Feedback on English as an Additional Language Students' Writing: Trends in Corrective Feedback Strategies

by

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Abstract

Written Corrective Feedback (WCF) has gained continuous attention in recent years. This growing interest is attributed to both the conceptual controversies surrounding feedback and the variety of available written corrective feedback strategies. While the diversity of options (and opinions) allows teachers to differentiate instruction and feedback, it also poses challenges such as confusion and insecurity, as teachers need to fully understand the characteristics of each strategy and which factors might influence them, in addition to understanding their students' individual needs and abilities to make informed decisions concerning the most suitable strategy.

To address such complexity in feedback choices, this study takes a content analytic approach to synthesize and compare 48 empirical studies of written corrective feedback on English as an Additional Language (EAL) students' writing published between 2011 and 2019. The main aim of this content analysis is to investigate written corrective feedback trends over the years and identify potential factors that could impact the effectiveness of these WCF strategies. Results indicate that written corrective feedback can foster improved language accuracy and help EAL students to enhance their second language writing skills. However, feedback's efficacy is mediated by certain variables that include the learners' proficiency levels, age, the learning environment, previous content and metalinguistic knowledge, and students' and teachers' perceptions of the corrective feedback. Furthermore, the duration of exposure to both the target language and the WCF strategy also plays an important role in the effectiveness of the feedback.

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No Meio do Caminho

Carlos Drummond de Andrade

No meio do caminho tinha uma pedra
tinha uma pedra no meio do caminho
tinha uma pedra
no meio do caminho tinha uma pedra.

Nunca me esquecerei desse acontecimento
na vida de minhas retinas tão fatigadas.
Nunca me esquecerei que no meio do caminho
tinha uma pedra
tinha uma pedra no meio do caminho
no meio do caminho tinha uma pedra.

Carlos Drummond de Andrade was a Brazilian poet and writer born in Itabira, Minas Gerais and is considered a national cultural symbol in Brazil. In this poem, Drummond uses the repetition of “pedra” (in English “stone”), to symbolize the obstacles and challenges people face in their life journeys that slow down or impede their paths. As educators and learners, immersed in the delicate dance of providing and interpreting corrective feedback, we also come across these “pedras” that test our resilience. May each “pedra” be a steppingstone and a testament of our strength. May each “pedra” translate into empowerment, learning, and determination.

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My mom, Irene. My dad, Jose, in loving memory. Thank you for trying to be the best you could and for teaching me perseverance.

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Glossary of Written Corrective Feedback Terms

Asynchronous Corrective Feedback – feedback is given after the student has completed and submitted the piece of writing.

Synchronous Corrective Feedback – this occurs in an online computer-mediated environment in which students receive feedback during the writing process (like Grammarly).

Coded Corrective Feedback – use of codes such as WW (wrong word), WF (wrong form), among others to show the students where and what type of mistake they made. Students may then be directed to correct the mistakes by themselves.

Direct Corrective Feedback – the provision of the correct linguistic form or structure of the target language. Usually, corrections are made above or near the error.

Indirect Corrective Feedback – teachers indicate the errors by underlining or circling (without providing detailed information on the precise type of error); recording the number of errors in a given line; or using a code. Students are led to reflect and come up with the correct forms by themselves.

Dynamic Corrective Feedback – an instructional approach in which the teacher provides feedback on what the student needs most, ensuring that feedback is timely, meaningful, constant, and manageable.

Electronic feedback – the instructor points out the mistakes and gives the students a link to a reference file that contains examples of adequate use of the structure**.**

Focused feedback – students' attention is directed to a limited number of specific errors that meet predetermined learning objectives.

Unfocused Feedback – teachers flag and provide feedback on all or most of the errors in students' writing.

Metalinguistic explanation – the teacher provides students with grammar rules and examples of correct usage.

Metapragmatic feedback – feedback on practical use of language in real-life situations, considering context, social interactions, and intended meaning, without providing the correct answer to error-related comments or questions.

Peer-review – a technique in which students read the drafts of their peers to make suggestions for revision.

Reformulation – the teacher rewrites the inaccurate part to make it more native-speaker-like while maintaining the original idea.

Rubrics – a type of document that describes levels of quality from excellent to poor based on a set of criteria.

(Based on Ellis, 2019; Maleki & Eslami, 2013)

Chapter 1: Introduction

The purpose of this thesis is to synthesize published empirical studies of written corrective feedback (WCF) on English as an Additional Language (EAL) students' writing to investigate corrective feedback trends over the years and identify variables that might impact the effectiveness of different feedback strategies. In this analysis, "effectiveness" is defined as the capacity of a WCF strategy to enhance EAL students' writing accuracy and to help them improve their linguistic proficiency in new pieces of writing. It is also worth noting that "effectiveness" can extend beyond accuracy and linguistic proficiency, including aspects such as how WCF can affect students' well-being or confidence. For this reason, the present study will also acknowledge the potential impact of WCF on how it can contribute or not to students' self-esteem and confidence.

In 1996, Truscott claimed that feedback was, as Bitchener and Knoch (2010) paraphrase, "ineffective, harmful, and should therefore be abandoned" (p. 193). To provide counterevidence to Truscott's assertion concerning the ineffectiveness of WCF, a considerable amount of research has since been conducted (c.f. Nemati, Alavi, & Mohebbi, 2019). Written corrective feedback can be defined as the process of correcting errors with the intent to enhance students' writing accuracy (Truscott, 1996). Ellis (2009) defines feedback as a range of strategies that teachers use to address students' linguistic errors and consequently help students to improve their knowledge of the language and writing skills. Irons (2008) describes feedback as an important element to students' progress and motivation that should not only recognize students' achievements but also show areas in need of more attention. Teachers' feedback on EAL students' writing has been framed as crucial for the improvement of both the teaching and learning processes. Feedback gives instructors the opportunity to make necessary instructional, linguistic, and rhetorical

adjustments through reflective practice. It may also engage students to reflect on the work they have done and plan their revisions and future writing effectively.

There are a variety of feedback strategies that teachers can use to enhance students' writing abilities. Coded, oral, written feedback (Alvira, 2015), written metalinguistic explanations (Bitchener & Knoch, 2010), the use of rubrics (Ene & Kosobuchi, 2016), direct and indirect feedback (Alvira, 2015; Bitchener & Knoch, 2010; Chandler, 2013; Karim & Nassaji, 2018), focused and unfocused feedback (Ellis, 2008), electronic feedback (Ellis, 2008), reformulation (Ellis, 2008), and peer review (Bodola & Siam, 2015; Lundstrom & Baker, 2009; Xu & Yu, 2018), among other strategies. Despite the many types and degrees of written feedback practices, multiple factors (including age, language proficiency, interpersonal factors, the features being targeted, and researchers' study designs, for example) have made comparisons between feedback types challenging and consistent measures of feedback efficacy difficult. Teachers face numerous challenges when determining which WCF strategy would be more appropriate to enhance students' writing skills while also meeting their individual needs.

This study aims to contribute not only to existing research concerning understanding the efficacy of written corrective feedback types, but also to help teachers and other relevant stakeholders understand specific characteristics of different corrective feedback techniques. By analyzing current trends and the impact of variables in different feedback strategies, this thesis will provide educators and other stakeholders with a broad view of how different corrective feedback strategies can impact accuracy in EAL students' writing by providing valuable insights for pedagogical practices concerning WCF.

Over the years, researchers have placed increasing emphasis on WCF and its impact on students' writing skills development. For example, Chandler (2003), Alvira (2015), and Karim

and Nassaji (2018) investigated the efficacy of different types of WCF. Alvira (2015) analyzed how coded oral and written feedback impacted the writing of EAL students. Results showed that students became increasingly aware of their mistakes and were more motivated as their writing improved. Alvira also found that students' paragraphs were more coherent over the course of the study compared to their diagnostic writing. Improvement was also observed in aspects such as word choice, sentence structure, conventions (such as punctuation, spelling, and capitalization, among others), organization, and sentence fluency. Chandler's (2003) findings suggest that students who had their grammatical or lexical errors either underlined for self-correction or directly corrected by their teachers improved in both accuracy and fluency. Relatedly, Karim and Nassaji (2018) observed the effects of direct and indirect feedback on students' writing compared to a group of students who did not receive feedback on their errors. According to their results, the feedback groups significantly outperformed the control group in a revision task, suggesting that feedback versus no feedback is beneficial in addressing the errors targeted in their study.

Written corrective feedback research therefore examines which specific WCF strategy might be more effective in improving EAL students' accuracy in writing (Benson & Dekeyser, 2019; Chen, 2018; Ene & Kosobuki, 2016; Farjadnasab & Khodenas, 2017; Guoa & Barrotb, 2019; Nemati, Alavi, & Mohebbi, 2019). For example, Guoa and Barrotb (2019) compared the effects of metalinguistic explanation and direct correction on Chinese EAL learners correct use of regular and irregular past tense verbs and prepositions. Results showed that both metalinguistic explanation and direct correction helped students to correct regular and irregular simple past tense and preposition errors. The authors also observed that the direct correction group demonstrated better performance compared to the metalinguistic explanation group

regarding irregular past tense verb correction. Chen (2018) conducted an 18-week study with 50 Chinese EAL university students to analyze the effects of indirect CF (coded and uncoded) and direct WCF on writing and how students responded to each WCF strategy. When comparing coded and uncoded WCF results, the group that received coded feedback achieved a higher rate of accuracy (86%) in comparison to the group that received uncoded feedback (67.4%). On the other hand, the authors posit that direct corrective feedback may be more effective for correcting word choice errors, and discourse errors – which aligns with Ferris' (1999) categorization of untreatable (vs. treatable) errors. Regarding the effectiveness of WCF strategies, Karim and Nassaji (2018) importantly note that "the use of different feedback tools should be viewed more as a matter of suitability rather than superiority" (p. 536).

The overarching analytical approach used for the following study is content analysis, addressed here briefly and expanded on in Chapter 3. Although different perspectives of content analysis exist, for the forthcoming analysis in this thesis, I draw on principles described by Weber (1990), Neuendorf (2002), and Krippendorff (2004). Content analysis is a research method that uses a systematic set of procedures such as counting, coding, comparing, contrasting, and categorizing for making valid and replicable analyses of various types of texts (Krippendorf, 2004; Weber, 1990). According to Neuendorf (2002) and Krippendorff (2004), content analysis offers deep insights into complex models of human thought and language use because it focuses on the specific content of the message. Moreover, content analysis "increases a researcher's understanding of particular phenomena, or informs practical actions" (Krippendorf, 2004, p. 18). Neuendorf categorizes content analysis into four common approaches: descriptive – content based, without any inferences or outcome interpretations; inferential – drawing conclusions exclusively from the results of the content analysis; psychometric – providing

clinical assessment for an individual by analysing the messages generated by them; and predictive – using data to make predictions about future outcomes or behaviors. As the conclusions of this study will be presented in a straightforward and descriptive summary, I adopted the descriptive content analysis approach. As Neundorf (2004) notes, researchers conducting descriptive content analysis "limit their conclusions to the content being studied" (p. 53), which is the approach employed in this present study.

The purpose of this content analysis is therefore to analyze current trends of written corrective feedback and to present findings concerning the use of different WCF strategies and their effectiveness. The research questions that guide this study are:

1) What are the major trends in written corrective feedback?
2) Are specific written corrective strategies more effective in reducing errors in EAL students' writing and in what contexts?

In sum, this study will shed light on how different WCF strategies have been used and which strategies, if any, are more effective according to the reviewed studies.

Chapter 2: Literature Review

The main purpose of this literature review is to present what the existing body of literature reveals about written corrective feedback and the role it plays in EAL students' writing development and the reduction of errors. To properly acknowledge the significance of such analyses, research that addressed the use of different types of feedback strategies and the effects these strategies have on students' performance was also examined. The final part of the literature review touches on the growing body of research that explores how EAL students understand and interact with written corrective feedback and how the knowledge acquired is used or not in revisions and/or their future written production. This field of research illustrates the value of corrective feedback, and the difficulties teachers and students encounter to provide and process feedback. Moreover, it brings awareness regarding some of the aspects that teachers should consider when providing feedback and emphasizes the importance of acknowledging EAL students' backgrounds and preferences.

2.1 Understanding the Role of Feedback

There has been continued debate on the true value of corrective feedback in L2 writing. In 2007, Truscott reviewed 13 studies on how corrective feedback develops students' abilities to write accurately. The author aimed to establish the ineffectiveness of written corrective feedback on the improvement of EAL students' writing skills. To conduct this meta-analysis, Truscott selected studies that discussed the use of corrective feedback in writing classes, as well as studies that used authentic samples, compared treatment groups to control groups, studies that were not comprised of one-shot treatment, and required tasks to be completed by the student

independently, without any assistance from the teachers in the writing process. Based on the analysis, Truscott concluded that written corrective feedback, in contrast to most prior research, has a small negative effect on students' writing accuracy. The author reported being 95% sure that if feedback had any positive impact on students' writing skills, the impact was minimal, and the potential negative impacts of WCF outweighed any of these potential benefits. Despite Truscott's efforts to prove the ineffectiveness of corrective feedback, the author recognized that these ideas are not shared among most researchers and teachers. According to Truscott, the debate on the value of corrective feedback "has been largely one-sided, with a wealth of mainstream sources presenting a favorable view of correction and only one brief paper offering an opposing view" (2007, p. 255).

In contrast, Ene and Kosobucki (2016) argued that corrective feedback is an important and formative teaching tool that enhances language skills, gives guidance to students in their writing, and ultimately improves accuracy. Written corrective feedback helps learners develop better awareness about their errors, reduces the gap between learners' errors and the correct forms, and, consequently, helps students to make the necessary amendments without the teachers' eventual support (Goh, 2017). It also promotes language learning and decreases error rates (Nicolás–Conesa, Manchón, & Cerezo, 2019; Sarré, Grosbois, & Brudermann, 2019). For example, Sarré, Grosbois, and Brudermann (2019) conducted a quantitative study involving 93 intermediate university EAL students randomly divided into seven groups to analyze the effect of different types of corrective feedback on the improvement of writing accuracy. For 24 months, students participated in online modules and face-to-face sessions. Students had to complete macro tasks with a focus on meaning along with micro-tasks that concentrated on form and were used for the elaboration of the macro activities. A variety of feedback strategies was used

according to the following control group (CG) and treatment group (TG) division (with six different treatment groups in total):

> TG1: unfocused direct CF – with error correction; CG: no CF; TG3: unfocused indirect CF with metalinguistic comments on the nature of errors; TG4: unfocused indirect CF with metalinguistic comments on the nature of errors combined with extra computer-mediated micro-tasks; TG5: focused indirect CF with metalinguistic comments on the nature of errors combined with extra computer-mediated micro-tasks; TG6: focused direct CF – with error correction; TG7: focused indirect CF with metalinguistic comments on the nature of errors. (Sarré, Grosbois, & Brudermann, 2019, p. 8)

The English teachers received training prior to the beginning of the study concerning linguistic problems. Although the control group did not receive specific corrective feedback, the teacher provided general comments to both control and treatment groups about their performance. To better compare the students' responses to the different types of feedback provided, the authors followed a pretest-treatment-posttest design in which they used students' first writing task for the pretest and their last writing task for the posttest. Corrective feedback was given on linguistic issues categorized by grammatical structures. To analyze the participants' errors, the researchers used a tool called UCLEE (Université Catholique de Louvain Error Editor). UCLEE's error taxonomy consists of 55 error tags, classified into eight categories: Form (F), Grammar (G), Lexico-Grammar (X), Lexis (L), Word redundant, Word missing, Word order (W), Punctuation (Q), Style (S), and Infelicities (Z). Although the specific types of errors that were reduced are not mentioned, which demonstrates a limitation of the study, results showed that corrective feedback, when consistently provided throughout the academic year, reduced the number of

errors over time, and "fosters the production of more accurate output" (p. 17). In the authors' opinion, the use of any feedback strategy is more beneficial than not providing feedback at all.

