachieving and normal students' performance in grammar. The pre- post-test results were evidence of the experiment group students' notable grammatical performance in both writing and speaking. The researcher also reported that low achieving students who learned through the flipped classroom strategy performed better in classroom interaction compared to the control group students. Similarly, a quasi-experimental study by Putra (2021) revealed that students taught through the flipped classroom strategy outperformed students taught by using the traditional classroom method in writing a descriptive text. These positive findings, according to Putra (2021), were attributed to the videos and students' interaction with their peers and the teacher. These outcomes support the findings of the current study in which experimental students scored higher than the control group students in both the informal email and descriptive paragraph and depict the effectiveness of using the videos as a lecturing tool outside class and focusing on more discussion in class for deepening students' understanding of the learned material.

Though the above studies' findings revealed the experimental group's high performance in writing, it is important to note that there is no agreed upon flipped model in the literature (Basal, 2015) that teachers can follow or replicate in their studies. The implementation of flipped learning differs from one researcher to another, which makes it difficult to judge its effectiveness despite the reported positive outcomes. However, the flipped learning approach is commonly implemented by using recorded videos before class and putting more emphasis on interactive learning activities that are student-centered (Basal, 2015). The purpose of using videos and integrating technological tools is to make use of class time for more interaction and engagement in higher order thinking skills that are based on Bloom's taxonomy of cognitive domain.

While the majority of research studies show the effectiveness of the flipped learning strategy in enhancing students' writing performance (Sukerti, Rudiastari, & Susana, 2020; Putra, 2021; Ekmekci, 2017; Abdelrahman et al., 2017), this study provides more details regarding students' improvement in different writing elements using analytic rubrics for accurate assessment.

Of the four informal email writing elements, students achieved notable progress in tone and register, content, organisation, and grammar and mechanics. These positive results align with Ahmed's study (2016), which found that experimental group students taught using the flipped learning approach improved their writing skills, particularly in content, organization, cohesion, sentence structure, and lexical conventions. This is consistent with the findings of Leis et al. (2015), who illustrated that the flipped classroom strategy increased students' quality of writing and the quantity of words used to develop their content. The positive impact of flipped learning on improving students' writing skills is also in accordance with Kheryadi, Suseno, and Lustyantie (2024)'s study, which showed significant improvement in grammar, content development and sentence meaning. This progress was attributed to the implementation of flipped learning and the technological tools used to deliver content such as smartphones and projectors and internet connection.

In conclusion, the hypothesis that this flipped writing model had positive impact on students' writing performance is confirmed in this study. Although most studies used different flipped models to teach writing and found encouraging results, this study remains significant in terms of incorporating process-genre approach to writing in a new flipped writing model as well as using different learning methods that are evidenced in the literature to yield positive learning outcomes as illustrated in the conceptual framework (see Figure 1). The conceptual framework can serve as reference to future researchers to replicate the study and thus verify the effectiveness of this model in developing students' writing quality with regard to different writing aspects.

## 6. Implications of findings

### 6.1 Implication of post-test results

The findings of the current study provide strong evidence that this flipped writing classroom model which integrates process-genre approach resulted in notable progress in students' writing performance. Therefore, the results of the post-tests have some important implications for the teaching of writing:

a. Increasing instructional time through flipping genre input

This model shows how the genre input is flipped in the EFL writing classroom. The pre-class activities are delivered asynchronously using different learning platforms such as Edpuzzle and Liveworksheets. These digital tools enable the learners to understand and memorise the basic genre features and structures independently but under teacher's support and control online. The first steps in the process of genre writing targeted outside class are modelling and preparation. Therefore, classroom time is devoted to higher order thinking skills such as applying, analysing, evaluating, and creating, which are in the same level with the process-genre writing steps such as joint constructing and independent construction that go together with the writing process where planning, drafting, revising, and publishing recursively. Overall, this well-structured model provides students with basic genre knowledge before class and maximise interactive learning during class time.

b. Using recursive process genre writing to enhance writing quality

This flipped writing classroom model makes use of recursive PGW to help students learn writing in a cyclical manner. That is to say, writing any genre requires students to go through the process of genre steps under teacher's guidance combined with peers' assistance. This recursive structure provided learners with real-world writing practices where writers move back and forth through the stages of writing. This, as a result, increased students' engagement, making them reflect on their writing quality, revise and refine it at the end of the process. The post-test results confirm that integrating process-genre writing in the flipped classroom produced positive learning outcomes.

