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Analyzing and Overcoming Fossilization in EFL Writing

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Autores:

Emilia Salome Erraez Sanmartin
Jacqueline Elizabeth Garcia Illescas

Director:

María Daniela Calle Calle
ORCID:  0000-0002-1950-6912

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Resumen

La fosilización en la escritura, entendida como la consolidación de errores lingüísticos que persisten a pesar de la instrucción continua, permanece como un problema recurrente en los estudiantes de inglés como lengua extranjera (EFL, por sus siglas en inglés). Por lo tanto, este estudio tiene como objetivo identificar los errores de escritura fosilizados más frecuentes, así como explorar estrategias eficaces para abordar este fenómeno. Para alcanzar el propósito mencionado, se llevó a cabo una síntesis cualitativa de investigación mediante el análisis de 20 estudios empíricos publicados entre 2010 y 2024. Los estudios se examinaron en función de cinco dimensiones analíticas: la distribución geográfica, el enfoque metodológico, las causas de la fosilización en escritura, los errores más comunes y las estrategias para mitigarlos. Los hallazgos revelan que los errores más recurrentes en estudiantes de inglés como lengua extranjera están relacionados con el uso incorrecto de artículos y preposiciones, así como con la ortografía inadecuada. Cabe destacar que dichos errores generalmente surgen de la influencia de la lengua materna, ya que los estudiantes tienden a depender de sus estructuras gramaticales al intentar realizar traducciones literales. Además, los resultados revelaron que las estrategias cognitivas, especialmente la retroalimentación explícita impartida por el docente es una de las más efectivas y recomendadas para abordar la fosilización en la escritura de estudiantes de EFL.

Palabras clave del autor: errores gramaticales, errores persistentes, intervenciones pedagógicas



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Abstract

Fossilization in writing, understood as the errors that persist despite continuous instruction, remains a recurring problem among English as a Foreign Language (EFL) students. Therefore, this study aims to identify the most common fossilized writing errors, as well as explore effective strategies to address this phenomenon. To achieve this, a qualitative research synthesis was conducted by analyzing 20 empirical studies published between 2010 and 2024. The studies were examined based on five analytical dimensions: geographical distribution, methodological approach, causes of writing fossilization, most common errors, and strategies to overcome them. The findings reveal that the most recurring errors among EFL students are related to the incorrect use of articles and prepositions, as well as improper spelling. It is worth noting that these errors generally arise from the influence of learners' native language, as they rely on its grammatical structures when trying to use the target language. Additionally, the results showed that cognitive strategies, particularly explicit feedback provided by the teacher, are among the most effective and recommended approaches for addressing fossilization in EFL students' writing.

Author Keywords: grammatical errors, error persistence, pedagogical interventions



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Emilia Erraez and Jacqueline Garcia

Dedication

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Jacqueline Garcia

Introduction

The writing skill is an essential part of achieving communicative competence; however, despite years of instruction, many EFL learners continue to make persistent writing errors, leading to fossilized forms. Hence, fossilization represents a significant challenge in this context, as errors tend to persist due to the learners' repeated use of incorrect forms (Wahyuni & Syarif, 2013). This persistent issue suggests that if not treated on time, it would hinder students' language development. Understanding the reasons behind this phenomenon and helping students to become proficient in writing was what prompted the development of this research. For that reason, the study aims to respond to the following research questions: What are the most common fossilized EFL writing errors? What strategies can teachers use to overcome different fossilized errors?

The formulation of these research questions was guided by the scarcity of studies offering clear and coherent information on writing fossilization. Most existing research presents isolated data, particularly regarding strategies that could help to overcome this problem. Therefore, through a systematic analysis of 20 empirical articles, this research synthesis seeks to provide structured work that offers essential information for educators, as synthesizing existing research allows to develop a deeper understanding of the problem and propose possible evidence-based solutions.

This research synthesis is organized into five chapters. The first one summarizes the research, including the background, problem statement, rationale, research questions, and objectives. The following section provides an overview of the theoretical framework, alongside the literature review, to better understand the concept of fossilization and its implications. The third chapter describes the methodology and the criteria used to select the research articles, along with some key terms. The further segment presents the results and discussion, which is organized and analyzed in five main subcategories that cover the geographical distribution of the studies, the approaches involved, the major findings concerning the causes, the most common errors, and strategies related to fossilization. The final component of this study outlines the conclusions and recommendations derived from the results.

Chapter I: Description of the study

Background

Students of EFL face several challenges, among which fossilization stands out. As indicated by Wahyuni and Syarif (2013), this phenomenon occurs when EFL students make certain errors from the very beginning of their learning process due to the influence of the first language's grammar patterns. Moreover, fossilization is strengthened by the lack of proper input, limited exposure to the target language, and the incorrect use of its structures (Savitri & Kadarisman, 2019).

A study by Aini et al. (2020) has found that 71, 86% of EFL students present syntactical fossilization (grammar) while 28, 14% represent morphological fossilization (spelling) in their writing assignments. Although research suggests that these fossilized errors can be lessened by implementing well-founded techniques (Aini et al., 2020; Al-Ibadi & Breesam, 2021; Qian & Xiao, 2010; Savitri, & Kadarisman, 2019), limitations remain in proposing effective approaches to minimize them.

In accordance with this, the current research synthesis aims to explore the most common fossilized writing errors and possible approaches that researchers have found effective. To clarify the complexities of the issue, the following are pivotal categories to consider for gaining a comprehensive understanding of this phenomenon.

Challenges in EFL Writing Instruction that Contribute to Fossilization

Writing in the context of EFL is crucial for language development and academic success. However, its instruction presents significant challenges, leading to ineffective classroom practices. A major concern is the emphasis on grammatical correctness and the final product evaluation over the writing process and communicative intention (Bhowmik, 2021; Nasser, 2016). As argued by Nasser (2016) and Bhowmik (2021), it causes students to write solely to pass the subject or obtain marks, without developing genuine written proficiency.

A further inefficiency to consider is the use of outdated traditional methods, such as the Grammar Translation Method, in which teaching writing is based on the production of correct sentences according to grammatical rules, without encouraging creative writing or critical thinking. This approach continues to predominate in many EFL contexts, limiting the development of students' writing skills (Nasser, 2016).

To address those issues, Bhowmik (2021) pointed out that problem-solving skills and motivation are key elements to consider when designing curricula in EFL contexts. Engaging students in tasks that encourage problem-solving contributes to their cognitive development, while motivation keeps them engaged in writing. In addition, Bhowmik (2021) emphasized that all curricular decisions should be made with students' needs in mind, as these directly affect their learning.

Building upon this point, it is critical to consider two key approaches to teaching writing in the EFL context: learning to write and writing to learn. The first focuses on the development of structured and grammatically correct compositions through explicit instruction and guided practice. In contrast, the second approach emphasizes writing as a tool for language learning (Bhowmik, 2021). These approaches are not mutually exclusive, as Bhowmik (2021) suggested "[...] an integration of both writing-focused and language-focused writing instruction is possible if the needs of students warrant so" (p. 10). In other words, teachers should consider the students' needs to make decisions on their teaching practices.

Error Analysis in EFL Writing

A recent study conducted by Aknouch and Boutiche (2022) pointed out that error analysis in EFL writing is an important method to understand language learning. This approach not only identifies linguistic deviations but also sheds light on their causes, particularly those arising from first language (L1) interference and grammatical misunderstandings. Therefore, being aware of the different types of errors in lexical, syntactical, and grammatical aspects is essential for selecting the correct pedagogical interventions (Alqhtani, 2017; Al-Shujairi & Tan, 2017). Building on this, Liu (2022) noted that targeted feedback, increased exposure to accurate language patterns, and metalinguistic activities are crucial for rectifying fossilized errors and enhancing writing accuracy.