Irons (2008) reinforces that corrective feedback must be constructive to promote students' self-regulation, increase motivation and self-esteem, as well as bridge the gap between their current and future writing skills. The author posits that "inappropriate" corrective feedback does not promote proficiency development in the second language. Irons defines inappropriate corrective feedback as feedback that is not timely, involves only numeric marks, is contradictory, inconsistent, and unhelpful. As an example, the author cites the case of general corrective feedback given to make students feel better regardless of the quality of their production. Furthermore, according to Weeden et al. (1999), poor feedback can be easily perceived by students. The authors interviewed 200 students from three different schools to analyze how the learners understood teachers' expectations, assessment, and feedback. Regarding feedback, students recognized the importance of critical feedback for their writing skills development. However, in their view, much of the feedback they received "was either unfocused or of little use in improving work" (p. 11). If students do not recognize the WCF provided as effective or useful, they may not integrate teachers' comments into their future writing.

Other empirical research has also shown that WCF can impact students' academic discourse socialization and their emotional responses to that feedback (Anderson, 2020). As Anderson states:

> Considering written academic feedback through an SLS [second language socialization] lens frames feedback as a dynamic and socially-mediated activity that involves both feedback receiver and provider in a co-constructed process. […] The result of this interaction leads to a literacy event—an interaction with the written text—that can

> position students into a range of identity categories, such as novice or expert, and which can facilitate or impede access to the students' targeted academic communities and discourses depending on their reception and uptake of that feedback and its affective impact. (p. 2)

In this study, Anderson examined the role written corrective feedback played in the academic discourse socialization of four Chinese PhD students at a major Canadian university, JoJo, Polar Bear, Shasha, and Sissy. These four students were chosen from a larger 16-month multiple case study conducted between April 2013 and August 2014 with seven Chinese doctoral students who self-reported having "academic writing problems." Findings indicated that the corrective feedback provided to the students had an important impact not only on their overall academic discourse practices but also on their "access to and participation in disciplinary communities and discourses and the ongoing construction of their identities" (p. 1). Although Jojo, Polar Bear, and Shasha received a great amount of corrective feedback and even negative appraisals on many of their submitted academic papers, they seemed to thrive on these practices and reported being accountable for their errors. Jojo, Polar Bear, and Shasha perceived their supervisors' CF and negative appraisals as an attempt to help them improve their academic writing skills and they felt more compelled to participate in their academic communities. Anderson subsequently noted that "the existence of negative appraisals and a disproportionate amount of corrective feedback" (p. 14) did not demotivate these students or make them feel incapable of succeeding. An important conclusion to be drawn from this study is the impact of negative corrective feedback and excessive error correction on students' self-perception and performance may be closely related to the way students themselves will interpret and implement the feedback provided. Sissy, for example, was frustrated and unable to identify which areas she had to improve on due to the lack

of specific CF. Moreover, Sissy's supervisor's negative appraisals, in her view, contributed to many of the difficulties she had in the early years of her PhD program. Sissy felt discouraged and marginalized within her own department and, consequently, avoided participating in discussions and socializing with her peers. Sissy's example shows how feedback may impact students' academic socialization negatively despite the teacher's (presumably best) intentions. Anderson highlights the importance of "considering feedback as an interactional process that socializes those involved in variable and influential ways" (p. 14), as well as considering the possible divergencies that may have on how students will receive, interpret, and accept corrective feedback.

As evidenced in this section, researchers adopt various research approaches and methodologies including experimental (quantitative) to conceptual and qualitative approaches, in order to understand the complex dynamics of providing and receiving feedback. These studies examine the impact of corrective feedback on not only students' linguistic development but also their socialization within academic communities and formation of personal identities. It is observed that corrective feedback can influence students' academic discourse socialization and emotional responses, as highlighted in Anderson's (2020) study, and the way students interpret and implement feedback can shape their self-perception and subsequent academic performance. These results highlight the responsibility that teachers have when providing corrective feedback to help students develop themselves academically and emotionally.

2.2 The Effects of Different Types of Feedback

As noted above, an increasing number of recent studies have examined the efficacy of different types of feedback (e.g., Banaruee, Khatin-Zadeh, & Ruegg, 2018; Benson & Dekeyser,

2018; Chen, 2018; Karim & Nassaji, 2018; Wang, 2017), which I now explore in more detail in this section. This strand of research aims to investigate which feedback strategy, or strategies may be more efficient in improving L2 students' writing performance (Benson & Dekeiser, 2018; Wang, 2017).

Benson and Dekeyser (2018) studied for nine weeks the effects of direct and metalinguistic written feedback on simple past tense and the present perfect verb tense errors. The authors also observed how students with different language analytic ability (LAA) responded to direct and metalinguistic feedback. Skehan (1998) defines LAA as "the capacity to infer rules of language and make linguistic generalizations or extrapolations" (p. 204). 151 college students whose level of proficiency varied from low-intermediate to advanced were randomly divided into two treatment groups, direct feedback (DF) and metalinguistic feedback (MF), and one control group (CG). The DF group had errors marked and were provided with the correct form, whereas the MF group received brief grammar rules, but was not given the correct form. The CG did not receive feedback on any error related to grammar but was provided with comments on content and organization. The experimental procedure was comprised of a pretest focusing on form and target language, an immediate posttest given in the fifth week, and a delayed posttest in week nine which focused on students' performance using the simple past and the present perfect. Both treatment groups demonstrated better performance compared to the control group on new pieces of writing that immediately followed the treatment sessions. The authors observed that direct feedback was more durable than metalinguistic feedback for the simple past tense. Furthermore, participants with greater LAA benefited more from the direct corrective feedback, whereas metalinguistic feedback contributed more to learners with lower LAA improvement. In the author`s view, these results may be related to the fact that for some

learners with higher LAA, having them analyze what rule was broken may be more helpful than directly providing them with rules, as in an MF approach. Bitchener and Ferris (2012) contend that direct feedback can mitigate confusion and gives information that helps students to figure out more complex errors. Moreover, one should consider the learners' knowledge level since it may impact the effectiveness of different types of feedback. Learners who do not have "clear declarative knowledge" (explicit knowledge about facts, ideas, and concepts, among others) might benefit more from direct examples of form provided with metalinguistic explanations (Benson & Dekeiser, 2018).

Farjadnasab and Khodashenas (2017) focused their 2-month experimental study on 79 low-intermediate level students who attended General English classes in a higher education Institute in Iran. The authors aimed to compare the effectiveness of direct explicit error correction in the form of metalinguistic information and indirect implicit error correction. The 79 students were randomly distributed into four different groups: group 1 received direct corrective feedback (errors were corrected by the teacher); group 2 received indirect CF (the teacher indicated and pinpointed the errors; learners revised their papers); group 3 received indirect CF (teacher indicated and pinpointed the errors; however, students did not make the revisions); group 4 was the control group and thus received no feedback. The four groups were given a pretest at the beginning of the 2-month period and posttests after 2 weeks: an immediate posttest and a delayed posttest at the end of the 2-month period. The students received two sessions of English language instruction for a week and, to better analyze the effects of feedback, the authors considered errors that occurred more frequently during the first writing task, which were: capitalization, the correct use of definite and indefinite articles, and simple present tense verbs. Posttests and delayed posttests showed that all groups were able to decrease the percentage of

errors throughout the three moments of data collection. Nonetheless, the authors observed that the treatment groups outperformed the control group. Although the treatment groups thrived on the correction of verb tenses, prepositions, and verb forms, as well as unnecessary or missing articles, results revealed that the direct CF group had the most success in correcting not only grammar but also lexis, spelling, and punctuation errors. There was no significant statistical difference among the treatment groups on the pretest and in the immediate posttest. Farjadnasab and Khodashenas concluded that the treatment groups improved their writing in different areas regardless of the type of feedback provided.

Suzuki, Nassaji, and Sato (2018) conducted a 4-week study to examine the interaction between explicit WCF and the type of target structure and how this interaction affects students' revision and new pieces of writing. The authors analyzed the effects of "direct corrective feedback with metalinguistic explanation (DCF + ME), direct corrective feedback only (DCF), indirect corrective feedback with metalinguistic explanation (ICF + ME), and indirect corrective feedback only (ICF)" (p. 138) on error correction of the past perfect and the indefinite article. In the first week, the 88 first- and second-year Japanese university students participating in the study completed their pretest, which was the first text reconstruction task. The participants received an English narrative text to read in 15 minutes and take notes in Japanese on a "memo sheet." Researchers collected the narratives that the students read and asked the participants to rewrite the original English text they had read as accurately as they could base on the notes taken. During the second week, the participants received their writing sheet back with WCF based on their assigned treatment group and they had five minutes to review their corrections. To facilitate self-correction among the participants, the DCF + ME and ICF + ME groups were also provided with a short grammatical explanation handout, in Japanese, regarding the past perfect

and the indefinite article and both groups could resort to the handout while studying the WCF. After studying the WCF, the four groups had 20 minutes to revise their drafts. In the last week of the research, all groups completed a text reconstruction task as a delayed posttest. Results showed a significant increase in the score of the participants' accuracy for both the indefinite article and past perfect in comparison to their performance on the pretest. Nevertheless, the delayed posttest given two weeks after the WCF treatment showed an improvement only for the past perfect tense and not for the indefinite article. The authors also observed better performance (in terms of reducing targeted errors) with the DCF + ME and DCF groups over the ICF + ME group concerning the past perfect only, as well as greater revision efficiency in the DCF + ME group (95%) and the DCF group (99%) compared to the ICF + ME group (69%). Suzuki, Nassaji, and Sato state that some limitations must be considered, including the fact that other studies could focus on more than two grammatical structures, consider participants' individual abilities, and have a longer interval between the posttest and the delayed posttest.

Karim and Nassaji Sato (2018) investigated both the short-term and delayed effects of direct and indirect WCF on students' writing. The 6-week study was conducted with 53 EAL adult intermediate students attending language schools in Canada who were randomly divided into four groups - direct WCF, indirect underline + metalinguistic WCF, indirect underline-only WCF, and no WCF. The author aimed to assess the impact of WCF on both revision accuracy and the accuracy of new texts. The authors observed subtle differences concerning the effectiveness of WCF between revisions and new pieces of writing. The findings indicated that immediate revisions showed significant benefits from both direct and indirect WCF, with direct feedback demonstrating clearer improvements over multiple sessions. Conversely, the effectiveness of WCF on new writing tasks was minimal as there were no significant gains in

accuracy compared to the control group. These results suggest a need for further research that investigates how the benefits of WCF can be transferred from revisions to new writing tasks. Moreover, the findings also emphasize the importance of considering learner profiles when implementing and assessing the effectiveness of WCF in EAL students' writing instruction.

Nguyen, Pham, Do, Pham, and Nguyen (2017) researched for eight months how pragmatics-focused instruction using explicit feedback, recast, metapragmatic feedback, and clarification requests developed the pragmatic competence of students who were learning "syntactic downgraders" to make requests. According to the authors, requests can be considered threatening depending on their tone. To increase the politeness of the requests, "syntactic downgraders such as past tense with present time reference, progressive aspect and embedded -if clause (e.g., 'I was wondering if …')" (Blum-Kulka & Olshtain, as cited Nguyen et al, 2017, p. 348) can mitigate possible misunderstandings. 79 intermediate EAL Vietnamese learners were randomly divided among the control group, and four treatment groups: (1) instruction + clarification requests; (2) instruction + recasts; (3) instruction + metapragmatic feedback; (4) instruction + explicit correction. The authors compared the performance of the treatment groups to the work of the control group on a DCT pretest, an immediate posttest, and two follow-up delayed posttests at one and eight months after the treatments. Even though the four treatment groups outperformed the control group on all the three posttests, there was no significant variation among the three treatment groups in their post-treatment results. The reason might be related to a lack of retention of the knowledge acquired beyond the research process. The treatments took effect only for four weeks, after which the students stopped practicing the target structures and were not provided with feedback. The authors draw attention to the importance of

"long-term planning in pragmatics instruction" since "more systematic and extended instruction may be necessary for optimal learning" (p. 368).

Although research supports the claim that written corrective feedback boosts writers' accuracy, Shintani and Ellis (2013) argue that there were no studies (at that time) that had attempted to examine whether WCF promotes the development of explicit knowledge, the acquisition of implicit knowledge, and which CF strategy would then be more efficient. The authors conducted a 1-month study with 49 low-intermediate students who attended a language program in the USA with the objective to determine the effect of form-focused feedback on the acquisition of implicit and explicit L2 knowledge of indefinite articles. Shintani and Ellis also aimed to compare the impacts of metalinguistic CF with direct corrective feedback. Students were divided into three different groups: direct corrective feedback (DCF), metalinguistic explanation (ME), and the control group (CG), and attended a total of three sessions. In session 1, the students completed an Error Correction Test (pretest), which consisted of 16 random questions with single target language grammatical errors in each sentence. The exact same test was retaken as a posttest at the end of the third session. After analyzing the students' Error Correction Tests, the authors concluded that the direct corrective feedback had no impact on the use of indefinite articles, indicating no benefits to either implicit or explicit knowledge. In their view, a possible reason for this result may have been that students were provided with feedback on only one piece of writing and most of them received just one or two corrections instead of having multiple corrections. On the other hand, the learners who received metalinguistic feedback improved accuracy in the second error correction test and in a new piece of writing, outperforming the control group. However, results were positive only in immediate learning. Shintani and Ellis noticed the effect of metalinguistic explanations decreased over time,

suggesting that the ME had no impact on the improvement of implicit knowledge (in the context of this study) since "implicit knowledge once developed is not easily forgotten so if the ME had had an effect on the learners' genuine knowledge of language' the effect should have been durable" (p. 300). Finally, the group who received direct corrective feedback had more difficulties in figuring out the use of the indefinite article and tended to focus on content instead of form to revise their writing. The students who were provided with a metalinguistic explanation, on the other hand, demonstrated to have knowledge of the rule and tried to apply this knowledge during revision. As discussed in Banaruee and Askari (2016), multiple corrective feedback strategies are valuable and possible to be used simultaneously. Hamer (1983) posits that teachers should apply different feedback strategies instead of providing the same strategy for different feedback situations. Moreover, teachers should analyze contexts individually, as each context requires its own specific strategy (Khaneghah, 2016).