## 7. Recommendations

The recommendations are for practitioners and focus on the practical details of how this work can be sustained. The following elements are essential:

a. *Pedagogical recommendations for flipped writing classroom*

The findings of the present study demonstrated significant improvements in students' informal email writing. These results lead us to propose some recommendations for better implementation of this flipped writing classroom model which incorporates the process-genre approach.

b. *Gradual implementation of flipped genre-based instruction*

Given the technological challenges that some students faced in the flipped classroom, it is recommended that teachers and educators introduce flipped learning gradually. That is to say, students should be trained to use flipped classroom technologies progressively until they become confident in using it in doing the tasks both synchronously and asynchronously.

c. *Designing a recursive process-genre writing (PGW)*

The learning gains most students achieved recommend teacher create writing tasks that follow a recursive cycle of modeling, joint constructing, and independent constructing combined with the recursive stages of process writing. This would allow the students to plan, draft, revisit, and refine before publishing their final product. Additionally, tasks should be cognitively sequenced following Bloom's revised taxonomy to avoid cognitive overload.

d. *Introducing students to the benefits and expectations of the flipped classroom model*

It is important to explicitly illustrate the advantages of flipping learning through orientation sessions and make them understand that this new learning strategy will give them extra time in class to negotiate the learnt material in a stimulating learning environment in which all students can learn and share information with confidence.

## 8. Suggestions for future research

a. Exploring long-term effects of the flipped classroom model on genre-based writing

Future research should further investigate the long-term impact of the flipped writing classroom model which incorporates process-genre approach on students' writing performance across different text types and educational contexts, be them primary schools, high schools, or higher education institutions.

b. Addressing student-related challenges in genre-based flipped instruction

Student-related challenges have been reported in several previous studies. It has been found that these challenges hinder the learning process in the EFL flipped classroom such as cognitive load students have to deal with outside of class, lack of motivation, anxiety, and difficulty adapting to this new learning environment. Therefore, future studies should probe into these challenges that students face in flipped classroom environments in order to inform the coping strategies that students can use to overcome these difficulties and sustain the learning gains.

To sum up, the study has provided empirical evidence that the flipped classroom model enhanced students' performance in informal email writing. Therefore, based on the findings of the study, the flipped classroom can be considered an effective pedagogical approach that can address the problems of time constraint and the heterogeneity of the EFL classrooms that teachers have to deal with in the traditional classroom (De Jager, 2017).

## **9. Conclusion**

The current study sought to explore the effectiveness of this flipped writing classroom model integrating the process-genre approach as a transformative approach for enhancing EFL learners' writing skills in Moroccan secondary schools. It measured the effectiveness of this approach on informal email writing. The overarching goal was not only to determine the pedagogical impact of the flipped writing classroom but also to contribute theoretically and practically to the field of EFL writing instruction in hybrid environments.

The statistical analyses revealed that students in the experimental group significantly outperformed their peers in the control group on all assessed elements of informal email writing: tone and register, organization, content, grammar and mechanics. While both groups started with similar pre-test scores, the post-test scores of the experimental group showed meaningful improvements. The application of ANCOVA, after meeting all necessary assumptions, confirmed that the differences in posttest means were attributable to the intervention. The flipped classroom approach enabled students to repeatedly engage with instructional videos, prior to and during class sessions, providing opportunities for deeper reflection and more personalized application of genre conventions.

The study's findings offer compelling evidence that the flipped writing classroom—when grounded in the process-genre approach—can meaningfully enhance students' writing skills. The flipped model provided students with the opportunity to revisit content outside class, which is especially beneficial in writing instruction where planning, drafting, revising, and editing are iterative processes. The in-class time was leveraged for active learning, peer collaboration, and individualized teacher feedback—elements that are often neglected in traditional lecture-based classrooms.

While the results are promising, several limitations should be acknowledged. First, the sample was limited to four intact classes (divided into two groups, control vs experimental) from a single institution, which may affect the generalizability of the findings. Second, the duration of the intervention was relatively short. That is, writing is a skill that develops over time, and longer-term studies could provide deeper insights into the sustained impact of flipped instruction.

Future studies should consider replicating this study across various context with diverse student populations to measure the model's adaptability. Investigations could also focus on other genres of writing such as report writing, descriptive essays, narrative texts, annotated bibliographies, literature reviews, and more, to examine the flipped writing classroom's effectiveness across broader textual landscapes. Longitudinal studies would be particularly valuable in understanding how flipped learning influences writing development over an extended period.