Research by Almusharraf and Alotaibi (2020) and Alharbi (2019) suggested that a comprehensive approach to error detection, focusing on error analysis, can significantly improve overall writing proficiency and students' autonomy in EFL. Moreover, technological advances, such as the ones explored by Fitria (2021), have enhanced error correction strategies through tools like Grammarly, which provides learners the opportunity to recognize and correct their writing errors.

Difference between error and fossilized error

In the context of fossilization, it is important to recognize that errors and fossilized errors seem alike, but they exhibit differences; hence, understanding this distinction ensures effective language teaching and learning. Errors are a natural aspect of the language learning process, emerging from learners' attempts to apply new linguistic rules or target language structures. These errors most commonly derive from the influence of learners' first language (L1) and intralinguistic errors resulting from difficulties in applying the target language (L2) (Pasaribu et al., 2024 and Seddik, 2023).

Conversely, fossilized errors refer to persistent forms that learners remain unable to correct over time. According to Vavilova and Broadbent (2019), this phenomenon represents the "lack of mastery of the target language despite continuous exposure to it, motivation to succeed and opportunity for practice" (p.1). Furthermore, fossilization can be caused by other factors,

including the ineffectiveness of corrective feedback, insufficient exposure to the target language, or the learner's dependence on native language structures as mentioned above (Vavilova & Broadbent, 2019).

The consequences of fossilized errors are important in the EFL context because they can hinder learners' progress and limit their ability to become proficient in the target language. Research has shown that learners who do not focus properly on their interlanguage communication are prone to carry these errors to higher levels of education, affecting their academic and professional performance as well as their communicative skills (Khachadourian, 2018). A further consequence of the persistence of such inaccuracies leads to learners' negative self-perceptions, affecting their motivation and confidence in language use (Vavilova & Broadbent, 2019).

Problem Statement

Refining proficiency in a new language demands extensive practice and unwavering dedication. Along this process, inevitable mistakes occur, leading to a reality where "the majority of language learners never reach target-like proficiency; thus, their interlanguage is prone to fossilization" (Al-Ibadi & Breesam, 2021, p. 1). In response to this challenge, some researchers have focused on the analysis of language fossilization in EFL learners from high school to university level during the last fifteen years (Al-Ibadi & Breesam, 2021; Fauziati, 2011; Labag, 2022; Wahyuni & Syarif, 2013).

Correspondingly, different research studies showed different results regarding the most common fossilized grammatical errors in EFL students (Al-Ibadi & Breesam, 2021; Wahyuni & Syarif, 2013); however, research mostly agreed that fossilization can be addressed with correct instruction, but not all provided strategies to overcome this linguistic singularity (Al-Ibadi & Breesam, 2021; Fauziati, 2011). Consequently, it becomes essential to explore common fossilized errors along with the strategies that educators and researchers have identified as effective in addressing and correcting them (Al-Ibadi & Breesam, 2021).

Despite concerted efforts, identifying effective strategies to mitigate these errors remains difficult, as existing studies provide isolated information. Thus, this comprehensive research synthesis aims to identify common fossilized writing errors within the EFL context and categorize them by error type as well as strategies to address them.

Rationale

Research on fossilized written errors revealed the persistence of mistakes over time, presenting a challenge to conventional instructional approaches (Savitry & Kadarisman, 2019). These errors, as they become embedded in students' language, affect their overall writing proficiency and effective communication, demonstrating the importance of exploring

this phenomenon due to the limited research on this topic. Given that, the current research synthesis focuses on exploring the most common fossilized writing errors and effective solutions or procedures to address them.

In this regard, Cooper et al. (2009) stated that a research synthesis is significant since it allows to gather, categorize, and comprehend a large amount of information about different perspectives of the current issue; hence, this approach has been chosen as it helps to draw conclusions about the phenomenon, offering valuable insights to educators such as strategies that EFL teachers can incorporate into their teaching-learning process to effectively address and mitigate fossilization. By synthesizing existing research, we can develop a deeper understanding of the problem and propose possible solutions supported by evidence.

Research questions

Q1: What are the most common fossilized EFL writing errors?

Q2: What strategies can teachers use to overcome different fossilized errors?

Objectives

General Objective:

- To identify the most common fossilized errors in EFL learners' writing and strategies to address each error type.

Specific Objectives:

- To identify the most common fossilized writing errors among EFL learners.
- To examine instructional strategies proposed in academic literature to address fossilization.

Chapter II: Theoretical Framework and Literature Review

Theoretical Framework

The subsequent theoretical framework aims to provide a clearer understanding of writing fossilization by exploring the factors contributing to the issue and its impact on learners' writing progress.

The Writing Skill

Writing is a complex skill that requires appropriate word choice, coherence, and grammatical accuracy to ensure clarity and avoid confusion. Gautam (2019) emphasized that writing proficiency results from a combination of knowledge, learning, creativity, and intellectual integrity. Consequently, individuals with strong writing skills often gain prestige and have better opportunities in areas such as competitive examinations, job prospects, and career advancement. However, effective communication in writing is not only dependent on the student's efforts but also on the teacher's guidance in developing strong writing abilities (Sa'adah, 2020).

Furthermore, Laksmi (2006) pointed out that the process approach to writing considers the learner as a creator of text, emphasizing that students should engage in activities that real writers undertake. This approach supports students in improving their writing skills, regardless of their need to master fundamental linguistic features, such as grammar, before advancing to more complex writing courses. This is particularly relevant in EFL writing classes, where consistent practice helps students internalize the processes involved in writing.

For the advancement of EFL learners in their proficiency, five stages were identified in the writing process: 1) Prewriting, involving idea generation, outlining, and structural planning; 2) Preparation, a stage that encourages the flow of ideas without prioritizing grammatical correctness; 3) Revision, where students refine content to improve coherence and clarity; 4) Editing, which focuses on grammar, vocabulary, and mechanics, often incorporating teacher guidance and proofreading symbols; and 5) Publishing, the final stage where students share their polished work with an audience (Bae, 2011; Faraj, 2015; Laksmi, 2006).

Theories of Second Language Acquisition and Their Influence on EFL Writing

Empirical studies have shown that SLA (Second Language Acquisition) principles influence EFL learning. Consequently, "exploring well-known theories of language acquisition can provide insights into the process of successful writing at higher education level" (Călinescu, 2024, p.2).

Critical Period Hypothesis (CPH). Noam Chomsky suggested that there are certain times in life when children are more apt to learn or acquire a language. As they grow up, the acquisition process becomes more challenging, which is influenced by brain plasticity. Aligned with that perspective, Călinescu (2024) concluded that exposing very young learners to bilingual

environments helps them achieve better language fluency relative to older learners. Furthermore, consistent exposure to input (listening) is essential for children to first understand the language and later comprehend grammatical structures implicitly. In simpler terms, morphological competency (understanding and using words correctly) can be developed in young children during the CPH, but it is undoubtedly subject to certain limitations.