2.3 How EAL Students Process Feedback

Research concerning which corrective feedback strategies are most efficient is still inconclusive. Difficulties in reaching a consensus are likely related to the fact that students might process CF in different ways despite being provided with the same CF strategy. Thus, researchers should analyze how EAL students understand the written corrective feedback they receive (Kim & Bowles, 2019). By understanding how EAL students interact with WCF, teachers can be more assertive when providing language-focus instructions (Zheng & Yu, 2018). Furthermore, students' engagement is an important connection between "the provision of WCF with learning outcomes" (Han & Hyland, 2018, p. 31). Banaruee, Khoshsima, and Askari (2017) stated that learners' personalities should also be considered "since different personality types

demand different levels of explicitness of corrective feedback" (p. 4). Moreover, considering students' different personalities could also help teachers to decide which feedback strategy to apply. Anderson (2010) draws attention to the lack of research that examines students' feedback preferences before deciding which feedback strategy to provide. Such practice could shed light on how student-centered feedback can reduce (or not) errors in writing. "Having the students as direct stakeholders could have a significant impact on how much they buy into the system and how much effect the feedback has on their writing" (p. 98).

Kim and Bowles (2018), Zheng and Yu (2018), Buckingham and Aktug-Ekinci (2017), Han and Hyland (2015), and Ferris et al. (2013) investigated students' engagement with WCF by recording and analyzing think-aloud data collected during text revision sessions. Kim and Bowles (2018) compared for one semester how 22 high intermediate undergraduate second language learners processed reformulation and direct correction feedback. Students completed two argumentative essays throughout the semester. Each writing task was followed by feedback, revision, and think-aloud recordings. The first essay received reformulation feedback and the second one direct corrective feedback. The posttest consisted of an online questionnaire that contained language background knowledge and questions related to which feedback strategy students preferred. Results showed that depth of processing is higher in reformulations in comparison to direct corrective feedback. One possible explanation for this is that reformulations require students to deal with blocks of text to compare their originals to the reformulated texts. According to the authors, reformulations involve searching and evaluating what might encourage students to go deeper when comparing teachers' reformulations to their originals. Such a level of analysis may enhance the quality of processing. Nonetheless, direct corrective feedback resulted in more accurate revisions regarding quantity than reformulations. It was also noticed that

"surface-level errors tended to be processed at a low depth of processing, whereas most of the error types processed at a high depth of processing were text level" (p. 929). Overall, students processed sentence and paragraph errors more thoroughly but ignored surface-level errors such as punctuation and sentence structure during the reformulations.

Zheng and Yu (2018) acknowledge the importance of considering students' levels of proficiency and how they affect students' engagement with WCF. The authors' study focused on 12 low-proficiency Chinese university students who were 18 to 20 years old. Zheng and Yu's case study aimed to explore how the 12 students engaged with direct and indirect WCF affectively, behaviorally, and cognitively. Findings revealed that students' affective engagement was overall positive. Although some students perceived WCF as optional, the majority were receptive to receive corrective feedback and appreciated teachers' efforts in providing that feedback. Students pointed out the need for more face-to-face opportunities so that they could have some consultative support to clarify doubts and ask questions. Students' behavioral and cognitive engagement, on the other hand, was not remarkable since their behavioral engagement did not show improvement in language accuracy. Among the twelve students, only three attended all WCF sessions, four students did not make a single self-edit to their papers, and six students made only one. Just one student performed more self-editing. The authors observed that students made more corrections based on direct WCF in comparison to self-editing and indirect WCF. In their view, students might not have understood WCF in-depth since corrections were more related to the surface level, remaining only on the sentence-level correction. Students also adopted some behaviors to help them increase writing accuracy. In their interviews, eight students said they would check immediately the WCF provided before reading the whole text. Some corrections were made based on what would sound more appropriate in Chinese. Three

students reported they would resort to the internet, peers, or other tutors for extra help and two students would ask their teacher directly for clarification while editing. With regards to cognitive engagement, Zheng and Yu posit that it can be analyzed in view of "how deep he/she processes the WCF, deploys cognitive operations to process the feedback and make revisions, in conjunction with metacognitive operations that regulate his/her mental effort in processing WCF and revising texts" (p. 13). Think-aloud reasoning demonstrated that students struggled to understand the WCF and were not sure about what their teachers wanted to show through indirect WCF. Students tended to make revisions only when the correct forms were given or based on what seemed right in Chinese translation. Little mental effort was observed as students tended to analyze errors individually, did not link ideas, and did not make meta-linguistic connections. The authors believe that students' low level of proficiency may have had a negative impact on their cognitive and behavioral engagement with WCF.

Buckingham and Aktug-Ekinci (2017) investigated for one semester how Turkish EAL university students dealt with unfocused metalinguistic feedback in the form of correction codes. In total, 32 volunteers participated in the study, 16 beginner and 16 intermediate level students. To better understand how students responded to unfocused metalinguistic feedback, the authors analyzed students' first and second written drafts, coded corrections, as well as think-aloud recordings, and interviews conducted right after the think-aloud protocols. Students received a correction code sheet (CC) in which each code symbol was followed by a sample sentence of the coded error and the corrected sentence. Results revealed that students who consulted their CC sheets had a better performance when redrafting their texts. When comparing the sample sentence on the CC sheet to their own sentence, students tried to identify metalinguistic hints and seemed to realize aspects that helped them to come up with a variety of correct alternatives.

Nonetheless, to help students make metalinguistic connections effectively, it is important that the CC sheet is at a proper level of complexity. Han and Hyland (2015) recommend that teachers carefully consider their students' backgrounds, expectations, and plan their Written Corrective Feedback (WCF) strategies attentively to enhance student engagement. In their multiple case study, the authors examined how four Chinese English as an Additional Language (EAL) beginner-level university students interacted with different types of WCF - direct WCF, indirect WCF, indirect WCF with revision clues, and indirect WCF with clarification requests - over a five-week period. During the study, Han and Hyland observed that teachers predominantly provided indirect corrective feedback, especially focusing on recurrent error types made by individual students. The Chinese EAL beginner-level university students engaged with various forms of WCF throughout the duration of the five weeks. Data analysis for the study involved evaluating students' drafts and the feedback they received. Additionally, the researchers conducted qualitative analyses of interviews, oral reports, teacher-student meetings, researchers' notes, and teachers' documents. By examining these interactions and feedback methods, Han and Hyland sought to understand how tailored WCF strategies could impact student engagement and language learning outcomes.

Finally, Ferris et al. (2013) conducted a longitudinal qualitative multiple-case study with 10 L2 university writers to analyze how students responded to indirect corrective feedback. Students wrote four texts that were revised after receiving feedback. In addition, they attended interviews after each of the first three writing and revision sessions. Data collected was comprised of student background questionnaires, writing pieces (originals plus revisions), recordings, field notes from interviews with participants, and recordings and notes from an end-of-semester interview with the classroom teacher. Most students reported as their primary

strategy to read through the text and make editing based on what sounded correct to them. Four students said they also tried to apply rules they studied in the past. Overall, students considered the WCF provided too broad and confusing.

2.4 Chapter Summary

This chapter has presented some of the major issues concerning the provision of written corrective feedback on EAL students writing. To date, studies reveal that the long-term effects of WCF on students` written accuracy as well as which specific strategies are more beneficial to different types of students remain uncertain. Most scholars, however, agree that not providing WCF is more harmful to students writing progress than giving any type of feedback, and the above reported studies support those claims. Nonetheless, to better analyze the real effects of different WCF strategies on students writing development, studies that involve more than a one-shot treatment, are longitudinal in nature, and include delayed posttests to determine more sustained impacts should be conducted. Research also reveals that inaccurate WCF may compromise not only students` writing performance but also other aspects of their broader academic discourse socialization and their self-perception as legitimate or capable language users. It is important to note that scholars also acknowledge the struggles teachers face to include WCF feedback in their practices, such as lack of training, busy classroom routines, and lack of time, among others. However, the literature suggests that teachers should engage students in the process by varying WCF strategies and considering students` preferences and backgrounds so that students are also accountable for their writing improvement and “buy in” to the process. Finally, the literature suggests that WCF strategies should ideally be given individually and according to students’ level of English.

Chapter 3: Methodology

This methodology chapter provides an outline of the research design as well as the research methods that were followed in the study. It provides information on the steps taken to build a corpus of recent empirical studies addressing the impact of written corrective feedback on EAL students' writing. This chapter also defines the set of criteria used to determine the inclusion of relevant studies in the content analysis. Finally, it explains the methodological rationale adopted for data coding.

3.1 Research Design

A content analysis of empirical studies published in a variety of Applied Linguistics and Second Language academic journals spanning a 10-year period between 2010 to 2019 was performed for inclusion in this thesis. According to Bengston and Xu (1995), the quantitative data obtained from content analysis allows the researcher to make logical inferences from the identification and analysis of specific information within text, to identify values and beliefs of a specific group, as well as to observe tendencies over long periods of time, and to evaluate changes that occurred in those tendencies. Krippendorff (2004) argues that through content analysis, researchers can analyze the content of information in an empirical and systematic manner which enables similar or replicable results. According to Neundorf (2004), content analysis processes involve identifying and creating samples derived from empirical communications (e.g., journal articles), determining the unit of analysis (e.g., words, phrases, topics), developing a data coding scheme, data analysis, and the report of findings. The next subsections detail these precise steps within each process, from data collection to data coding, used in this present study.

3.2 Identifying Primary Studies

The first step in this study was to create a corpus of peer-reviewed, academic journals that would give the researcher an overview of the most frequent techniques adopted when providing WCF and how researchers, teachers, and students perceived the efficacy of different WCF strategies. For this, the following steps were adopted:

1. Consulting four online databases – EBSCOhost, JSTOR, Science Direct, and Educational Information Resource Center (ERIC) using the search terms or combinations: *(corrective feedback) AND (L2 OR ESL OR EFL OR EAL) AND (Writing).*
2. Using Google Scholar and the researcher's library website to search for additional studies, verify studies, and check the number of citations of each study - as highly cited studies can be beneficial to verify credibility and validity of findings and the publication venue, identify key literature within a particular theme, support arguments and claims, among other uses.
3. Consulting the reference sections of books, theses, and published articles (e.g., Karim & Nassaji, 2018 and Khanlarzadeh & Nemati, 2016) as sources for prospective studies on WCF in EAL students' writing.

In total, 60 articles were identified as potential studies during the first selection. The abstracts and general descriptions of each study were carefully analyzed prior to deeper readings of the entire texts, and a set of inclusion and exclusion criteria was created to aid the researcher in the selection of the most appropriate articles for the content analysis.

3.3 Inclusion/Exclusion Criteria

The studies included in this thesis were required to meet the following criteria to be considered for analysis:

1. The study had to analyze L2 WCF provided by either teacher, researchers, or peers. Studies examining the error-correction effect of automated written corrective feedback (AWCF), like Grammarly, were not included in this current study.
2. The study had to be published in 2010 or later to better reflect recent WCF trends at the time of data collection for this thesis. For the present study, the interval was a ten-year period from 2011 to 2019. The researcher believed that this ten-year period would provide a solid overview of contemporary feedback studies published during this time frame.
3. The length of the study should be at least 4 weeks or longer. According to Maruyama and Deno (2011), short-duration interventions may give the false impression that a specific technique is working well, not because it is efficient itself but because of the effect a new and different technique may have on students` performance. The authors name this effect "novelty." The authors also draw attention to the fact that students' motivation may increase due to the excitement provoked by something that is new. However, this motivation may not last. And finally, short-duration intervention results are typically not enough to show how much positive impact that new technique will have on students' future performance, especially over longer periods of time.
4. The study had to be comprised of an experimental or quasi-experimental research design. It also should include a control group and compare results between at least two groups: a treatment group (with feedback) and a control (no feedback). Studies that lack a control

group for comparison of the effects of corrective feedback fail in providing evidence of how effective the WCF technique might be on students' writing performance (Ferris, 2004; Truscott, 1996).

In addition, this thesis excluded those studies that met the criteria above but did not provide enough discussion or clarity of the analysis of the results. It was observed that some authors (in studies that were collected but ultimately excluded) gave a detailed description of their study but were not able to provide robust information when comparing the results obtained between the treatment group and the control group. Salami and Valizadeh (2014), for example, investigated for fourteen weeks how coded and uncoded WCF improved secondary EAL students' accuracy in writing. The authors adopted a pretest-treatment-posttest design to better evaluate the effects of both coded and uncoded strategies over the duration of the study. However, the authors' unclear description of the results did not show any statistically significant differences across the period of the study. The included studies in the present thesis were also reduced further throughout the analysis process if they presented which WCF strategies were used in the study but did not compare them, focusing only on the teachers' or the students' perceptions of the feedback strategy.

In conjunction with the criteria described above, the included studies were investigated based on the research questions asked in the Introduction chapter of this paper, and repeated here:

1) What are the major trends in written corrective feedback?
2) Are specific written corrective strategies more effective in reducing errors in EAL students' writing and in what contexts?

In sum, the studies included in this present analysis conducted quasi-experimental/experimental research comparing at least one feedback strategy to a control group, which received no feedback, and defined not only participants' age and level of English proficiency but also in which type of institution the study was performed.

According to Krippendorff (2004), sampling problems can be minimized if the research questions that guided the study can be answered during the selection and inclusion of relevant research studies. To address this issue, I adopted a *relevance sampling* technique to analyze the sampled texts as this approach "aims at selecting all textual units that contribute to answering given research questions" (Krippendorff, 2004, p. 119). A second selection of research studies was made following the same inclusion/exclusion criteria listed above. In total, I analyzed 110 scientific studies of which 48 were selected for the present content analysis based on the previous criteria.

3.4 Data Coding

The next major challenge was to decide what variables to code and how to effectively code those variables. I chose to focus on variables that would address the research questions and therefore adopted a set of main categories used by Kang and Han (2015) in their meta-analysis study to investigate how written corrective feedback could improve EAL students' written accuracy. This method is referred to as deductive coding. Auster-Gussman and Auster (2018) point out that deductive coding is referred to as coding based on a pre-existing scheme that has already been used and developed by another researcher. Although a deductive approach can be timesaving, the authors note that it can have bias towards the possible answers to the research questions. To avoid bias, the variables of each main category in this thesis were defined based on

the characteristics of the subject of study; in this instance, WCF trends and the efficacy of different strategies. I also relied on my previous experience regarding the provision of written corrective feedback when coding. Finally, three categories of variables were coded, as presented below.