Additionally, future studies should explore teacher readiness in terms of technological and pedagogical knowledge, and competency in using digital tools to promote active learning. Finally, the use of automated writing assessment tools and learning analytics can provide more insights into how students engage with writing tasks in and out of class.

In conclusion, this dissertation demonstrates that the flipped writing classroom model integrating the process-genre pedagogy has the potential to significantly improve students' writing performance, promote learner autonomy, and foster a more interactive and personalized learning environment. It also reveals that while pedagogical innovation is vital, it must be supported by structural, technological, and professional development measures to ensure its success. The flipped model introduced in the present study offers a flexible and pedagogically sound approach to teaching writing in EFL environment. It is an innovative instructional pedagogy that can respond to the diverse learners' needs and the requirements of modern education. In light of the findings, this study not only underscores the benefits of the flipped writing classroom model and reinforces its effectiveness in enhancing EFL students' writing performance but also invites teachers, educational researchers, and policymakers to update the possibilities of language teaching in the digital age.

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## References

- [1] Abd, M. Ali, E., & Ahmed, S. (2016). The Effect of a Flipping Classroom on Writing Skill in English as a Foreign Language and Students' Attitude Towards Flipping. *US-China Foreign Language*, 14(2), 98-114. Doi: 10.17265/1539-8080/2016.02.003
- [2] Al-harbi, S., & Alshumaimeri, Y. (2016). The Flipped Classroom Impact in Grammar Class on EFL Saudi Secondary School Students' Performances and Attitudes. *English Language Teaching*, 9 (10), 60-80. DOI: 10.5539/elt.v9n10p60
- [3] Alnuhayt, S.S. (2018) Investigating the Use of the Flipped Classroom Method in an EFL Vocabulary Course. *Journal of Language Teaching and Research*, 9 (2), 236-242. DOI: 10.17507/jltr.0902.03
- [4] Alsowat, H. (2016). An EFL Flipped Classroom Teaching Model : Effects on English Language Higher-order Thinking Skills, Student Engagement and Satisfaction. *Journal of Education and Practice*, 7(9), 108-121
- [5] Ayçiçek, B., & Yanpar, Y. T. (2018). The Effect of Flipped Classroom Model on Students' Classroom Engagement in Teaching English. *International Journal of Instruction*, 11 (2), 385-398. DOI: 10.12973/iji.2018.11226a
- [6] Bergman, J., & Aaron, S. (2012). *Flip your Classroom: Reach Every Student in Every Class Every Day*. United States: International Society of Technology in Education.
- [7] Boyraz, S., & Ocak, G. (2017). Implementation of Flipped Education into Turkish EFL Teaching Context. *Journal of Language and Linguistic Studies*, 3(2) pp. 426-439.
- [8] Butt, A. (2014). STUDENT VIEWS ON THE USE OF A FLIPPED CLASSROOM APPROACH: EVIDENCE FROM AUSTRALIA. *BUSINESS EDUCATION & ACCREDITATION*, 6 (1), 33-43. Retrieved October 15, 2023, from <http://www.theibfr2.com/RePEc/ibf/beaccr/bea-v6n1-2014/BEA-V6N1-2014-4.pdf>
- [9] Cabi, E. (2018) The impact of the flipped classroom model on students' academic achievement. *International Review of Research in Open and Distributed Learning*, 19 (3), 203-221. DOI: <https://doi.org/10.19173/irrodl.v19i3.3482>
- [10] Campbell, D.T. and Stanley, J.C. (1963) *Experimental and Quasi-Experimental Designs for Research*. Chicago: Rand McNally & Company.
- [11] Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education* (6th ed.). London and New York, NY: Routledge Falmer.
- [12] Creswell, J.W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches* (4th edition). Thousand Oaks, CA: Sage
- [13] Daniel, E. (2016). The usefulness of Qualitative and Quantitative Approaches and Methods in researching Problem-Solving Ability in Science Education Curriculum. *Journal of Education and Practice*, 7 (15), 91-100.