Social Development Theory. According to Lev Semyonovich Vygotsky, children develop language through interaction with others. The author introduced the concepts of Zone of Proximal Development and Scaffolding. The former one involves what students can do on their own, and those in which they need the help of a more knowledgeable peer. The latter, scaffolding, refers to the temporary support given to students. Elaborating on this idea, Lev Semyonovich Vygotsky highlighted the importance of teacher-student and student-student interaction in a classroom. Accordingly, students with different English proficiencies can support each other in writing tasks, leading to a more accurate understanding of the language. Thus, collaborative writing aids students in their writing development skills (Storch, 2013).

Interlanguage Process. Guo (2022) referred to the interlanguage process as the grammar constructed by students in a certain period during learners' second language or foreign language learning. It is a progressive linguistic system that is constantly changing and adapting as students develop a deeper knowledge of the target language.

Thus, acquiring or learning a language involves five stages (Guo, 2022). Each piece of evidence shows how fossilized errors appear in EFL students. The first stage emphasizes language transfer, in which linguistic and cultural aspects of students' mother tongue highly influence their foreign language. Secondly, transfer of training is described as a phenomenon where foreign language learners focus on certain first-language structures, causing difficulty in their development of new ones. The third stage includes the strategies or methods that students use for foreign language learning. For example, Chinese English students avoid using attributive clauses in writing, leading to the reinforcement of a fossilized error. The next step involves the strategies that learners require for second-language communication, which align with the last stage towards fossilization: the overgeneralization of linguistic structures. Here, students tend to generalize language patterns or even "mix some language rules" (Guo, 2022, p. 11). Recognizing these stages can help educators identify areas for improvement in EFL writing.

Error Analysis. In Second Language Acquisition, contrastive analysis was a predominant research tool as it indicates similarities and differences between the first language and the target language. However, this theory was criticized for failing to adequately compare and explain the structural differences between L1 and L2 (Al-Khresheh, 2016). As a result, Stephen Pit Corder proposed the Error Analysis theory, which centered on recognizing,

analyzing, and explaining the commitment of written and speaking errors in SLA or Foreign Language. This was found to be the most effective instrument to identify learners' errors (Al-Khresheh, 2016).

Moreover, Al-Khresheh (2016) stated that Error Analysis demonstrated how most of the learners' errors are similar, despite their mother tongue. In line with the previously stated theory, two main sources of errors are proposed:

1. Interlingual interference: This refers to the mistakes made by the influence of the mother tongue and the target language. Hence, interlingual interference influences writing skill as learners tend to transfer structures and patterns of their mother tongue to the target language, resulting in interlingual errors (Al-Khresheh, 2016; Sompong, 2015).
2. Intralingual interference: Those errors are caused by the target language and emerge when learners try to learn the rules of a second or foreign language. These errors can be classified into four different categories. As the starting point, overgeneralization occurs when learners apply a rule of the target language too broadly. Furthermore, ignorance of rule restrictions demonstrates the limited knowledge that students have of how rules work in certain ways. Moreover, incomplete application of rules emerges when students rely on easy rules instead of more complex ones. Lastly, false concepts hypothesized concern the incorrect formation of hypotheses or assumptions of some rules (Al-Khresheh, 2016).

Considering all these relevant aspects, "contrastive analysis, error analysis and interlanguage analysis stress the structuralist tradition of linguistic study regarding phonology, syntax, morphology and semantics, to improve second and foreign language instruction" (Sompong, 2015, p. 113). Therefore, these approaches provide a helpful base for educators, curriculum developers, and materials creators to identify the most common errors before they become fossilized forms.

Understanding Fossilization

Fossilization refers to the persistent errors in EFL learners' language use, often influenced by the structures of their first language. These errors, once formed early in the learning process, become ingrained due to repeated use (Wahyuni & Syarif, 2013). Similarly, Han (2013) explained that fossilization in language learning occurs when certain erroneous patterns in a learner's interlanguage become resistant to change, even with increased exposure to the target language or explicit instruction. This results in a plateau in language development, where learners struggle to achieve native-like fluency.

In line with this, Nozadze (2012) described fossilization as a process in which learners' minds become rigid, forming habits that arise from constant exposure to inappropriate teaching

methods. Hence, fossilization occurs due to psychological structures within the learner's cognition, hindering complete mastery of the language. Although these fossilized errors appear resistant, learners may still exhibit certain variations in their language use, reflecting the complexity of language learning (Han, 2013).

Furthermore, Aini et al. (2020) contributed to this understanding by explaining the theory of interlanguage fossilization. This describes how incorrect linguistic patterns become permanently fixed in a learner's interlanguage, resulting in long-term deviations from the target language norms. Therefore, this emphasizes the urgency for educators to deal with this issue (Aini et al., 2020).

Types of Fossilization

Benzouaoui and Fettah (2022) reported four types of fossilization: individual, group, temporary, and permanent. Individual fossilization occurs when learners stop progressing in a foreign language, hindering their skills development. This type of fossilization is characterized by two main aspects: error reappearance and the fossilization of linguistic competence. The former refers to the repeated production of errors made by students with a low level of competence, despite receiving feedback or corrections. Meanwhile, language competence fossilization involves learners having difficulties in developing certain areas, such as grammatical, phonological, pragmatic, and lexical competence (Azeez, 2024; Benzouaoui & Fettah, 2022).

Subsequently, group fossilization takes place when a group of language learners, despite being exposed to the target language, continues to rely on their own interlanguage patterns rather than using the target language correctly. It is further exacerbated if shared linguistic errors and habits are reinforced within the group, which impedes progress toward greater language proficiency (Benzouaoui & Fettah, 2022). Furthermore, Azeez (2024) and Benzouaoui and Fettah (2022) referred to temporary fossilization as an issue that can be corrected over time with appropriate guidance, unlike permanent fossilization, where errors cannot be fixed. It is more commonly seen in adult learners, as they have established certain language patterns.

Concerning writing, Aini et al. (2020) classified fossilization into syntactic and morphological categories, suggesting that syntactic fossilization is the most common in learners. Rustandi et al. (2023) defined it as the difficulty in structuring a coherent sentence in the target language, involving the misuse of articles, verb tense, singulars and plurals, nominalization, among others. Morphological fossilization, on the other hand, involves errors in word formation, specifically the incorrect use of suffixes and omissions of grammatical inflections (Aini et al., 2020).

Literature Review

Writing fossilization poses a significant challenge in EFL learning due to its complexity and resistance to correction. This review synthesizes insights from multiple studies to examine the causes of fossilization, identify common errors, and explore potential strategies for overcoming them.

Causes of Writing Fossilization

Writing fossilization is influenced by a range of factors, as evidenced by the findings of three pivotal studies: Aini et al. (2020), Azeez (2024) and Qian and Xiao (2010). According to these studies, the contributors to this phenomenon can be classified into two categories: internal and external causes.

Internal Causes of Writing Fossilization. Internal causes “come from inside the individual” (Mirhadizadeh, 2016, p.2). In this context, Aini et al. (2020) employed a qualitative approach consisting of observations, documentation, and interviews with 10 students who had completed multiple writing courses. This study revealed that limited English proficiency is a primary internal factor of writing fossilization. Specifically, this refers to learners making errors without noticing them due to their limited knowledge or understanding of the target language. Similarly, Qian and Xiao (2010) conducted qualitative research that included diary studies, questionnaires, and interviews. Their findings showed that personal factors have a significant influence in writing fossilization, particularly negative feelings such as anxiety or embarrassment, which represent significant barriers that hinder learning progress. These feelings arise when students work in groups and start comparing themselves with their partners, discouraging them from seeking help and making revisions, both crucial for correcting errors.