The first category, *Study Characteristics*, was comprised of eight sub-variables that included the author, the year of publication, country, institution, number of participants, mean age of participants, L2 proficiency level, and length of the study. The second category, *Research Design*, contained two variables: type of research and theoretical/conceptual framework. The third category, *Treatment*, included seven variables: type of feedback, scope of the feedback, description of the study, interval between pretest and posttest, interval between treatment and posttest, interval between immediate and delayed posttest, and results.

Table 1

Coding Scheme (adapted from Kang & Han, 2015)

Main Category	Variables No.	Variables
Study Characteristics	8	Author
		Year of publication
		Country where the study was conducted
		Institution
		Number of participants
		Mean age of participants
		L2 proficiency level
		Length of study
Research Design	2	Type of research
		Theoretical framework
Treatment	7	Type of feedback
		Scope of feedback
		Description of the study

	Interval between prettest and posttest
	Interval between treatment and posttest
	Interval between immediate and delayed posttest
	Results

3.5 Reliability of Coding

According to White and Marsh (2006), a good coding scheme has categories or levels that are comprehensive, which means that all important aspects of the coding are represented and "mutually excluded" (p. 32). Apart from that, the definitions, as well as the instructions and examples presented, are clear and easy to follow, and therefore are replicable. These aspects presented by White and Marsh were considered when I was defining the code scheme and coding the studies. In the authors' views, such characteristics may promote the reliability of the coding, that is, "the likelihood that all coders will code the same item the same way or that a coder will code the same item the same way at different points in time" (p. 32). As I was the only rater, I read, assessed, and coded each study twice (or more when necessary) to review the categories and add variables as they appeared (Scheel et al., 2018).

This chapter has presented the methodology used in this study. An explanation of content analysis, the analytical approach used in this study, was given. The steps followed during data collection and analysis were likewise discussed and information about sample criteria was provided. The following chapter will report on the results of this content analysis.

Chapter 4: Results

This chapter presents the results obtained from the content analysis of 48 empirical studies investigating the efficacy of written corrective feedback of EAL students' writing. It likewise specifically addresses the research questions for this study, concentrating on major trends in written corrective feedback and strategies that might be more (or less) effective depending on the context. After following the inclusion/exclusion criteria, as articulated in the previous chapter, this limited the selection of studies included in this analysis. These criteria are included again here:

- L2 WCF provided by researchers, teachers, or peers
- studies published between 2011 and 2019
- duration of four weeks or more
- experimental or quasi-experimental design

The findings of the analysis have been organized in the following three main categories: study characteristics, research design, and treatment. The variables of each of these main categories were analyzed individually, and therefore results will be presented independently in this chapter. Broader conclusions will be offered in the final Discussion chapter of this thesis.

4.1 Study Characteristics

The first main category, study characteristics, consists of eight variables which are author, year of publication, country where the study was conducted, type of institution, number of participants, mean age of the participants, level of proficiency in English, and the length of the study.

4.1.1 Year of Publication

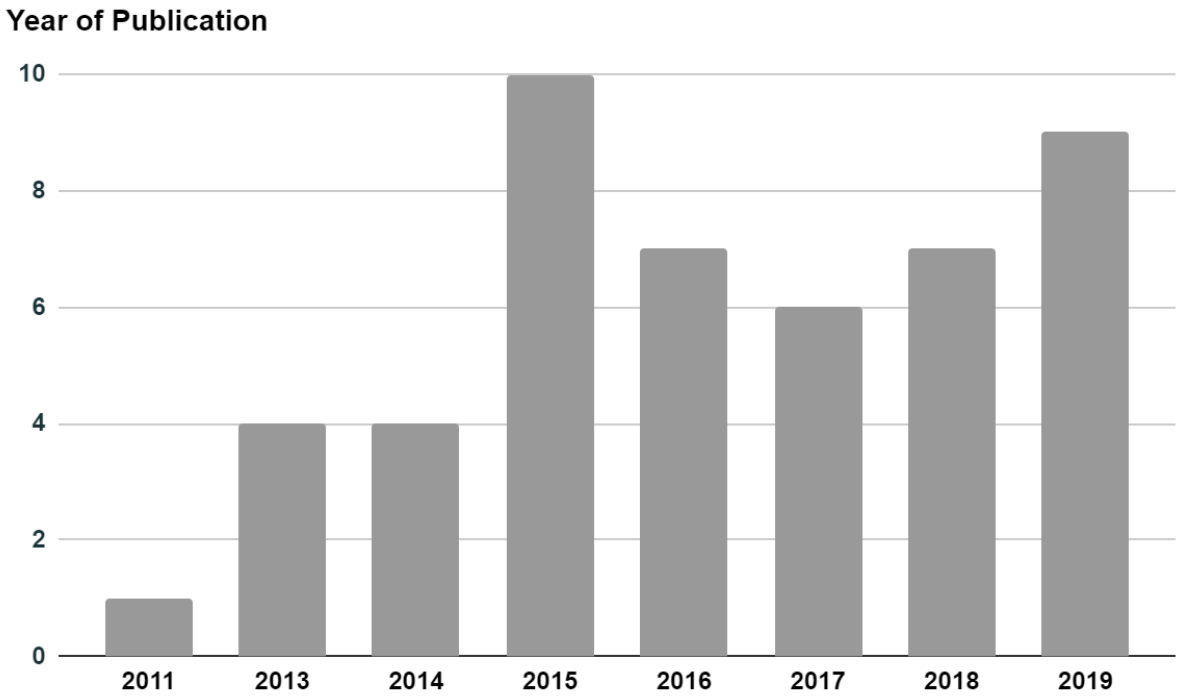
The studies included in the present content analysis were conducted between 2011 and 2019. Of that sample, 100% of the articles had as the main goal or secondary objective to analyze the role that written corrective feedback plays on students' English as an additional language development as well as, more specifically, to investigate WCF effectiveness on students' written language accuracy. A major aim of the articles published in 2011 (Evans, Hartshorn, & Strong-Krause), 2013 (Ferris, Liu, Sinha, & Senna; Leng; Maleki & Eslami; Shintani & Ellis), and 2014 (Azad; Hosseiny; Kamalian & Lashkarian; Kassim & Ng) was to refute Truscott's (1996) criticism concerning WCF, and, for that reason, the authors focused only on the benefits of WCF and did not analyze the characteristics of the feedback strategies adopted individually and how each strategy impacted students' development. Hosseiny (2014), for instance, investigated the role of direct and indirect WCF on the improvement of 60 pre-intermediate students' writing skills. The study was conducted in a language institute in Iran, and it consisted of two treatment groups and one control group. Although Hosseiny used two different WCF strategies, the author analyzed more systematically the benefits of WCF and did not report in depth how either direct or indirect feedback impacted the participants' writing performance. Overall, the results of the studies published in 2011, 2013, and 2014 showed that the treatment groups, regardless of the feedback strategy adopted, outperformed the groups that received no corrective feedback, especially in the correction of grammar structures and, therefore, contrary to Truscott's idea that feedback has no meaningful benefits to students' writing, the authors believe that students benefit from WCF.

As opposed to the articles published before 2015, 64% of the studies (N=31) explored the use of different WCF strategies and compared their effects on students' learning progress. Eight

articles were written about students' perceptions of feedback and how they process different WCF strategies between 2015 and 2019; these include Buckingham and Aktug-Ekinci, 2017; Chen, 2018; Ene, 2016; Han and Hyland, 2015; Isnawati, Sulistyo, Widiati, and Suryati, 2019; Kim and Bowles, 2019; Simard, Guenette, and Bergero, 2015; Zheng and Yu, 2018. Figure 1 shows the number of studies selected according to the year of publication.

Figure 1

Number of Articles about WCF on EAL Students' Writing from 2011 to 2019



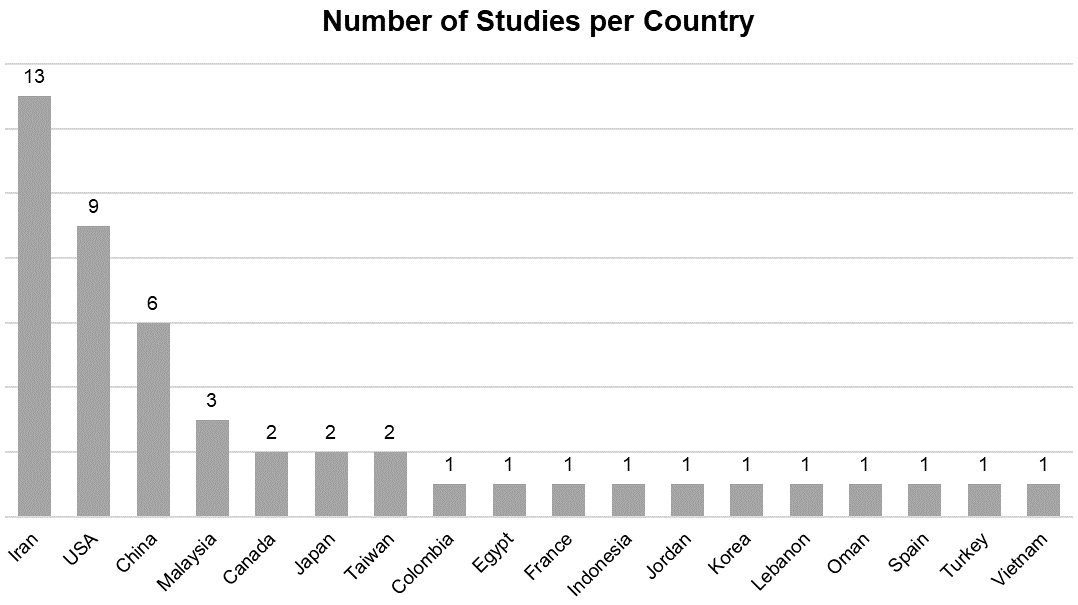
4.1.2 Country Where the Study Was Conducted

This thesis selected only English-language studies conducted in 18 different countries and their analysis should offer new insights into teachers' and students' perspectives about WCF across multiple contexts. Iran leads the number of research studies conducted about corrective

feedback strategies and possible effects on EAL students` writing with 27.1%. Followed by the United States with 18.8% and China with 12.5%. Colombia, Egypt, France, Indonesia, Jordan, Korea, Lebanon, Oman, Spain, Turkey, and Vietnam had only one study analyzed each, and combined, they represent 22.9% of the total. Most of the studies, 77.2%, were done in countries where English is not the first language. Whereas countries such as The United States and Canada accounted for 23% of the total number of studies included in this thesis (see Figure 2).

Figure 2

Number of Studies about WCF on EAL Students' Writing Conducted per Country



4.1.3 Type of Institution

To better understand the profile of the participants and their motivations to learn English, the studies were categorized according to the type of institution students were attending when participating in the research. Table 2 shows the countries where the studies were conducted and

the percentage of studies per institution. All the studies selected were done with EAL students who were seeking support with English to write academic texts or to boost their knowledge of the language for general purposes, such as to improve their grammar and general language use, among others.

Table 2

Number of Studies per Type of Institution

Country	**Type of Institution**					**Total**
	Middle School	**High School**	**Language School**	**College**	**University**	
Canada		1	1			2 (4.2%)
China	1				5	6 (12.6%)
Colombia					1	1 (2%)
Egypt					1	1 (2%)
France					1	1 (2%)
Indonesia					1	1 (2%)
Iran		1	11		1	13 (27.2%)
Japan					2	2 (4.2%)
Jordan					1	1 (2%)
Korea					1	1 (2%)
Lebanon					1	1 (2%)
Malaysia		1			2	3 (6.4%)
Oman					1	1 (2%)
Spain					1	1 (2%)
Taiwan				1	1	2 (4.2%)
Turkey					1	1 (2%)
United States		1	3	1	4	9 (19%)
Vietnam					1	1 (2%)
Total	1 (2%)	4 (8.3%)	15 (31.3%)	2 (4.2%)	26 (54.2%)	48 (100%)

More than 54% of the studies (N = 26) were conducted with undergraduate students attending universities. There was also a considerable amount of research conducted in language

schools targeting adult learners, representing 31%, (N= 15) of the total. As shown in Table 2, 11 of these studies were conducted in Iranian language schools. Haghighi and Norton (2016) researched the role of language schools in Iran and concluded that the importance of language schools to Iranians have increased throughout the years. According to the authors, although English is compulsory from grade 7 to grade 12, the education system is weak in this area, and students finish school without a strong educational foundation in English and, for this reason, the language institutions play a significant role for Iranians who want to learn the language. Haghighi and Norton argue that these institutions are also important "social spaces that increase the range of identity options for students, and women in particular" (p. 429) because many students cannot afford to travel abroad, but learning English well can provide them the ability to obtain first-hand information via the internet, give Iranian women the opportunity to work independently as translators (for example), and give students the opportunity to broaden their horizons (Haghighi & Norton, 2016). Only five studies were done with EAL students who were attending middle school (2%) or high school (8.3%), and none for the younger grades at the elementary level.