- [14] De Jager, T. (2017). Perspectives of teachers on differentiated teaching in multi-cultural South African secondary schools. *Studies in Educational Evaluation*, 53, 115-121. DOI: 10.1016/j.stueduc.2016.08.004
- [15] El-Bassuony, J.M. (2016). THE EFFECTIVENESS OF FLIPPED LEARNING IN DEVELOPING ENGLISH GRAMMATICAL PERFORMANCE OF UNDERACHIEVING LANGUAGE LEARNERS AT THE SECONDARY STAGE. *International Journal of English Language Teaching*, 4 (8), 76-101
- [16] Elfatah, M.A., & Ahmed, A.S. (2016). The Effect of a Flipping Classroom on Writing Skill in English as a Foreign Language and Students' Attitude Towards Flipping. *US-China Foreign Language*, 14(2), 98-114. DOI: 10.17265/1539-8080/2016.02.003
- [17] Evseeva, A., & Solozhenko, A. (2015). Use of Flipped Classroom Technology in Language Learning. In XV International Conference "Linguistic and Cultural Studies: Traditions and Innovations. *Procedia - Social and Behavioral Sciences*, 206, 2015-209. Doi: 10.1016/j.sbspro.2015.10.006
- [18] Hao, Y. (2016). Exploring undergraduates' perspectives and flipped learning readiness in their flipped classrooms. *Computers in Human Behavior*, 59 (c), 82-92. DOI: 10.1016/j.chb.2016.01.032
- [19] Karimi, M., & Hamzavi, R. (2017). The Effect of Flipped Model of Instruction on EFL Learners' Reading Comprehension: Learners' Attitudes in Focus. *Advances in Language and Literary Studies*, 8(1), 95-103. DOI: 10.7575/aiac.all.v.8n.1p.95
- [20] Li, Z. Wang, H. Wang, D., & Jia, X.J. (2017). Application of Flipped Classroom in Grammar Teaching. In: 3rd Annual International Conference on Social Science and Contemporary Humanity Development. *Advances in Social Science, Education and Humanities Research*, 90, 245-260.
- [21] Potter, M.K. (2013). Constructivism in the Shadow of a Dead God. *International Journal for the Scholarship of Teaching and Learning*, 7 (1), 1-13.
- [22] Santikarn, B., & Wishadee, S. (2018). Flipping the Classroom for English Language Learners : A Study of Learning Performance and Perceptions. *International Journal of Emerging Technologies in Learning*, 13 (9), 123-135. DOI: 10.3991/ijet.v13i09.7792
- [23] Sherralyn, C., & Pudin, J. (2017). Exploring a Flipped Learning Approach in Teaching Grammar for ESL Students. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 2 (1), 51-64. DOI: 10.21093/ijeltal.v2i1.47
- [24] Smith, T.E., Rama, P.S. and Helms, J.R. (2018). Teaching critical thinking in a GE class: A flipped model. *Thinking Skills and Creativity*, 28, 73-83. DOI: 10.1016/j.tsc.2018.02.010
- [25] Stover, K., Sparrow, A., & Siefert, B. (2017) "It aint hard no more!" individualizing instruction for struggling readers. *Preventing School Failure*, 61 (1) pp. 14-27. DOI: 10.1080/1045988X.2016.1164659
- [26] Sun, J., & Wu, Y. (2016) Analysis of learning achievement and teacher-student interactions in flipped and conventional classrooms. *International Review of Research in Open and Distance Learning*, 17 (1), 79-99. Doi: 10.1017/CBO9781107415324.004.
- [27] Tudor, E. (2017). The process genre writing approach: An alternative option for the modern classroom (ERIC Document No. ED571522). ERIC. <https://eric.ed.gov/?id=ED571522>
- [28] Tutuncu, N., & Aksu, M. (2018). A Systematic Review of Flipped Classroom Studies in Turkish Education. *International Journal of Social Science and Education Research*, 4, 207-229. <https://doi.org/10.24289/ijsser.405647>
- [29] Unal, Z., & Unal, A. (2017). Comparison of Student Performance, Student Perception, and Teacher Satisfaction with Traditional versus Flipped Classroom Models. *International Journal of Instruction*, 10 (4), 145-165. DOI: 10.12973/iji.2017.1049a

- [30] Vo. H.M., Zhu, C., & Diep. N.A. (2017) The effect of blended learning on student performance at course-level in higher education: a meta-analysis. *Studies in Educational Evaluation*, 53 , 17-28. DOI: 10.1016/j.stueduc.2017.01.002
- [31] Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- [32] Webb,M., Doman, E. (2016). Does the Flipped Classroom Lead to Increased Gains on Learning Outcomes in ESL/EFL Contexts? *The CATESOL Journal*,28 (1), 39-67