Moreover, through quantitative research methodology implemented among EFL students at Cihan University, Azeez (2024) expanded on these factors by identifying oversimplification, overgeneralization, and incomplete knowledge of the target language as primary contributors to this problem. To begin with, oversimplification limits learners' engagement with the complexity of the language, making them rely on basic structures.

Building on this, overgeneralization results from learners applying a specific grammatical rule to all elements of a grammatical category, leading to fossilized errors. In addition, their incomplete knowledge of the target language exacerbates the issue, as they make incorrect word choices and literal translations, expressing ideas without understanding the language being learned.

External Causes of Writing Fossilization. In contrast, external factors “come from outside the individual” (Mirhadizadeh, 2016, p.2). Following this definition, Aini et al. (2020) proposed native language interference as an external contributor. It occurs when learners transfer patterns, structures, or rules from their native language to the target language, leading to errors.

Moreover, Qian and Xiao (2010) pointed out two key external factors that contribute to writing fossilization: the teacher and the materials, both of which significantly influence students' motivations. Therefore, a mismatch between learners' preferences and materials can lead to stagnation and disengagement, reducing students' active participation in language learning and thus reinforcing fossilized writing errors. In the same vein, Azeez (2024) highlighted how inadequate teaching methods and insufficient attention to linguistic details can reinforce fossilized errors, as some methods may not focus on accuracy, overlooking mistakes in writing production.

Most Common Errors in Writing Fossilization

Several linguistic errors are commonly associated with writing fossilization, including mistakes with prepositions (Albelihi & Al-Ahdal, 2024; Al-Ibadi & Breesam, 2021; Fauziati, 2011), articles (Fauziati, 2011; Labag, 2022), verb tense (Al-Ibadi & Breesam, 2021), subject-verb agreement (Al-Ibadi & Breesam, 2021), and spelling (Labag, 2022; Wahyuni & Syarif, 2013). In the following sections, each of these fossilized errors will be examined in detail.

Prepositions. Prepositions are among the most frequent and challenging sources of errors for learners of EFL (Albelihi & Al-Ahdal, 2024; Al-Ibadi & Breesam, 2021; Fauziati, 2011). Both Al-Ibadi and Breesam (2021) and Fauziati (2011), in qualitative studies, identified the misuse of prepositions as a significant grammatical issue for EFL learners. They link this issue to the structural differences and idiomatic expressions between learners' mother tongues and English, which often lead to fossilized errors. In addition, with a qualitative approach on Saudi learners, Albelihi and Al-Ahdal (2024) underscored the persistent challenges learners face with prepositions and advocated for the importance of corrective feedback in addressing these errors effectively.

Articles. Studies on grammar fossilization highlighted that article usage is a common issue in writing. Fauziati (2011), through a qualitative study on Indonesian students, and Labag (2022), using a documentary analysis of students' writing samples, reported in their research that article omission was a recurring problem among students that significantly affected the clarity of sentences and affected not only written but also oral communication.

Verb Tense and Subject-Verb Agreement. Other major challenges for EFL learners are verb tense errors and subject-verb agreement. Al-Ibadi and Breesam (2021) analyzed written tasks

from Iraqi students. This study indicated that verb tense errors were the most common fossilized mistakes and attributed them to negative transfer from the learners' native language. These results suggest that targeted practice and instruction in verb tenses are necessary to minimize such errors.

Subject-verb agreement problems were another focus of Al-Ibadi and Breesam's (2021) study. These authors noted that negative language transfer is the principal cause of this error becoming fossilized in the foreign language. These not only affect grammatical accuracy, but also the fluency and overall quality of the learners' written and spoken English.

Spelling Errors. Wahyuni and Syarif (2013), in their study of Indonesian university students, and Labag (2022), who examined 10th-grade students from a different background, both stated that unresolved spelling errors can become entrenched and hinder effective written communication. Hence, learners tend to omit, add or change some letters in a word as in their mother tongue the words are written as pronounced. This is evident among Indonesian students who present certain recurrent patterns especially in spelling and syntax. To illustrate it, Wahyuni and Syarif (2013) observed that Indonesian learners of English are likely to write the word actress as "actris", "actrees", or "actres". On the other hand, Labag (2022) found errors in the word tree as "three" and friend as "freind". They stated that the findings suggest native language interference as an important role in the fossilization of such errors and highlighted the importance of targeted feedback to address these persistent problems.

Strategies to Overcome Writing Fossilization

Guo (2022) and Savitri and Kadarisman (2019) suggested that writing fossilization can be addressed through the implementation of appropriate and effective strategies. Extending on this idea, Guo's (2022) study, using a systematic review of existing data, underlined the importance of enhancing language input as a means to overcome this phenomenon. In other words, teachers are responsible for providing students with opportunities to engage in authentic language environments, given that EFL learners have limited access to natural target language outside classrooms. Another crucial aspect is practicing meaningful output, as it can help learners refine their accuracy and fluency in writing. Through this process, students notice their grammatical limitations in expressing an idea and receive feedback. Additionally, educators are required to carefully select textbooks and teaching materials since fossilization arises from the inappropriate choice of these resources. It is also necessary to address cultural misunderstandings by integrating culturally relevant activities into language instruction (Guo, 2022).

Conversely, Savitri and Kadarisman (2019), in their literature-based study that synthesizes existing research and empirical data on the topic, proposed three strategies that differ from those outlined by Guo (2022). To start with, they highlighted the importance of providing

corrective feedback as a means of helping learners identify and rectify errors before they become ingrained. Subsequently, the use of a diary is mentioned to be an effective approach by encouraging learners to actively track their errors, promoting self-awareness and reflection. Finally, extensive reading activities expose learners to a wide range of correct grammatical patterns in authentic contexts, fostering implicit learning and reinforcing correct usage. These strategies aim to enhance learners' grammatical awareness, facilitate self-correction, and prevent or eliminate fossilized errors (Savitri & Kadarisman, 2019).

Although the above-mentioned studies aim to address writing fossilization, they employ diverse approaches. Guo (2022) focused on instructional improvements, highlighting the enhancement of input, output, as well as the careful selection of textbooks and materials. On the other hand, Savitri and Kadarisman (2019) centered on autonomy and reflective practices, integrating corrective feedback, fossil diaries, and extensive reading activities that promote self-correction. These divergent viewpoints show that there is no consensus on the most effective strategies. However, the integration of pedagogical and reflective practices could provide a more effective approach to address this phenomenon.

Chapter III: Research Methodology

Methodology

According to Cooper et al. (2009) “a research synthesis can be defined as the conjunction of a particular set of literature review characteristics. ... [It] attempts to integrate empirical research for the purpose of creating generalizations” (p. 20). Based on that, a research synthesis was chosen to comprehensively examine fossilization in EFL writing. The primary objective was to identify the most common fossilized errors in EFL learners' writing and analyze strategies to address fossilization.