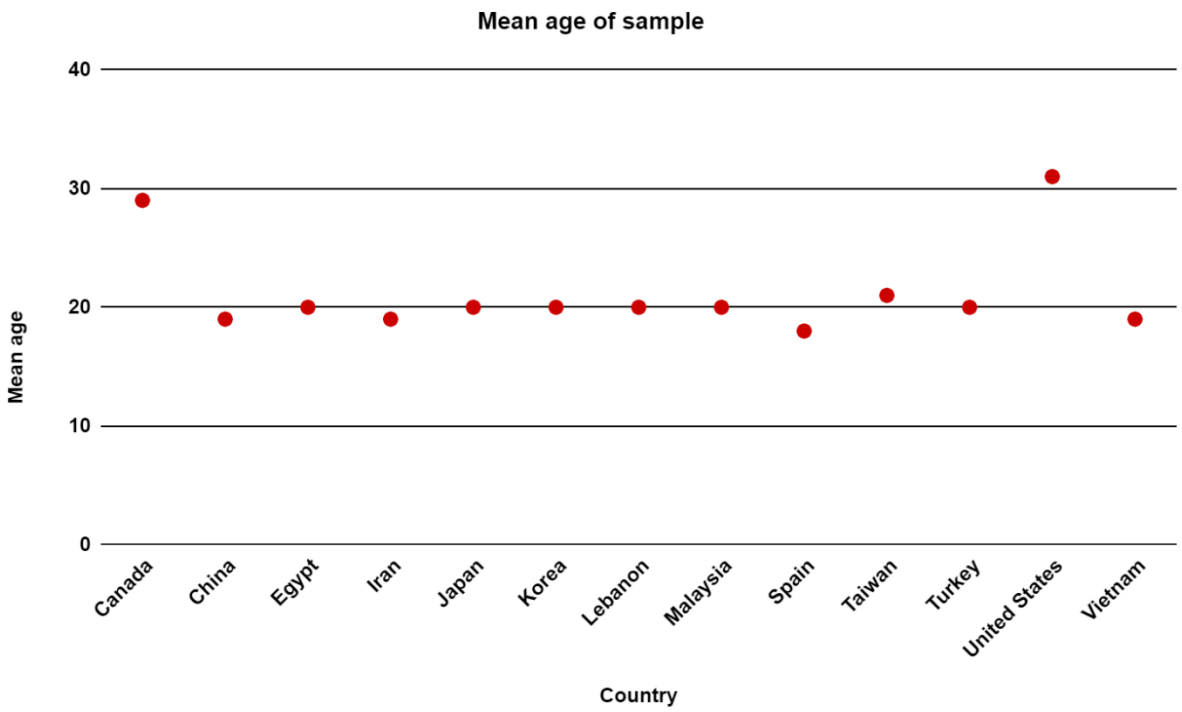
4.1.4 Number of Participants and Mean Age

The total number of participants involved in the forty-eight studies is 2,849. Participants' ages ranged from 12 to 48. Only 3.3% of the participants (N=96) were considered young learners, with ages ranging from 12 to 17 years old. Conversely, 96.6% of the participants (N=2,753) were 18 years old or more. This result may reflect a trend of research focusing exclusively on how young adults (17-22 years), and adults (23 and over) are affected by different WCF strategies and how these different strategies are perceived by them. In Vuono's and Li's

view (2021), this tendency may occur because it might be easier to analyze WCF effects on adults since they process feedback more explicitly and have stronger metalinguistic skills in comparison to young learners. In terms of the process of conducting research, it is also typically easier to get ethics approval to work with adults as opposed to children. The mean age listed above was calculated based on the 43 articles whose participants' ages were clearly stated (as shown in figure 3). The studies published from classrooms in Colombia (N=1), France (N=1), Indonesia (N=1), Jordan (N=1), and Oman (N=1) did not state the specific age of the participants; however, they were all listed as being undergraduate students at the university level.

Figure 3

Mean Age of the Participants Described in the Studies

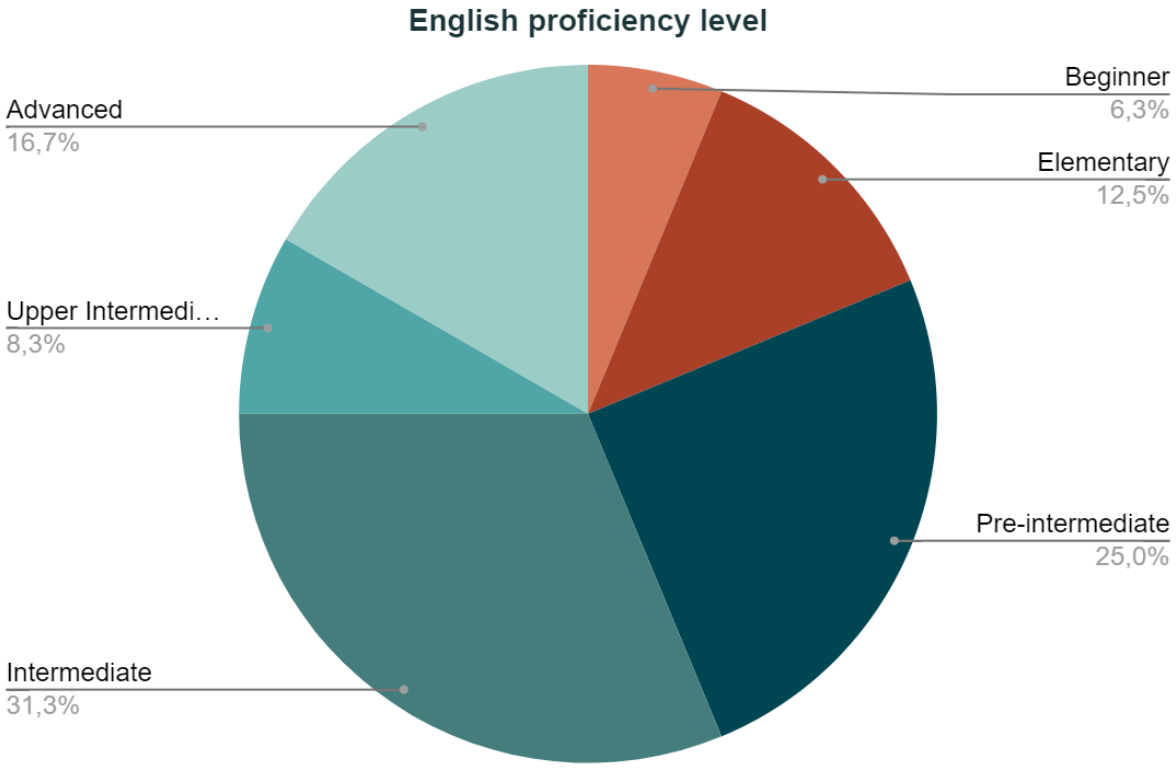


4.1.5 L2 Level of Proficiency

A key factor to consider when investigating the impact of written corrective feedback on EAL students is the level of proficiency of the participants in the target language, since language proficiency may influence not only international L2 students' academic performance in general (Martirosyan, Hwang, & Wanjohi, 2015) but also teachers' choices concerning which feedback type would suit the needs of the students - as well as the overall effectiveness of the WCF strategy (Kennedy, 2010). It was found that students with low English proficiency may have their cognitive and behavioral engagement with WCF negatively affected if a certain strategy demands a level of metalinguistic awareness that is beyond their current level of linguistic knowledge (Benson & DeKeiser, 2019). Research has also observed that feedback aimed to develop learning autonomy, such as indirect feedback, may not be helpful to students with lower linguistic abilities and metalinguistic knowledge (Zheng & Yu, 2018). It is equally important to choose strategies that will broaden the knowledge of high-proficiency students. Mackey and Philip (1998) argue that recasts, as an example, can be an effective strategy to develop question formation knowledge of high-proficiency learners who already have operationalized certain grammatical structures.

Figure 4

The Participants' Level of English as a Percentage[1]



The chart above (Figure 4) gives the percentage of studies conducted according to the participants' English proficiency levels. To determine the level of English of the participants, different English tests were often used such as English placement tests designed by the institutions (Aghajanloo, Mobini, & Khosravi, 2016; Azad, 2014; Diab, 2015; Ene & Kosobucki, 2016; Guo & Barrot, 2019; Karim & Nassaji, 2018; Nemati & Mohebbi, 2019; Wang, 2017),

[1] Adapted from *Understand your English level*, by British Council. 2023. https://learnenglish.britishcouncil.org/english-levels/understand-your-english-level/a1-elementary. When analyzing the research papers for the present content analysis, it was observed that different terminology was used across the studies to indicate the levels of proficiency of EAL students. To ensure consistency for the purpose of this analysis, the terminology provided by the British Council's English proficiency levels was adopted and "foundation" was changed to "beginner."

standardized tests of English, e.g., Oxford Placement Test (OPT) (Conesa, Manchon, & Cerezo, 2019); Test of English as a Foreign Language (TOEFL) (Kim & Emeliyanova, 2019; Sulistyo, Widiate, & Suryati, 2019); International English Language Testing System (IELTS) (Banaruee, Khatin-Zadeh, Ruegg, & Barton, 2018; Kim & Emeliyanova, 2019); Test of English for International Communication (TOEIC) (Suzuki, Nassaji, & Sato, 2018); Cambridge Key English Test (KET) (Farshi & Safa, 2015), among others. Finally, some students had their level of proficiency determined by the course instructor at the time of the research (Faryadnasab & Khodashenas, 2017; Nguyen M, Do, Pham, & Nguyen A., 2017; Poorebhaim, 2017; Sarré, Grosbois, & Brudermann, 2019; Seiffedin & El-Sakka, 2017). Studies done with intermediate EAL students represent the chart's largest portion, whereas a small fraction of research analyzed WCF provided to beginners (6.3%). It was observed that the studies conducted with beginners focused only on how WCF helped students use grammar with accuracy by comparing the effects of direct and indirect WCF on students' progress. Unlike most of the studies presented in this content analysis, research with beginners investigated students' progress regarding single grammar topics, such as the simple past, taking a focused WCF approach, instead of analyzing students' performance on multiple aspects of the language. A quarter of the studies were conducted with pre-intermediate students and higher levels of proficiency, such as upper-intermediate, and advanced levels account for 25% of the total altogether.

4.2 Research Design

This present section discusses the research designs the authors used in their studies. This variable was included because research designs are important to consider as they help the researcher to match their methods to the aims of the research, gather high-quality data, compare

studies and feedback approaches, analyze data correctly to answer the research questions, and address the research problems logically (Gorard, 2013). It may also guide the choice of the articles to be selected for content analysis since the researcher can better evaluate studies' validity and reliability.

4.2.1 Type of research design

After determining the general approach that the authors adopted in their studies (qualitative, quantitative, or mixed methods), the following step was to identify the research designs used, as shown in the following Table 3.

Table 3

Research Design per Study

	Experimental	Quasi-experimental	Case study	Explanatory sequential	Action research	Field study	Not stated	Total
Qual			4		1		2	7
Quan	2	13	1			1	18	35
Mixed			1	1			4	6
Total	**2**	**13**	**6**	**1**	**1**	**1**	**24**	**48**

As shown in Table 3, among the forty-eight articles, seven were qualitative, thirty-five quantitative, and six were mixed methods (quantitative + qualitative). Half of the research papers (N = 24) did not explicitly name the research design adopted. Nevertheless, these twenty-four studies described the process of investigation, delimited the research problem, defined clear research questions, articulated study relevance, planned how data were going to be collected and generated, as well as clearly described the instruments used in addition to identifying possible limitations. This allowed the researcher to determine the research designs despite their lack of

clear articulation in the respective studies analyzed for this thesis. Among the seven qualitative studies, four were self-described as case studies, one drew on action research, and two did not state the design. Amid the thirty-five quantitative studies, two articulated their studies as being experimental designs, thirteen were quasi-experimental, one was described as a field study, one as a (quantitative) case study, and eighteen stated the research was "quantitative" but did not mention the specific design. Finally, mixed-method research (N = 6) accounted for 12% of the total: one paper listed a mixed-methods case study, one explanatory sequential, and four described no design but were determined by the author to be mixed methods because both quantitative and qualitative research approaches were combined to address the research problem and answer the research questions. In these four articles, the authors investigated the effects of WCF strategies on students' writing as well as their attitudes toward written corrective feedback. They used statistical analysis to determine the efficacy of the different feedback strategies adopted and qualitative analysis of questionnaires and interviews to evaluate students' perceptions of WCF.

4.2.2 Theoretical frameworks

According to Adom, Hussein, and Agyem (2018), the theoretical framework helps the researcher define their study "philosophically, epistemologically, methodologically, and analytically" (p. 438) as well as choose a suitable research design, appropriate literature to support the study, and discuss findings scholarly. It was observed that most studies (N = 44) described in this thesis did not list any theoretical framework to guide their investigation of the impact of WCF and how EAL students respond to it – a common phenomenon for much quantitatively focused research. However, they all had a conceptual framework to situate their

study. The conceptual framework is a structure that is related to concepts, empirical studies, and important theories and it helps the researcher to explain how a problem under study will be explored by showing the actions the researcher will take (Adam, Hussein, & Agyem, 2018). To explore lower-proficient Chinese students' engagement with teachers' WCF, for example, Zheng and Yu (2018) adopted a conceptual framework based on previous studies conducted by Ellis (2010), Han and Hyland (2015), and Zhang (2017). In the authors' views, students' engagement with teacher WCF happens when affection, cognition, and behavior are intertwined, which means that students engage more with feedback when teachers can demonstrate their efforts to provide meaningful feedback, choose feedback strategies that are compatible with students` cognitive level, and consequently help students to show their methods and strategies used for revision. Table 4 describes the main differences between the theoretical and conceptual frameworks, based on the work of Adom, Hussein, & Agyem (2018).

Table 4

Differences between Theoretical Framework and Conceptual Framework (adapted from Adom, Hussein, & Agyem, 2018)

Theoretical Framework	**Conceptual Framework**
It offers a broad or comprehensive framework in which a study fits.	It is related to the particular or more focused concepts the researcher will use in their study.
It relies on theories from existing literature that have undergone testing and validation by other researchers.	It is based on the core concepts that serves as the principal variables in a study.
It is the central model of a study that incorporates its factors and the results of related research.	It is a model created by the researcher to explain the relationship between the main variables in their study. It may also involve modifying an existing theory model to align with the research goal.

It is thoroughly developed, carefully designed, and widely accepted.	The researcher suggests a solution to the research problem. However, the design has not been approved.
It provides a central focus for exploring unfamiliar research in a particular field of study.	It serves as a structured guide that outlines the logical steps to pursue the research inquiry.
It is comprised of interconnected theories with deduced claims.	It comprises interconnected concepts that clarify the relationship between these concepts and how the researcher aims to address the research problem.
It is used to evaluate hypotheses, predict outcomes, and manage situations within research investigation.	Its objective is to foster the creation of a theory that would be beneficial to professionals in the field of study.

The authors also posit that a conceptual framework can show the relationship between the main concepts of a study from a statistical perspective, which might explain why most quantitative written feedback studies analyzed in this thesis adopted a conceptual framework in lieu of a theoretical framework. Among the 44 studies in this analysis, 32 were quantitative, 7 qualitative, and 5 mixed-methods. In total, only four articles stated the theoretical framework that was adopted, 1 qualitative, 2 quantitative, and 1 mixed-methods. For example, Wagner and Wulf (2016) examined the effectiveness of indirect WCF on the improvement of grammatical, mechanical, and word usage errors among 33 students, 17 intermediate and 16 advanced, who were attending grades nine and ten in a high school in Northern Virginia. The authors also observed how indirect WCF aided students in the correction of some specific grammatical structures. The results showed that indirect WCF was most effective in this setting for the correction of errors in a binary paradigm, such as the use of singular/plural (which is related to adding or not *–s* and the level of difficulty is marked by some irregular plural structures only). On the other hand, indirect WCF was ineffective in the correction of a non-binary paradigm; that is, in the correction of structures that had more than two options. Wagner and Wulf applied Skill

Acquisition Theory (SAT) to describe their results. According to SAT, once students acquire the necessary knowledge of a skill (declarative knowledge) and put it into exhaustive practice, they will be able to build procedural knowledge of that skill. In other words, they can not only improve that specific skill, but they may also apply it in different contexts with automaticity. If one takes the principles of SAT into account, it is possible to understand why sometimes WCF can or cannot be effective. For SAT, if WCF contributes to the student's declarative knowledge and helps them to understand how grammar works, this student can therefore better apply the skill acquired in future draft corrections of the same sample and, consequently, use the structures correctly in new pieces of writing. In Wagner and Wulf's study, when the WCF code used did not aid the learners with enough instructions, there was a negative impact on their declarative knowledge and they struggled to correct their errors, as observed, in the correction of verb tenses. As an example, the code *vt* for verb tense was not enough to help students choose which tense they should use.