Therefore, to accomplish the stated objective, a systematic procedure was used. First, to collect relevant and reliable sources about fossilization in EFL writing, the following databases were consulted: Google Scholar, ScienceDirect, SCOPUS, EBSCOHOST, ERIC, and ELSEVIER. Furthermore, the subsequent journals were reviewed: *Eduvelop: Journal of English Education and Development*, *Springer Open*, *Ilkogretim Online*, *Journal of Al-Quds Open University for Educational & Psychological Research & Studies*, *Cihan University-Erbil Journal Of Humanities And Social Sciences*, *International Journal Of Business Humanities Education And Social Sciences*, *Journal of Education and Practice*, *Indonesian Journal of Applied Linguistics*, *SCIEDU*, *International Journal of Research in Engineering, Science and Management*, *Iranian Journal of Applied Linguistics*, *Journal of English Education*, *English Language Teaching*, *Journal On English As A Foreign Language*, *Frontiers in Educational Research*, *Sage Journals*, *Sino-US English Teaching*, *Proceedings of the 2022 7th International Conference on Humanities and Social Science Research (ICHSSR 2022)*, *DSpace*. Additionally, some key terms and combinations of terms were employed to select the most suitable sources: EFL students, EFL students and fossilization, fossilized writing errors', writing fossilization, EFL writing and strategies to overcome fossilization.

This research synthesis included the analysis of 20 empirical articles on analyzing and overcoming fossilization in EFL writing, considering the following inclusion criteria for their eligibility:

1. Scientific papers published after 2010.
2. Papers based on qualitative, quantitative or mixed methods approaches.
3. Scientific papers analyzing the most common writing fossilized errors and different strategies to overcome this phenomenon.

The aforementioned sources and classification criteria contributed to the achievement of the study's aim. After data collection was completed, a comparative analysis was applied to gain a deeper understanding of the phenomenon under investigation. This approach involved identifying similarities and differences among the selected resources, enabling the elaboration of categories and meaningful conclusions that emerged throughout this process.

Chapter IV: Data Analysis

Results and Analysis

The following section provides a data analysis of 20 articles that contribute to answering the research questions of this study: What are the most common fossilized EFL writing errors? What strategies can teachers use to overcome different fossilized errors?

To explore these questions further, the studies were categorized by region, methodology, causes of writing fossilization, most common errors, and strategies for overcoming fossilized forms. Each category is examined alongside its corresponding subcategories.

Distribution of Studies by Region

The first category provides an overview of the different regions from which the selected studies originated. A total of 20 articles, published in various regions, were analyzed, and their distribution is presented in Table 1. The analysis begins with the regions that contributed the most to the topic of fossilization and follows through to those that contributed the least.

Table 1

Distribution of Studies by Region

Regions	Authors	N° of studies	Percentage
Asia	Aini et al. (2020); Albelihi & Al-Ahdal (2024); Al-Ibadi & Breesam (2021); Al-Jamal (2017); Azeez (2024); Fanny et.al. (2022); Faraj (2015); Fauziati (2011); Huang (2018); Labag (2022); Marefat and Nushi (2012); Nozadze (2012); Qian & Xiao (2010); Rustandi et.al. (2023); Shi & Peng (2024); Wahyuni & Syarif (2013); Yossatorn et al. (2022); Zhang & Xie (2014)	18	90%
Europe	Jiang (2023)	1	5 %
Africa	Benzouaoui & Fettah (2023)	1	5 %
Total		20	100 %

As shown in Table 1, Asia accounts for the largest concentration of research on fossilization, with 90% of studies originating from this region. This prevalence may be due to the academic interest of Asian countries in the topic, the availability of resources, and their engagement in

this field. Conversely, Europe and Africa each provided only one study to this research. Jiang (2023) Benzouaoui and Fettah (2023) have been the only researchers from these two regions; this suggests a potential gap in fossilization studies that could be a further source of exploration.

Notably, neither America nor Oceania supported investigation on fossilization; this brings into question the research importance given to other topics or issues in these regions. However, it underlines the opportunity for future research and interregional comparative explorations to better understand how this phenomenon occurs in diverse linguistic environments. It should be pointed out that data collection across different regional contexts presented certain difficulties regarding outdated articles and restricted areas due to required payments, hindering a deeper analysis of the topic.

Distribution of the studies by the methodology used

The following category displays the methodology used in each selected study. This analysis enables comprehension of how data was collected and interpreted, enhancing the reliability of the findings. Therefore, Table 2 presents an overview of the most and least frequently used strategies. This analysis not only indicates the different tendencies used in research but also the diverse approaches within the field.

Table 2

Distribution of the studies by methodology used

Methodology type	Authors	N° of studies	Percentage
Mixed method	Al-Ibadi & Breesam (2021); Albelihi & Al-Ahdal (2024); Al-Jamal (2017); Benzouaoui & Fettah (2023); Fanny et.al. (2022); Jiang (2023); Marefat & Nushi (2012); Wahyuni & Syarif (2013); Yossatorn et.al. (2022), Zhang & Xie (2014)	10	50 %
Quantitative	Azeez (2024); Faraj (2015); Huang (2018); Nozadze (2012); Rustandi et al. (2023); Shi and Peng (2024).	6	30 %

Qualitative	Aini, et.al. (2020); Fauziati (2011); Labag (2022); Qian, & Xiao (2010).	4	20 %
Total		20	100%

The preceding table illustrates that there is a marked dominance in the mixed-methods approach, indicating researchers' preference toward the mentioned methodology. This may be attributed to the fact that the mixed method combines the complexities of qualitative insights with the measurability and generalizability of quantitative data, making it more appropriate for addressing the layered nature of the topic; thus, language learning and error persistence can be more accurately captured by integrating both numerical and experimental findings. When examining the research instruments employed in the mixed-method approach, a considerable number of authors used written essays to identify common fossilized errors (Albelihi & Al-Ahdal, 2024; Al-Ibadi & Breesam, 2021; Fanny et al., 2022; Marefat & Nushi 2012; and Zhang & Xie, 2014). Several studies also employed structured questionnaires (Al-Ibadi & Breesam, 2021) and translation tasks (Yossatorn et al.,2022) as a means for collecting data in the same field. Additionally, to obtain information about perceptions and underlying causes of fossilization, Benzouaoui and Fettah (2023) utilized semi-structured interviews, Albelihi and Al-Ahdal (2024) employed essays, and Jiang (2023) relied on corpus analysis. In contrast, other researchers used content or corpus analysis (Albelihi & Al-Ahdal, 2024; Jiang, 2023) and case study designs (Al-Jamal, 2017 & Wahyuni, 2013) to address individual learning processes. Beyond this, studies such as Zang and Xie (2014) and Marefat and Nushi (2012), have adopted corrective feedback approaches and longitudinal observations to comprehend the recurrence of errors over time and correct them. This variety of instruments indicates a tendency towards the combination of textual performance methods with perceptual or explanatory tools, thus reflecting the challenging nature of fossilization in language learning. Subsequently, the quantitative method is explored, which provides objective and standardized data through various research instruments. Within this context, Azeez (2024) employed writing tests that, in his study, served primarily as a means to identify the most common fossilized writing errors at Cihan University- Erbil. In the same vein, Faraj (2015) combined pre- and post-test questionnaires with a Likert scale to assess the effectiveness of scaffolding as a technique to improve students' writing skills and avoid fossilization. Likewise, Shi and Peng (2024) analyzed student writing samples to identify lexical and grammatical fossilization patterns. The aforementioned procedures have applied a comparative structure that enables

the collection of longitudinal data (data over time). In contrast, Huang (2018), Nozadze (2012), and Rustandi et al. (2023) utilized simple questionnaires, such as multiple-choice questions, to provide insights into the current issues presented by students. This contrast points out how the use of instruments reflects each study's research goals and level of analysis.

Lastly, the qualitative method is represented by Aini et al. (2020), Fauziati (2011), Labag (2022), and Qian and Xiao (2010), who primarily utilized semi-structured interviews and in-depth document analysis to explore key concepts and issues related to the topic. Only 4 of the 20 studies employed this methodology; this may be attributed to the intricacy of analyzing subjective data and the time-consuming nature of qualitative research. However, these studies provided insights that quantitative methods often omit.

The Causes of Writing Fossilization

Understanding the causes of fossilization is the key step for developing deeper insights about the phenomenon and proposing possible strategies to address it, thus contributing to the research question of this study. In light of this, the present category displays the factors leading to writing fossilization, classifying each into internal and external categories, as was stated in the literature review, to facilitate its comprehension.

Internal Causes of Writing Fossilization

Table 3

Internal Causes of Writing Fossilization

Cause	Authors	N° of Studies Percentage
Cognitive Oversimplification Overgeneralization	Factors: Azeez (2024); Fauziati (2011); Huang (2018); Jiang (2023).	50 %
Affective Factors (Negative Feelings and Motivation)	(Nozadze (2012); Qian & Xiao (2010).	25 %
Limited Knowledge of the Target Language	Aini et al. (2020); Benzouaoui & Fettah (2023).	25 %

Total	8	100%
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The most frequently mentioned internal factor is related to cognition, specifically oversimplification and overgeneralization. Accordingly, oversimplification refers to when students rely on basic structures to express themselves in the target language (Azeez, 2024; Fauziati, 2011; Huang, 2018; Jiang, 2023). Azeez (2024), the only author to deepen the discourse on this idea, further contributed to this subcategory by stating that grammatical rules, articles, tenses, and plural forms are prone to be simplified. It may be attributed to the fact that learners find some grammar aspects difficult or unnecessary. As a result, they adapt the language to suit their needs, which leads to repetition of mistakes and prevents language improvement, resulting in fossilization.

With regard to overgeneralization, Azeez (2024), Fauziati (2011), Huang (2018), and Jiang (2023) explained that EFL learners apply certain rules across all items in a grammatical category. For instance, this includes the incorrect addition of the ed- suffix to irregular verbs, or errors in forming plural nouns. Azeez (2024) stated that learners are unable to identify those errors; consequently, overgeneralization occurs irrespective of the teaching methods and feedback. One possible explanation for this issue could be related to the learner's need to communicate rapidly and the lack of awareness of grammatical rules. Therefore, EFL learners often apply one rule to different or unfamiliar situations, or they rely on structures from their mother tongue as a temporary solution. This not only causes fossilization, but also miscommunication. The analyzed studies have provided a clear picture of the cognitive factors of writing fossilization. However, additional research is required as Azeez (2024) is the sole author who provided a more in-depth perspective.

Continuing with the table, affective factors, such as negative feelings and motivation, play a crucial role in writing fossilization. Nozadze (2012) and Qian and Xiao (2010) agreed that anxiety and embarrassment are significant barriers that hinder learning progress. These feelings arise from students' comparisons with their partners when working in groups, preventing them from seeking help and making revisions, both of which are crucial for correcting errors (Qian & Xiao, 2010). Besides anxiety and embarrassment, the factors that trigger negative feelings in students when learning a language include the fear of making mistakes, being judged, or not feeling capable of communicating effectively, thus affecting their progress. Nozadze, (2012) further expanded this discussion by highlighting the impact of motivation. If students do not feel motivated, they reduce their personal engagement and diminish their willingness to reflect on and correct language errors. In some instances,

learners' motivation seems to be linked to inappropriate teaching methods or materials, a lack of interest in learning a different language, and the absence of a real-world context. This demonstrates the importance of creating a learning environment that fosters motivation and confidence in learning by engaging in meaningful activities, encouraging active participation, and providing consistent support that is relevant to students' individual needs and interests. In other words, if students are motivated, they are more inclined to work on improving their proficiency and are less susceptible to fossilizing errors, or more likely to avoid them altogether.

Another identified factor is the limited knowledge of the target language. Students often applied incorrect grammatical rules due to their incomplete knowledge of the target language, leading to fossilized forms (Aini et al., 2020; Benzouaoui & Fettah, 2023). It is worth emphasizing that many researchers do not consider the limited knowledge of the target language to be a cause of writing fossilization since it is often perceived as a previous, general characteristic of learners. However, the studies presented in the table, as well as the present study, contemplate this as a factor of writing fossilization. If students lack a deeper understanding of grammatical rules or the required tools to recognize and correct errors, they are more likely to experience fossilization.

External Causes of Writing Fossilization

Table 4

External Causes of Writing Fossilization

Cause	Authors	N° of Studies	Percentage
Native Language Interference	Aini et.al. (2020); Albelihi & Al-Ahdal (2024); Benzouaoui & Fettah (2023); Fauziati (2011); Huang (2018); Jiang (2023); Nozadze (2012)	7	47%

Strategies and Materials	Azeez (2024); Fauziati (2011); Huang (2018); Jiang (2023); Nozadze (2012); Qian & Xiao (2010)	6	40%
Cultural Background	Albelihi & Al-Ahdal (2024); Nozadze (2012)	2	13%
Total		15	100%

Note. Although the table lists 15 studies, only 10 different sources were used. Some studies are included in more than one subcategory.

The analysis of empirical studies has shown the presence of three external causes of fossilization in EFL writing. The one that stands out is the interference of the native language. It occurs when learners transfer patterns, structures, or rules from their native language to the target language (Aini, Mufid & Sari, 2020; Albelihi & Al-Ahdal, 2024; Benzouaoui & Fettah, 2023; Fauziati, 2011; Huang, 2018; Jiang, 2023; Nozadze, 2012). This transfer may be because learners are not aware of the structural differences between the two languages, and it is easier and faster to rely on structures that their brain already knows. It is worth mentioning that students who translate literally from one language to another transfer patterns of their mother tongue as well. In this context, Aini et al. (2020) and Albelihi and Al-Ahdal (2024) recognized the presence of both positive and negative language transfer, highlighting that negative transfer leads to fossilized forms. However, Huang (2018) attributed the excess of language transfer to the employed methodologies and the input provided by the teacher.

Subsequently, the table displays that 40% of studies identified strategies and materials as another factor of writing fossilization. Regarding strategies, Huang (2018) and Qian and Xiao (2010) found that the incorrect students' learning techniques are the first gap that needs to be solved. In contrast, Azeez (2024) argued that instructional strategies implemented by teachers prioritize communication over accuracy, leading to fossilized errors. These findings indicated that both students and instructors play a crucial role in the avoidance of the mentioned problem by implementing effective strategies that foster accuracy and fluency, along with innovative teaching materials. Furthermore, Qian and Xiao (2010) noted that a mismatch between learners' preferences and provided materials can lead to stagnation and disengagement. The

aforementioned cause can reduce students' active participation in language learning, thus reinforcing fossilized writing errors.

The last findings underscore the cultural background in the persistence of writing fossilized errors. Albelihi and Al-Ahdal (2024) and Nozadze (2012) agreed that different sociocultural perspectives can influence how errors are perceived by learners. This may be due to different communicative traditions or norms across societies that influence how students' language use varies. Thus, educators must recognize those differences to offer tailored instruction based on the challenges students face, mitigating fossilization. Attention should be drawn to the lack of details about this factor as authors do not provide a deeper study on this category.

Most Common Fossilized Errors

In the field of language learning, fossilized errors are those that have become embedded in a learner's language. This section focuses on identifying and analyzing the most common errors observed in some empirical research. Based on the analysis of the previous studies, these errors have been grouped into specific categories that reflect the recurring mistakes presented by EFL learners.