In addition, Diab (2015) examined how form focused WCF helped students to reduce lexical and pronoun agreement errors and, as in Wagner and Wulf (2016), Diab informed their findings from the perspective of SAT and explained results following the SAT principles as well as the Adaptive Control of Thought (ACT), drawing on Anderson (1985). Kassim and Ng (2014) adopted a grounded theory method and generated their approach from Swain`s (2005) output hypothesis in which Swain posits that the students are committed to the language learning process when they are provided with language output moments that make them use the target structure. Finally, Leng (2013), combined Speech Act Theory by Searle (1969) and Language Functions by Holmes (2001) to create a theoretical framework to examine different types of WCF and how students responded to them. In Leng's view, these two theories show "useful and

effective feedback based on the speech functions may essentially enhance the communicative functions of feedback" (2013, p. 390).

4.3 Treatment

To better understand how feedback strategies may help students to understand and retain knowledge that might help them in both current and future writing tasks, data were analyzed according to the WCF strategy being studied and the interval between pre, immediate, and delayed posttests; therefore, the treatment approach is divided into: (1) type of feedback; and (2) interval between tests and treatment.

4.3.1 Type of feedback

In addition to the type of feedback studied in each paper, Table 5 presents the name of the authors, the journal where the study was published, the year of publication, the number of groups per study, and the number of participants in each group when available and applicable.

Table 5

Types of Written Corrective Feedback Strategies

Author(s)	Year of publication	Publication	Type of WCF	Number of groups	Number of Participants per group
Sarré, Grosbois, & Brudermann	2019	Computer Assisted Language Learning	(1) unfocused direct – with error correction; (2) unfocused indirect + metalinguistic comments on the nature of errors; (3) unfocused indirect + metalinguistic comments on the nature of errors combined with extra computer-mediated micro-tasks; (4) focused indirect + metalinguistic comments on the nature of errors combined with extra computer-mediated micro-tasks; (5) focused direct – with error correction; (6) focused indirect + metalinguistic comments on the nature of errors; (7) control group	7	Group 1: 15 Group 2: 11 Group 3: 17 Group 4: 8 Group 5: 8 Group 6: 17 Group 7: 17
Kim & Bowles	2019	TESOL Quarterly	(1) Reformulation; (2) direct	1	22
Benson & DeKeyser	2019	Language Teaching Research	(1) direct; (2) metalinguistic; (3) control group	3	Group 1: 47 Group 2: 45 Group 3: 47
Conesa, Manchón, & Cerezo	2019	The Modern Language Journal	(1) unfocused direct; (2) unfocused indirect; (3) control group	3	Group 1: 14 Group 2: 15 Group 3: 15
Nemati, Alavi, & Mohebbi	2019	Language Testing in Asia	(1) focused direct; (2) focused indirect; (3) control group	3	Group 1: 27 Group 2: 29 Group 3: 31

Author(s)	Year of publication	Publication	Type of WCF	Number of groups	Number of Participants per group
Guoa & Barrotb	2019	Reading & Writing Quarterly	(1) metalinguistic explanation; (2) direct correction; (3) control group	3	Group 1: 24 Group 2: 24 Group 3: 27
Boggs	2019	Journal of Second Language Writing	(1) teacher-scaffolded; (2) student self-scaffolded; (3) unscaffolded direct	3	Group 1: 37 Group 2: 34 Group 3: 38
Kim & Emeliyanova	2019	Language Teaching Research	(1) indirect; (2) control group	2	Group 1: 17 Group 2: 19
Isnawati, Sulistyo, Widiati, & Suryati	2019	International Journal of Instruction	(1) rubrics; (2) coded	2	Group 1: 34 Group 2: 39
Karim & Nassaji	2018	Language Teaching Research	(1) direct; (2) indirect (underlining + metalinguistic cues); (3) indirect (underlining); (4) control group	4	Group 1: 14 Group 2: 14 Group 3: 13 Group 4: 12
Chen	2018	English Language Teaching	(1) indirect coded; (2) indirect uncoded; (3) direct	1	50
Banaruee, Khatin-Zadeh, & Ruegg	2018	Cogent Education	(1) recasts; (2) direct	2	Group 1: 20 Group 2: 20

Author(s)	Year of publication	Publication	Type of WCF	Number of groups	Number of Participants per group
Kurzer	2018	Tesol International Associations	(1) dynamic; (2) control group	5	Group 1: 84 Group 2: 32 Group 3: 66 Group 4: 31 Group 5: 64
Suzuki, Nassaji, & Sato	2018	System	(1) direct + metalinguistic; (2) direct only; (3) indirect + metalinguistic; (4) indirect only	4	Group 1: 17 Group 2: 14 Group 3: 19 Group 4: 15
Zheng & Yu	2018	Assessing Writing	(1) direct; (2) indirect	1	12
Tang & Liu	2018	Assessing Writing	(1) indirect + short affective comments; (2) indirect	2	Group 1: 28 Group 2: 28
Wang	2017	World Journal of Education	(1) direct; (2) indirect; (3) control group	3	Group 1: 35 Group 2: 35 Group 3: 35
Buckingham & Aktug-Ekinci	2017	Journal of English for Academic Purposes	(1) coded; (2) metalinguistic	2	Group 1: 16 Group 2: 16
Nguyen, M., Pham, Do, Pham T., & Nguyen A	2017	International Review of Applied Linguistics in Language Teaching	(1) explicit feedback; (2) recast; (3) meta-pragmatic; (4) clarification request; (5) control group	5	Group 1: 13 Group 2: 16 Group 3: 12 Group 4: 19 Group 5: 19

Author(s)	Year of publication	Publication	Type of WCF	Number of groups	Number of Participants per group
Seiffedin & El-Sakka	2017	Theory and Practice in Language Studies	(1) direct-indirect; (2) control group	2	Group 1: 25 Group 2: 23
Farjadnasab & Khodashenas	2017	International Journal of Research in English Education	(1) direct; (2) indirect; (3) control group	4	Group 1: 20 Group 2: 20 Group 3: 20 Group 4: 19
Poorebrahim	2017	Indonesian Journal of Applied Linguistics	(1) implicit indirect; (2) explicit indirect	2	Group 1: 10 Group 2: 10
Khanlarzadeh & Nemati	2016	Iranian Journal of Language	(1) Direct; (2) control group	2	Group 1: 16 Group 2: 17
Ene & Kosobucki	2016	Issues in Assessing Writing	(1) direct; (2) indirect; (3) rubrics	NA	1
Alvira	2016	Issues in Teacher's Professional Development	(1) coded; (2) oral	NA	18
Mahmud	2016	Malaysian Online Journal of Educational Sciences	(1) direct; (2) indirect; (3) metalinguistic; (4) focused; (5) unfocused; (6) electronic; (7) reformulation; (8) control group	NA	54

Author(s)	Year of publication	Publication	Type of WCF	Number of groups	Number of Participants per group
Wagner & Wulf	2016	Journal of Education and Learning	(1) indirect; (2) control group	4	Group 1: 9 Group 2: 8 Group 3: 8 Group 4: 8
Aghajanloo, Mobini, & Khosravi	2016	Advances in Language and Literary Studies	(1) focused; (2) unfocused; (3) direct; (4) indirect	4	Group 1: 30 Group 2: 30 Group 3: 30 Group 4: 30
Shintani & Aubrey	2016	The Modern Language Journal	(1) direct synchronous; (2) direct asynchronous; (3) control group	3	Group 1: 25 Group 2: 21 Group 3: 22
Farshi & Safa	2015	Advances in Language and Literary Studies	(1) traditional handwritten; (2) electronic; (3) control group	3	Group 1: 13 Group 2: 11 Group 3: 11
Bodola & Siam	2015	IGI Global	(1) peer review; (2) control group	2	Group 1: 16 Group 2: 20
Simard, Guénette, & Bergeron	2015	Language Awareness	(1) direct; (2) indirect	1	49
Saadi & Saadat	2015	English Language Teaching	(1) direct; (2) metalinguistic	2	Group 1: 11 Group 2: 18

Author(s)	Year of publication	Publication	Type of WCF	Number of groups	Number of Participants per group
Frear & Chiu	2015	System	(1) focused indirect; (2) unfocused indirect; (3) control group	3	Group 1: 12 Group 2: 14 Group 3: 16
Sobhani & Tayebipour	2015	Theory and Practice in Language Studies	(1) written focused; (2) written unfocused; (3) oral focused; (4) oral unfocused; (5) control group	5	Group 1: 15 Group 2: 15 Group 3: 15 Group 4: 15 Group 5: 15
Tai, Lin, & Yang	2015	Journal of Educational Computing Research	(1) peer review; (2) direct; (3) indirect	2	Group 1: 53 Group 2: 54
Al-Ahmad & Al-Jarrah	2015	Asian EFL Journal	(1) direct; (2) direct + oral metalinguistic explanation; (3) control group	3	Group 1: 13 Group 2: 13 Group 3: 13
Han & Hyland	2015	Journal of Second Language Writing	(1) direct; (2) indirect; (3) indirect with revision clues; (4) indirect with clarification requests	NA	4
Diab	2015	Assessing Writing	(1) direct + metalinguistic; (2) metalinguistic; (3) control group	3	Group 1: 20 Group 2: 19 Group 3: 18
Hosseiny	2014	Procedia - Social and Behavioral Sciences	(1) direct; (2) indirect; (3) control group	3	Group 1: 20 Group 2: 20 Group 3: 20

Author(s)	Year of publication	Publication	Type of WCF	Number of groups	Number of Participants per group
Ahmadi-Azad	2014	Theory and Practice in Language Studies	(1) coded; (2) control group	2	Group 1: 27 Group 2: 27
Kassim & Ng	2014	English Language Teaching	(1) focused indirect; (2) unfocused indirect; (3) control group	3	Group 1: 30 Group 2: 30 Group 3: 30
Kamalian & Lashkarian	2014	International Journal of Applied Linguistics & English Literature	(1) dynamic; (2) direct	2	Group 1: 24 Group 2: 22
Leng	2013	Procedia - Social and Behavioral Sciences	(1) directive; (2) expressive	NA	15
Shintani & Ellis	2013	Journal of Second Language Writing	(1) direct; (2) metalinguistic; (3) control group	3	Group 1: 15 Group 2: 13 Group 3: 15
Ferris, Liu, Sinha, & Senna	2013	Journal of Second Language Writing	(1) indirect	NA	10
Maleki & Eslami	2013	Theory and Practice in Language Studies	(1) direct; (2) indirect; (3) control group	3	Group 1: 30 Group 2: 30 Group 3: 30

Author(s)	Year of publication	Publication	Type of WCF	Number of groups	Number of Participants per group
Evans, Hartshorn, & Krause	2011	System	(1) Dynamic; (2) control group	2	Group 1: 16 Group 2: 14

As shown, many studies (N = 28) investigated the impact of direct written corrective feedback on students' writing. 70% of the direct feedback provided was unfocused, meaning that either teachers directly corrected all students' errors - or feedback providers limited feedback to some degree but still chose many language structures to focus on. Within the twenty-eight studies, twenty-five investigated the effects of direct corrective feedback in comparison to indirect corrective feedback. Wang (2017), for instance, investigated the extent to which direct WCF in comparison to indirect WCF helped students to improve their writing accuracy and analyzed students' responses to feedback given to the following target language: subject-verb agreement; verb tense and aspect (present, past, progressive, present perfect); plural and singular; verbs (modal verb, main verb, copula verb); articles (definite and indefinite), prepositions; pronouns (possessive, reflexive, demonstrative, relative pronoun); possessive; the existential *there*; comparatives; parts of speech; and word order. 105 university students were randomly divided into 3 groups: group 1 received direct WCF, group 2 received indirect WCF, and group 3, the control group, was provided with comments on content only. Results indicate that the rate of errors decreased significantly from the pretest to the posttest and from the posttest to the delayed posttest in groups 1 and 2. Although group 3 did not show a statistically significant reduction of errors from the pretest to the posttest, statistical significance was observed from the posttest to the delayed posttest. Concerning the performance of the participants in writing accuracy, overall, the direct and indirect WCF groups did not outperform the control group. In Wang's view, the lack of a significant decrease in error rate among the groups might be explained by their proficiency level of English since all the participants were considered advanced. Another explanation might be related to the duration of the study. The author posits

that a two-month study might be insufficient to show how WCF improves students' writing accuracy.

Suzuki, Nassaji, and Sato (2018) and Diab (2015) also analyzed the effects of direct WCF combined with metalinguistic explanations. In both studies, the teachers corrected students' errors by inserting missing words or by simply crossing out the error and giving the correct forms. However, students were also provided with a handout that contained the grammatical rules of the target language in Japanese followed by examples in English (Suzuki, Nassaji, & Sato, 2018), and received error codes placed beside the correct answer to better understand the type of mistake they made (Diab, 2015). Suzuki, Nassaji, and Sato (2018) focused their observations on direct CF combined with metalinguistic explanation and direct CF only on elementary-level undergraduate students when using past perfect and indefinite articles. In both language structures, students demonstrated increases in their accuracy scores from the pretest to the revision regardless of the WCF strategy they received. However, the students in the treatment groups were able to maintain a satisfactory performance just on the use of past perfect in the delayed posttest, which was given to students 2 weeks after WCF treatment. The authors argue the nature of the language may also interfere with students' performance and ability to use the learned structures with accuracy on the delayed posttest and new pieces of writing. Indefinite articles, as an example, have multiple functions and it is more challenging for second-language students to use them properly. Diab claimed that the type of language aspect teachers focus on may contribute to students' success during error correction and information retainment, as well as potentially harm students' performance on the correction of certain structures. Diab notes that the 57 intermediate adult students that participated in the study reduced errors concerning pronoun agreement from the prettest to the immediate posttest after receiving direct corrective feedback

with metalinguistic explanation. Conversely, direct feedback combined (or not) with metalinguistic explanation did not help students in the correction of wrong words (WW) in this study. Although some students could understand why it was a WW mistake (collocations and connotation, among others) they still did not know how to properly correct it as there were different lexical items they could select from. Diab concluded that rule-based errors are easier to be corrected in comparison to non-rule-based errors. Diab's findings align with the concept of *treatable* and *untreatable* errors in language learning presented by Ferris (2002). According to Ferris, treatable errors, and their rule governed nature, can occur when learners do not understand specific language rules, but they can be effectively addressed through clear instructions, correction, and (guided) practice. Untreatable errors, on the other hand, can be influenced by factors such as the students' native language (and transfer related issues) and their stage of language development. Ferris posits that correcting untreatable errors is challenging as these errors are not related to simply knowing the rules. Both Diab (2015) and Ferris (2002) agree that some errors are easier to correct than others and likely require different approaches for correction.