Table 5

The Most Common Fossilized Errors

Types of Errors	Authors	N° of studies	Percentage
Articles	Aini et al. (2020); Albelihi & Al-Ahdal (2024); Al-Jamal (2017); Azeez (2024); Fauziati (2011); Labag (2022).	6	31.58%
Spelling errors	Al-Ibadi & Breesam (2021); Al-Jamal (2017); Azeez (2024); Labag (2022); Rustandi et al. (2023); Wahyuni and Syarif (2013)	6	31.58%
Prepositions	Al-Ibadi & Breesam (2021); Albelihi and Al-Ahdal (2024); Azeez (2024); Fauziati, (2011).	4	21.05 %

Verb Tense and Subject-Verb Agreement	Albelihi and Al-Ahdal (2024); Al-Ibadi and Breesam (2021), Yossatorn et al. (2022).	3	15.79%
Total		19	100 %

Note. Although the table lists 19 studies, only 11 different sources were used. Some studies are included in more than one subcategory.

Table 5 labeled the most common fossilized writing errors in EFL learners into four main types, indicating the consistent challenges they face. Concerning articles from Aini et.al. (2020), Albelihi and Al-Ahdal (2024), Al-Jamal (2017), Azeez (2024), Fauziati (2011), and Labag (2022) showed a common pattern in their results by indicating that learners continue to have difficulties in mastering grammatical elements that often do not exist or work differently in their native languages. For instance, students tend to omit the definite article “the” and misuse the indefinite article “a” or “an”, demonstrating ongoing difficulties with article usage (Labag, 2022). Albelihi and Al-Ahdal (2024) attributed this problem to cross-linguistic differences, limited exposure to authentic English materials, and cultural influences that prevent correct usage. Endorsing this, Al-Jamal (2017) revealed a lack of awareness and insufficient knowledge as two major contributors to the fossilization of incorrect article use; this consistency may stem from incorrect memorization of vocabulary, inadequate practice, and an improper use of learning strategies.

Additionally, spelling errors emerge as a persistent problem in writing as stated by the authors listed in the table. These errors are caused by the influence of learners' first language, as found by Azeez (2024) and Wahyuni and Syarif (2013). This influence is evident in morphological and syntactic differences between Kurdish, Arabic, and English, leading students to change, add or omit letters in a word, significantly affecting learners' comprehension and written production. For example, Indonesian English learners often struggle with spelling words correctly. If not corrected promptly, such errors may become fossilized (Wahyuni & Syarif, 2013).

Elaborating on this point, Azeez (2024) identified that useless learning habits and teachers' practice contribute to fossilized errors. For that reason, addressing spelling errors efficiently may require more than just corrections; as stated prior, it could imply a change in methodologies to teach and reinforce accuracy in EFL instruction. Labag (2022) and Rustandi et al. (2023) further explained that many spelling errors lead to misunderstanding in communication, which gives a light to educators on the importance to focus on targeted and

immediate feedback. Hence, it may be interpreted as suggesting that spelling errors do not occur in isolation but may be indicators of broader cognitive and pedagogical patterns, highlighting the necessity for explicit and specific feedback in the classroom, as it may help learners recognize and correct these ingrained patterns, along with being aware of the persistent influence of learners' first language in foreign language learning.

Prepositions, which account for 20% of the studies, also exhibit cross-linguistic interference in learners (Al-Ibadi & Breesam, 2021; Albelihi & Al-Ahdal, 2024; Azeez, 2024; Fauziati, 2011). In accordance with Albelihi and Al-Ahdal (2024), most of these errors are caused by the multiple and overlapping functions of prepositions, their use in fixed expressions, and learners' limited exposure to authentic language contexts. They remarked that learners often find confusion resulting from the connotative meanings of certain combinations (e.g., angry with vs. angry at) and tend to rely on superficial memorization rather than deep understanding. Additionally, Fauziati (2011) found that learners misuse prepositions due to the structural differences between learners' mother tongue and the target language (Arabic and English). On the whole, prepositional errors may result from the complex nature of their use in English; nonetheless, with continuous feedback and real-life meaningful tasks, students may prevent these errors from becoming fossilized.

Finally, Albelihi and Al-Ahdal (2024), Al-Ibadi and Breesam (2021), and Yossatorn et al. (2022) identified verb tense and subject-verb agreement as frequent sources of difficulty and fossilization among EFL learners. Although the authors do not elaborate on this error type, it can be inferred that EFL learners make mistakes in this area due to the interference on L1, as has been mentioned in previous categories. Put differently, in some languages (Arabic), the verb does not change as English does, or they do not have rules for third person, leading to a negative transfer. Consequently, targeted practice and instruction may be necessary to minimize such errors since these may not only affect grammatical accuracy, but also the fluency and overall quality of learners' writing.

Strategies to Overcome Writing Fossilization

Built upon the causes of writing fossilization and its most common errors, possible strategies have been underscored in the present table to avoid this issue in EFL students' language learning process. Hence, these procedures were categorized into three subcategories for a better understanding

Table 6*Strategies to Overcome Writing Fossilization*

Authors	Cognitive strategies	Affective strategies	Sociocultural strategies
Huang (2018)	Input	Positive feedback	–
Qian & Xiao (2010)	Strategic Feedback	Self-regulation strategies (motivation, attitude, and risk-taking)	–
Zhang & Xie (2014)	Feedback and Input	-	Integrative Cultural Instruction
Jiang (2023)	–	–	Integrative Cultural Instruction
Labag (2022)	Error documentation	–	–
Marefat & Nushi (2012)	Explicit/implicit feedback	–	
Shi & Peng (2024)	Feedback (Error Correction)	-	Contextualized Writing Practice

To begin with, cognitive strategies are those that involve mental processes to help the learner to understand, remember, and use the language in a better way. Specifically, feedback is part of this subcategory and the most mentioned strategy, as stated by Qian and Xiao (2010), Marefat and Nushi (2012), and Zhang and Xie (2014), with each of them presenting a different focus. From Qian and Xiao's (2010) point of view, strategic feedback, one that is reflective, intentional, and designed to make learners aware of their mistakes, is implemented by teachers to reduce fossilized forms, promote their creativity, and encourage self-regulated

learning. It is reasonable to suggest that learners should be immersed in the process of noticing and reflecting on recurring errors, which is important to promptly address embedded mistakes. Conversely, Marefat and Nushi (2012) found both implicit and explicit feedback effective, with the latter being more effective in certain grammatical areas (e.g., tense, word order). Their results indicated that learners are more likely to notice explicit adjustments as corrective-feedback; in contrast, implicit feedback is less clear, as students may lack sufficient knowledge about their own errors. Moreover, Zhang and Xie (2014) showed that if EFL learners do not receive corrective feedback, they think their language use is correct, leading to fossilized errors. Further, grounded in the evidence identified by Shi and Peng (2024), there are three different styles of this approach, which are teacher error correction, peer correction, and self-correction, with the former being the most important to minimize the negative transfer of the L1, a principal cause of writing fossilization. This leads to the possible conclusion that teacher correction is the most effective strategy due to the fact that educators could be equipped with the right knowledge to notice fossilized mistakes and how to correct them. Conversely, it seems that students may face challenges in recognizing errors, hindering the effectiveness of peer or self-correction and, consequently, making it difficult to prevent fossilized errors.