The three studies remaining out of twenty-eight concentrated on the effects of focused direct WCF only. Al-Ahmad and Al-Jarrah (2015) focused their observations on students' ability to use the simple past tense form. Thirty-nine low-intermediate EAL undergraduate students were evenly divided into three distinct groups: group 1 received direct CF; group 2 direct + oral metalinguistic explanation about the simple past tense rules given in a 30-minute mini-lesson; and group 3 received no feedback and formed the control. The study was comprised of a pretest administered on the first day of the course, an immediate posttest given 10 days after the pretest, and a delayed posttest done 2 months later. Results show that both treatment groups

outperformed the controlled group on immediate posttests. However, no major difference was observed between the two treatment groups; both groups enhanced their knowledge of the simple past. On the other hand, only group 2 showed a long-term retention of the simple past as observed in the delayed posttest whereas no differences were observed between group 1 and the control group; again, highlighting that feedback appears to be more effective in reducing certain errors compared with no feedback.

Indirect feedback was the second most used feedback tool corresponding to 11 studies. The authors using this approach, as described in this thesis, analyzed the effects of indirect WCF only compared to the effects of indirect feedback along with metalinguistic explanation in the form of codes and/or comments or questions regarding the students' errors. The underlining or circling of errors was the most frequently used practice (e.g., Chen, 2018; Karim & Nassaji, 2018; Suzuki, Nassaji, & Sato 2018; Wang, 2017; Zheng & Yu, 2018; among others). Frear and Chiu (2015), for example, conducted a 4-week quasi-experimental study with 42 English majors attending a Taiwanese college to investigate the effectiveness of focused and unfocused WCF given on the regular and irregular simple past verbs. The students were divided into three distinct groups named *focused indirect* WCF (n = 12), *unfocused indirect* WCF (n = 14), and *control group* (n = 16). The 42 students completed a pretest, which was corrected and returned to the treatment groups one week later to be amended after a feedback session. On the same day of the feedback session, students completed an immediate posttest and two weeks later a delayed posttest. The teachers underlined only errors related to the use of regular and irregular simple past for the focused indirect WCF group. For the unfocused indirect WCF group, the teachers underlined not only the errors concerning the regular and irregular simple past but also mistakes related to the use of prepositions and articles. Results show that the focused and unfocused

corrective WCF groups outperformed the control group in both the immediate and delayed posttests when using the simple past in a new piece of writing, Moreover, no improvements were observed among the students in the control group in any of the three writing tests. This was different from the focused and unfocused groups that had a better performance regarding accuracy between the pretest and the posttests. When comparing results between the treatment groups, it was observed that the students in the focused indirect WCF group seemed better able to generalize in new pieces of writing concerning the simple past of the regular verbs in the posttests. Nonetheless, both treatment groups struggled to notice the target structure when correcting new pieces of writing, especially with regards to irregular simple past. In the authors` view, students might have had difficulties because of the short gap between the immediate and the delayed posttest, 2 weeks only, and because teachers needed to rely on students' previous knowledge of the target structures when providing indirect corrective feedback.

Poorebrahim (2016) likewise investigated how 20 intermediate Iranian students responded to unfocused indirect corrective feedback when errors were just indicated by an “X” in the beginning of the sentence (in comparison to errors that were indicated and underlined). In the first two tasks, no meaningful error reduction was observed in any of the groups. However, the group whose errors were located and underlined had more success when correcting their errors in the last two tasks. Poorebhaim believes that knowing which part of the sentence was incorrect facilitated the correction process. Nevertheless, neither of the two groups improved accuracy in new pieces of writing, which led the author to conclude that: “error reduction in revision stage cannot be considered as learning” (p. 184). Sampson (2012) believes that coded feedback tends to be more effective than uncoded feedback as students are more cognitively and socially engaged when analysing the codes and their errors during correction. Ahmadi-Azad

(2014) conducted a study with 54 pre-intermediate Iranian students to compare the effects of coded and uncoded WCF. The students were divided in two groups evenly: group 1 was the treatment group and received coded WCF plus instructions whereas group 2 was the control group who received uncoded CF but no instructions. For the course of four weeks, the group 1 teacher underlined and coded all the errors in the students' texts, whereas the group 2 teacher underlined all the errors without coding them. At the end of the fourth week, the students in both groups gave an immediate posttest and a delayed posttest a month later. Results show that coded WCF had a more positive impact on the correct use of target grammatical structures and punctuation in both the short and long term. Students in the coded WCF group progressively reduced the number of errors during the semester compared to the uncoded WCF group whose results showed no significant change. Nonetheless, errors in target structures such as verb tense, capitalization, and spelling were more persistent regardless of the type of feedback. The author concluded that coded feedback may be more effective than uncoded feedback since it can bridge the gap between current and desired knowledge. Buckingham and Aktug-Ekinci (2017) also believe that coded feedback is an efficient tool for EAL students' development in writing. However, they argue that the type of code may either facilitate feedback correction or make it more difficult. Buckingham and Aktug-Ekinci researched how Turkish elementary (N = 16) and intermediate (N = 16) university students responded to coded metalinguistic feedback and observed that WCF codes (such as "WW" for wrong word or "WO" for wrong order) that did not demand complicated metalinguistic awareness allowed students to respond to feedback more promptly; whereas more indirect codes, such as "?" to indicate unclear structures, hindered students' progress during correction, especially for the younger (elementary-level) students.

Other WCF strategies were also investigated and they include dynamic feedback (Evans, Hartshorn, & Krause, 2011; Kamalian & Lashkarian, 2014; and Kurzer, 2018), reformulation (Kim & Bowles, 2019, and Mahmud, 2016), rubrics (Ene & Kosobucki, 2016; Isnawati, Sulistyo, Widiati, & Suryati, 2019), recasts (Banaruee, Khatin-Zadeh, & Ruegg, 2018; Shintani, 2016), and peer review (Bodola & Siam, 2015, and Tai, Lin, & Yang, 2015). Although the number of studies dedicated to the investigation of these strategies were not as substantial as the ones which analyzed direct and indirect corrective feedback, for instance, they still provided insightful perspectives concerning the effectiveness of these approaches. Mahmud (2016), as an example, suggests that reformulation can have a positive impact on the development of upper-intermediate students' writing skills. In the author's view, when students compare an original text with the revised version, they have to use thinking and analytical skills to grasp the differences and consequently they develop a deeper understanding of the target language. Reformulation also contributes to long-term language development, since students can apply skills developed while comparing and contrasting in their future writing. Finally, Mahmud argues that reformulation helps students to develop language autonomy as they participate actively in the process of identifying and correcting their errors.

Regarding the use of rubrics, Isnawati et al. (2019) conducted a study with 73 Indonesian university students to investigate the effects of rubrics and coded feedback. The students were divided into two groups, the treatment group (N = 34), and the control group (N = 39). The control group was required to revise their writing based on the code provided and the experimental group, besides using rubrics, had a five-minute teacher-student conference before they revised their writings. Although the authors did not observe any significant statistical differences between the treatment group and the control group when comparing both groups'

scores, the authors posit that the use of rubrics can be beneficial for both teachers and students when rubric criteria are clear and precise because teachers and students know what the expectations are and which standards they need to meet. They also suggest that rubrics help teachers and students to identify strengths and weaknesses in the students' work and think of what needs to be done in order to improve the text. Moreover, they serve to guide teachers feedback allowing them to provide constructive comments that will support students' writing skills development. Conclusions to emerge from these, and the previously mentioned, studies will be discussed further in the following, and final, chapter.

4.3.2 Interval between tests and treatment

As detailed in the methodology chapter, studies were required to run a minimum of four weeks or more to be included in this present analysis. Table 6 (on the following page) shows the name of the researchers, how long each study lasted, and the intervals between prettest and posttest, treatment and posttest, and immediate and delayed posttest.

Table 6

Interval Between Pretest and Posttest; Treatment and Posttest; Immediate and Delayed Posttest According to the Length of Study

Author	Length of Study	Interval between prettest and posttest	Interval between treatment and posttest	Interval between immediate and delayed posttest
Sarré, Grosbois, & Brudermann (2019)	24 weeks	24 weeks	23 weeks	NA
Kim & Bowles (2019)	1 semester	NA	NA	NA
Benson & DeKeyser (2019)	9 weeks	5 weeks	4 weeks	4 weeks
Conesa, Manchón, & Cerezo (2019)	5 weeks	21 days	9 days	14 days
Nemati, Alavi, & Mohebbi (2019)	4 weeks	18 days	15 days	4 days
Guoa & Barrotb (2019)	9 weeks	3 weeks	2 weeks	NA
Boggs (2019)	15 weeks	2 weeks	1 week	5 weeks
Kim & Emeliyanova (2019)	8 weeks	8 weeks	7 weeks	NA
Isnawati, Sulistyo, Widiati, & Suryati (2019)	4 weeks	NA	NA	NA
Karim & Nassaji (2018)	6 weeks	6 weeks	2 weeks	NA
Chen (2018)	18 weeks	NA	NA	NA
Banaruee, Khatin-Zadeh, & Ruegg (2018)	3 months	3 months	3 months	NA
Kurzer (2018)	3 terms	10 weeks	9 weeks	NA
Suzuki, Nassaji, & Sato (2018)	4 weeks	4 weeks	3 weeks	NA
Zheng & Yu (2018)	4 weeks	NA	NA	NA

Author	Length of Study	Interval between prettest and posttest	Interval between treatment and posttest	Interval between immediate and delayed posttest
Tang & Liu (2018)	4 weeks	4 weeks	3 weeks	NA
Wang (2017)	10 weeks	4 weeks	3 weeks	4 weeks
Buckingham & Aktug-Ekinci (2017)	14 weeks	NA	NA	NA
Nguyen, Pham, Do, Pham, & Nguyen (2017)	8 months	4 weeks	3 weeks	1 year and 8 months
Seiffedin & El-Sakka (2017)	10 weeks	10 weeks	9 weeks	NA
Farjadnasab & Khodashenas (2017)	2 months	2 weeks	2 weeks	2 months
Poorebrahim (2017)	9 weeks	9 weeks	8 weeks	NA
Khanlarzadeh & Nemati (2016)	3 months	12 weeks	10 weeks	NA
Ene & Kosobucki (2016)	1 year	NA	NA	NA
Alvira (2016)	16 weeks	16 weeks	15 weeks	NA
Mahmud (2016)	4 weeks	N/A	N/A	N/A
Wagner & Wulf (2016)	12 weeks	N/A	N/A	N/A
Aghajanloo, Mobini, & Khosravi (2016)	4 months	4 months	4 months	N/A
Shintani & Aubrey (2016)	4 weeks	1 week	1 week	2 weeks
Farshi & Safa (2015)	7 weeks	6 weeks	7 weeks	N/A
Bodola & Siam (2015)	1 semester	N/A	N/A	N/A
Simard, Guénette, & Bergeron (2015)	4 months	N/A	N/A	N/A

Author	Length of Study	Interval between prettest and posttest	Interval between treatment and posttest	Interval between immediate and delayed posttest
Saadi & Saadat (2015)	6 months	6 months	5 months	N/A
Frear & Chiu (2015)	4 weeks	2 weeks	1 week	2 weeks
Sobhani & Tayebipour (2015)	4 weeks	4 weeks	3 weeks	N/A
Tai, Lin, & Yang (2015)	15 weeks	15 weeks	14 weeks	N/A
Al-Ahmad & Al-Jarrah (2015)	1 semester	10 days	9 days	2 months
Han & Hyland (2015)	5 weeks	N/A	N/A	N/A
Diab (2015)	1 semester	8 weeks	7 weeks	9 weeks
Hosseiny (2014)	5 weeks	5 weeks	4 weeks	N/A
Ahmadi-Azad (2014)	8 weeks	4 weeks	4 weeks	4 weeks
Kassim & Ng (2014)	12 weeks	5 weeks	4 weeks	6 weeks
Kamalian & Lashkarian (2014)	1 term	8 weeks	8 weeks	N/A
Leng (2013)	16 weeks	N/A	N/A	N/A
Shintani & Ellis (2013)	5 weeks	3 weeks	3 weeks	2 weeks
Ferris, Liu, Sinha, & Senna (2013)	16 weeks	N/A	N/A	N/A
Maleki & Eslami (2013)	12 weeks	12 weeks	12 weeks	8 weeks
Evans, Hartshorn, & Krause (2011)	13 weeks	13 weeks	12 weeks	NA

Twenty studies out of the 48 reviewed in this thesis included a pretest, treatment, and an immediate posttest to investigate the effects of two or more WCF strategies on the improvement of students' writing. Fifteen studies included two posttests: an immediate posttest and a delayed posttest to measure the development of students' linguistic accuracy over a more extended period. The studies (N= 13) whose focus was on how students interpret and respond cognitively, behaviorally, and affectively to different WCF did not include pretests and posttests. The authors ensured methodological controls of writing processes that included prewriting, organizing, drafting, revising/editing, and publishing and analyzed students' performances throughout the process combined with qualitative analysis of questionnaires and interview data to better understand students' preferences and responses to feedback.

Summary

This chapter has presented the results of a content analysis involving 48 empirical studies that investigated the efficacy of written corrective feedback for students learning English as an additional language. The analysis focused on prominent and interesting patterns involving WCF and examined how WCF strategies could impact students' development of writing skills and accuracy, considering the variables identified in the studies. The next, and final, chapter will discuss the broader implications of the findings, revisit the research questions that guided the study, and note limitations that emerged during the analysis of the data as well as make suggestions for future research.

Chapter 5: Discussion and Conclusion

This final chapter will discuss the results of the study's content analysis with respect to the research questions posed in this study. It will also address potential pedagogical and theoretical implications of the results, unexpected findings, outline possible limitations that arose during the analysis of data, and make suggestions for future further research. To review: the purpose of this study was to investigate the effects of written corrective feedback (WCF) on the writing of English as an Additional Language (EAL) students. It also aimed to evaluate corrective feedback trends over the years within the corpus of studies focused on in this thesis and analyze factors that might impact the effectiveness of different feedback strategies.