Subsequently, input is singled out by Huang (2018) and Zhang and Xie (2014) as a factor influencing fossilization since non-native English learners do not have access to natural language environments. For that reason, they need to be exposed to meaningful and rich insights in formal teaching settings to help reduce fossilization. Moreover, Huang (2018) revealed that teachers should increase comprehensible input in class, providing writing topics close to daily lives. The evidence around EFL learning suggests that using newspaper articles, magazines, blogs, and personal stories on topics relevant to learners, alongside other forms of authentic material, may be great opportunities to see how writing language is used in real-life contexts. This type of consistent model of writing may increase their awareness of correct grammatical structures and vocabulary use, which can help prevent them from fossilizing common errors.

Based on Labag's (2022) findings, error documentation is crucial to address writing fossilization, as it involves teachers allowing their students to document their mistakes and what they consider to be their fossilized errors. Likewise, teachers can keep a written record of the frequent errors found in the classroom and provide respective corrections. This may suggest that in doing so, teachers should raise students' awareness of the error type they are making.

In order to achieve this, educators could implement activities such as assigning colors to different writing error forms (e.g. red for prepositions, blue for articles, green for spelling errors,

etc.), which could vary according to learners' preferences. As shown by the author's results, collaboration between teachers and students may be promoted to avoid writing fossilization. Affective strategies, as discussed by Huang (2018), Qian and Xiao (2010), Zhang and Xie (2014), and Shi and Peng (2024), are intended to foster a positive learning environment. As outlined in Table 6, each author presents different views concerning the idea. Respectively, Huang's (2018) insights revealed that excessive correction weakens learners' confidence and hinders emotional engagement. For that reason, educators bear the responsibility to show a positive attitude when correcting fossilized errors in writing tasks, that is to say, avoid overreacting since error occurrence is a natural aspect in language learning. The described features are associated with positive feedback, which is substantiated by the affective filter hypothesis. This could indicate that instead of being judgmental with students', they may be encouraged with positive comments first (how well students did in their writing tasks) and then gently corrected on their fossilized errors.

A subsequent approach is self-regulation. Qian and Xiao (2010) showed that motivation, attitude, and risk-taking are an integral part of correcting fossilized forms. Particular attention should be paid to the fact that this strategy is a student's responsibility, as they must have a strong reason to learn a foreign language. This also entails being motivated, open to taking risks, even when errors are likely, and having the ability to manage emotions in group settings. This might signify that as students take risks, such as sharing their writing, using advanced vocabulary, and testing new syntactic patterns, whether with the teacher or among peers, they are more likely to receive corrections and prevent their errors from becoming fossilized. Conversely, if they lack motivation, they may not put in the necessary effort to improve their writing skills, leading to the persistence of errors.

The concluding category, as shown in the table, illustrates that sociocultural strategies also play a crucial role in helping students to overcome fossilized forms in writing. Zhang and Xie (2014) and Jiang (2023) insights revealed the importance of incorporating culture in foreign language classes. Both authors proposed integrative cultural instruction since it is considered a key component in the teaching process. In this context, they noted that fossilized errors result from learners' lack of cultural knowledge of the target language (Zhang and Xie, 2014 & Jiang, 2023). Hence, this approach aims to reduce fossilization and to improve language proficiency and intercultural communication skills. This strategy could be applied in EFL classrooms through writing tasks based on cultural topics or stories from the target language, which can make students aware of the correct use of writing language, as well as the cultural significance of it.

However, Shi and Peng (2024) exposed the importance of contextualized writing practice, that is, creating different contexts to facilitate students' understanding of the use of certain

vocabulary and other grammatical structures. The presented results may advocate that as long as students find writing tasks meaningful for them, they may be more able to internalize the language, promoting grammatical accuracy and addressing fossilized errors.

Beyond the findings presented, this work suggests that educators should implement contrastive analysis strategies in their teaching practices, as this approach may help students to be aware of the similarities and differences between their mother tongue and English, preventing any of the fossilized errors mentioned above, such as articles misuse, omission, substitution, addition errors, and preposition errors.

Chapter V: Conclusion and Recommendations

Conclusion

The present study analyzed the phenomenon of writing fossilization in the EFL context, aiming to identify the most common fossilized writing errors and to examine instructional strategies proposed to address this phenomenon. With these objectives in mind, the current research synthesis examined 21 different empirical articles from which the following key conclusions were drawn.

To begin with, it became evident that article usage, along with spelling errors such as omission, substitution, and addition of letters in a word, and prepositions, represent the most persistent fossilized difficulties encountered by learners, as stated by the different authors presented in the results section. The occurrence of those mistakes is related to learners' mother tongue influence (Wahyuni & Syarif, 2013; Rustandi et al., 2023), which is the principal cause of such errors. Therefore, to address this difficulty, educators need to make students aware of the differences between languages. Moreover, errors involving prepositions, spelling mistakes, and subject-verb agreement were also found; however, these were less frequently reported. Furthermore, Labag (2022) pointed out that to overcome writing fossilization, the collaboration and effort of students and educators are required. Nevertheless, teachers can lead this process by providing explicit yet positive feedback, enabling learners to become aware of their ingrained mistakes, offering opportunities for significant improvement and correction. Therefore, as supported by several researchers, feedback has shown to be the most beneficial strategy to deal with this issue. Additionally, teachers can foster students' autonomy and metacognition by implementing error documentation, encouraging students' responsibility to monitor their own progress. Undoubtedly, more strategies such as those involving cognitive and affective factors are also beneficial for students; nonetheless, these approaches were not broadly discussed by the researchers reviewed.

These findings are particularly valuable since they support the educational field in multiple aspects. By categorizing the most common errors, teachers can anticipate errors that are prone to fossilization and work proactively to avoid them, as this problem can hinder students' learning process. In addition, the analysis provides deeper insight into the challenges students face, supporting teachers in developing more contextualized and tailored instruction in writing. Furthermore, a list of identified strategies is given for educators to implement in their teaching practice. Clearly, these approaches are not subject to a specific error, but teachers can apply them according to their preferences and needs.

To conclude, it is remarkable to mention that according to the selected empirical studies, fossilized errors can be corrected by recognizing the complexity of this phenomenon and

implementing the appropriate strategies; however, it remains a challenge for both educators and learners as it is a gradual process.

Recommendations

The following recommendations not only focus on supporting future research about the topic, but also on improving the preparedness of prospective teachers to deal with learners' errors that have become resistant to correction. Accordingly, these recommendations are meant to serve as a guide for researchers and educators.

As a starting point, given the lack of research in the Americas, particularly in Ecuador, it is advisable to conduct studies on writing fossilization in this region. Considering this gap would offer a deeper understanding of the occurrence of fossilized errors within the local context.

Furthermore, an area worth exploring is the research of fossilized writing error occurrence across learners' level or age since they are crucial factors in language learning. That is, analyzing how these errors appear in beginners compared to advanced students, or younger and older learners, could indicate when and why certain errors become embedded. This recommendation emerges from Second Language Acquisition (SLA) theories that emphasize the role of developmental stages and age-related cognitive flexibility. For instance, Corder's Error Analysis theory suggests that there are specific stages in which certain errors become ingrained if not addressed appropriately. Similarly, Selinker's theory illustrates how fossilization is influenced by age, motivation, and exposure. These factors can vary significantly across proficiency levels and age groups.

A further recommendation is to prepare pre-service teachers on writing fossilization since it has not yet been deeply explored in their training programs. That is to say, it is advisable to introduce a module into the curriculum that focuses on this issue and effective strategies to address it. This would better equip pre-service teachers to recognize and manage persistent learner errors.

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