It has been observed in this thesis, through careful study and comparisons across studies, that the main thrust of the articles published in 2011, 2013, and 2014 was to refute Truscott's (1996) theory that WCF can be harmful and ineffective and, for many of the studies within this time period, the researchers focused primarily on the benefits of WCF, without analyzing individual feedback strategies and their impact on students' development. In contrast, the studies published between 2015 and 2019 took a more nuanced perspective and explored the use of different WCF strategies and compared their effects on students' learning progress. Among these studies, a few also focused on how students perceived of WCF and how they processed different WCF strategies. Overall, researchers emphasized the importance of providing written corrective feedback on students' writing across the studies and different pedagogical settings. The results of the content analysis in this thesis have shown that the provision of CF appears to outperform no corrective feedback in terms of improving grammatical accuracy and fluency (Chandler, 2003; Sarré, Grosbois, & Brudermann, 2019), addressing lexical issues (Diab, 2015; Sarré, Grosbois, & Brudermann, 2019; Simard, Guénette, & Bergeron, 2015), and reducing errors (Guoa &

Barrotob, 2019) on both revisions and new pieces of writing since students who receive CF tended to become more familiar with their errors (Alvira, 2015).

The first research question for this study asked: What are the major trends in written corrective feedback? The results presented in the previous chapters found that among the WCF strategies researched (direct, indirect, metalinguistic, dynamic, reformulation, rubrics, recasts, and peer review), emphasis was given to the study of direct and indirect feedback and the use of both strategies to determine which approach was most effective within the context of the study's research setting. Nonetheless, these data must be interpreted with caution as some authors were not clear about the precise WCF strategy used. For example, three studies analysed in this thesis focused on the effects of "dynamic correct feedback" (Evans, Hartshorn, & Krause, 2011; Kamalian & Lashkarian, 2014; Kurzer, 2018). The authors defined dynamic feedback as an interactive and continuous independent strategy that focuses on the most immediate needs of the student and which is purposeful, prompt, continuous, and manageable. However, the three papers used codes to provide feedback and the students had to analyze these codes to correct their mistakes, which characterize these approaches as falling into the "indirect corrective feedback" and "metalinguistic feedback" categories.

The results also show reluctance concerning peer corrective feedback (Bodola & Siam, 2015; Tai, Lin, & Yang, 2015). Although both teachers and students perceive peer review and peer feedback as tools that may help the learners to develop cognitive, social, and affective skills (Bodola & Siam, 2015), students hesitate to give feedback on their classmates' writing because they believe it may hinder their relationships. Students also fear their level of English is not good enough to provide feedback, feel embarrassed to share their work with other peers, and may see the teacher as the only person capable of identifying their errors and address them accordingly

(Poverjuc, Brooks, & Wray, 2012). These findings highlight how important it is for educators to plan carefully and to provide adequate assistance to students when adopting peer CF in the classroom so students will be confident enough to provide and receive peer review. In this sense, peer review training appears to be central for the success of peer review in L2 classrooms.

The current study also found that the researchers in each of the forty-eight articles analyzed in this content analysis did not show which CF strategies are commonly used by teachers in the classrooms where they conducted their research. Instead, the researchers defined which strategies the teachers should adopt to provide WCF so the authors could analyze not only the impact of CF on students' performance but how each strategy would impact students' performance. The reason for these decisions were not made clear in the respective studies, but it may have to do with the fact that by choosing the strategy, the researcher could narrow the scope of the research as there are many CF strategies available. Also, some researchers compared two or more groups of different instructors in their studies and the teachers could not necessarily choose the same strategy which would hinder the comparison between strategies. Moreover, by explicitly defining the CF strategy to be adopted, researchers could also ensure that teachers will provide feedback as there are cases where instructors may not give corrective feedback due to reasons such as time constraints, full classrooms, and different pedagogical philosophies, among other factors, if the possibility of providing feedback were left solely open to each teacher.

Trends concerning participants, proficiency levels, research designs, and theoretical frameworks were also noted. Most studies concentrated on undergraduate university students, followed by adult learners in language schools, with primary and secondary students far less common. As noted prior, this is likely due to the fact that it is easier to conduct research with (adult) university students, obtain ethics approval from university ethics boards, and get consent

from participants. In other words, there are logistical advantages of working in university settings (where many of the researchers themselves work or study), such as easier access and recruitment of participants as well as less complicated approval processes, all which contribute to this trend. Ethical concerns, challenges to obtain consent to conduct studies with minors, and all other requirements that must be met to conduct studies with individuals who are seventeen and under may also explain why it is preferred to conduct studies with adults. The range of proficiency levels, however, was diverse, even though the range of ages was not, with particular attention paid to intermediate EAL students. Regarding research approaches, both qualitative and quantitative approaches were used, and a smaller number of researchers chose mixed-method strategies. Theoretical frameworks were less common due to the chosen research designs; however, conceptual frameworks were more common, in line with trends in quantitative research more broadly.

The second research question aimed to investigate which WCF strategies were more effective on EAL students' writing as reported in the analyzed studies. It was observed that lower-level students benefited more from direct corrective feedback since they might not have had strongly developed repertoires of strategies to draw upon or deep linguistic knowledge to resort to when analyzing indirect feedback codes or metalinguistic explanations. Whereas intermediate level students and those with stronger target language proficiency, according to the research, seem to benefit more from indirect corrective feedback as they have developed stronger language analytic abilities and metacognitive skills. Interestingly, students who learned the language through immersion programs and had little explicit metacognitive knowledge of grammar struggled to respond effectively to indirect feedback in comparison to students who learned English in language schools – likely using grammar translation or "focus-on-form"

approaches (Ferris, Liu, Sinha & Senna, 2013; Benson & DeKeyser, 2019; Kim & Bowles, 2019). A possible reason is that language schools may put more emphasis on technicalities such as sentence structure and grammar since language development is the primary focus in these educational settings. The level of explicitness has also a great impact on how students will respond to corrective feedback. When comparing metalinguistic feedback to simply underlining an error (i.e., "indirect feedback"), researchers observed that when the feedback is more explicit and provides language clues (in the form of metalinguistic CF), this can impact positively the learner's noticing and subsequently improves accuracy. Some authors posit that the strategy should be chosen based on the learners' depth of processing (Kim & Bowles, 2019). In their view, different WCF strategies boost different depths of processing among EAL students and draw on different skills needed to achieve proficiency in the target language. Although it might sound impracticable, the authors suggest that instead of correcting a whole essay using the same strategy, teachers should adopt, for instance, a certain strategy to correct a type of error and a different strategy on other type of error. This unfortunately also speaks to some persistent disconnections between feedback research and teachers' pedagogical practice and reveals the importance of researchers and institutions to think of effective (and more individualized) ways to help teachers integrate research insights into their practice. Another factor that might interfere with the efficacy of the feedback strategies is the type of language structure the teacher is focusing on. Results show that the nature of the language being addressed, such as indefinite articles that have different functions or word choice that could be related to collocations, are more difficult to be corrected and used correctly in future writing tasks. Ferris and Roberts (2001) note that indefinite articles and word choice are "untreatable" errors and, for this reason, are typically more challenging features to be mastered for L2 learners.

The results in this study are inconclusive concerning focused and unfocused corrective feedback. Some of the researchers (Frear & Chiu, 2015; Sobhani & Tayebipour, 2015) claimed that students who receive focused feedback can improve accuracy development and apply the knowledge acquired from corrections in future writing, whereas unfocused feedback can be confusing for students to make corrections on word choice and less explicit language structures. Other researchers (Aghajanloo, Mobini, & Khosravi, 2016; Nicolás–Conesa, Manchón, & Cerezo, 2019) argue that unfocused feedback can have a greater impact on writing development since pointing out different types of errors can help students to deepen their knowledge of the language. It has also been observed (Kassim & Ng, 2014; Wagner & Wulf, 2016) that unfocused corrective feedback is more suitable for students whose English proficiency is intermediate and above. Finally, results show that the effectiveness of unfocused or focused corrective feedback might be intimately related to the proficiency levels of students (Nemati, Alavi, & Mohebbi, 2019; Sarré, Grosbois, & Brudermann, 2019). While advanced learners might benefit more from complex and open-ended feedback to encourage critical thinking, less advanced students often benefit from more focused and specific feedback that directly addresses their errors and helps them understand important concepts of the target language (see Nicolás–Conesa, Manchón, & Cerezo, 2019). However, as the authors note, teachers cannot rely only on proficiency when giving feedback as some advanced students, for instance, may still struggle to understand more implicit feedback due to gaps in their learning processes. This finding reinforces the importance of knowing the students' background, and the necessity for teachers to be flexible and adaptable in the provision of feedback. Lira-Gonzales and Nassaji (2020) highlight the significance of tailoring learning experiences to meet individual students' needs when providing CF on writing. In the authors' views, when teachers adopt a personalized approach, not only do they enhance

students' learning outcomes, but also help them to refine their writing skills. Lira-Gonzales and Nassaji suggest offering different forms of assistance based on the students' proficiency levels in the language. For instance, beginner students might require clear and straightforward guidance, whereas more advanced learners could benefit from detailed feedback to encourage deeper learning. The study also emphasizes the importance of teachers being mindful in providing feedback to avoid any potential confusion for students.

The data used to answer research question 2 must be interpreted with some caution, however, since the length of most studies was relatively short in their observations of the efficacy of different WCF strategies and the impact of focused and unfocused feedback. Suzuki, Nassaji, and Sato (2018) suggest that having longer intervals between posttests and delayed posttests would be ideal to observe students' responses to different strategies. Nguyen, Pham, Do, and Nguyen (2017) also note that, regardless of the intervals between tests, the feedback treatments should be longer so students can practice in greater depth the target structures and retain the knowledge to have a better performance on subsequent writing tasks. There was no consensus in the analyzed papers regarding the minimum length a study should be to better observe the long-term effects of written corrective feedback. However, some researchers believe that studies spanning at least 12 months are preferable in comparison to short-term studies. This longer duration would provide students with increased opportunities to assimilate and apply the target linguistic structures, analyze feedback strategies, develop error correction techniques, and avoid mistakes in future writing tasks. Furthermore, longer-term studies would also enable researchers to create a more significant time gap between immediate and delayed posttests and, in certain cases, conduct multiple delayed posttests to better measure the impact of feedback techniques over a sustained period of time. Nevertheless, it is important to acknowledge that

longitudinal studies are not without challenges, some quite formidable. Over the course of a longitudinal study, participants may eventually interrupt their participation causing a reduction in the sample size and consequently compromising the statistical validity of the results. Additionally, there is a possibility that some of the original measures used to collect data might become outdated by the time the study is finished. Longitudinal studies also pose additional challenges for teachers as they would have to adapt their teaching approaches for a long period of time; and making teachers to provide the same WCF strategy on very specific target structures over a long period might not be ideal for every student. Moreover, conducting a longitudinal study with multiple sources of data collection can be more costly and time consuming compared to short-term studies. These challenges faced by researchers conducting longitudinal studies likely explain the prevalence of short-term analyses in the studies examined in this paper.

Overall, the studies analyzed in this thesis provided a fairly comprehensive understanding of different WCF strategies and their impact on students' writing, highlighting some potential advantages and limitations of each approach. Although there were less extensive studies concerning the use and impact of dynamic feedback, reformulation, rubrics, recasts, and peer review, the studies dedicated to analyzing these strategies offered insights about their potential effectiveness, as noted in the preceding chapters.

5.1 Unexpected Findings

The findings of this content analysis did not provide clear evidence on the most effective feedback strategy as initially expected at the onset of the process for this MA thesis. Instead, the analysis suggests that the effectiveness of feedback depends on various, often intersecting, factors, including age, language proficiency, and the explicitness of the feedback, among other

variables. Most of the studies focused on participants who were at least 18 years old. Although there is a lack of comparative studies between children and adults regarding their responses to written corrective feedback (WCF), it is possible to assume that researchers tend to prioritize the investigation of adults' reactions to feedback due to their abilities in learning and using metalinguistic knowledge to analyze WCF and make corrections – as well as, no doubt, the ability of researchers to more easily access these research sites, the participants, and obtain ethics approval. Among the limited studies conducted with participants aged 12 to 16 years, explicit focused feedback appeared to be the most used strategy, possibly because some teachers believe that young learners may struggle to comprehend more implicit and unfocused forms of feedback. Another plausible explanation for the amount of research conducted with adults is that teachers typically provide corrective feedback more frequently to adults compared to children since they encourage adult learners to take risks when writing. Conversely, children are often engaged in more structured activities with fewer opportunities to make mistakes, resulting in reduced feedback provision (Vuogan & Li, 2021).

When analyzing the effects of WCF, taking into consideration the age of the participants, it is possible to establish a potential relationship between age and the type of institution. The majority of the research was conducted with undergraduate students attending universities. This suggests that universities are often the primary setting for studying the effects of written corrective feedback, at least within the context of this present content analysis. Additionally, a considerable amount of research was conducted in language schools also with the target being adult learners. This suggests that language schools play an important role in investigating the effects of written corrective feedback on adult language learners. The focus on university students indicates that the effects of written corrective feedback are frequently examined in the

context of higher education where international EAL students are deepening their knowledge of both content and language in order to complete their academic work. On the other hand, the emphasis on language schools suggests that the effects of written corrective feedback are also explored in settings where adults are actively engaged in language learning for different purposes, including work-related. This reinforces the importance of considering different age groups, types of institutions, and perhaps even the motivational aspirations of students when studying the effects of written corrective feedback.

The results suggest that the students' levels of proficiency also play an important role in how students will respond to different WCF strategies. Not only does proficiency impact the effectiveness of different WCF strategies, as noted previously in this thesis, but it also influences students' emotional responses to the feedback they receive. Research has found that some students, for instance, may feel anxious and demotivated when responding to feedback and correcting their errors, especially those with lower proficiency levels who might struggle to interpret feedback and might not accept errors as a natural part of their learning process. A conclusion from this present analysis further emphasizes the importance of teachers understanding the specificities of different feedback strategies and incorporating them into their teaching methods, and then applying them according to their students' level of proficiency, so students can optimally benefit from the feedback provided. Additionally, teachers should also seek to create a positive and supportive learning environment for all students and be approachable and understanding.

5.2 Limitations

Although valuable insights were obtained from this content analysis, there are limitations that need to be discussed, since they inform the findings. The first limitation is concerned with the sample of forty-eight studies, which is not large enough to allow for strong comparisons of the different variables considered. Specifically, nine studies primarily investigated the efficacy and benefits of WCF, thirty-one compared the use of different WCF strategies and their impact, and eight studies examined how students perceive and process WCF. The constraints placed by the sample size are particularly evident when interpreting the benefits of WCF and students' perception of feedback, but less noticeable in relation to the impact of different WCF strategies, where a larger sample size (31 articles) was involved. A second considerable limitation is that the majority of studies lacked delayed posttests, and those that did conduct such tests had only a brief interval between the immediate and delayed posttests. Consequently, the present content analysis was unable to report longer-term differences regarding the efficacy of different WCF strategies and their impact on target language development and error reduction in new pieces of writing. To address this limitation, it was observed that longitudinal data is essential to determine whether the effects of WCF are sustainable. Some researchers, including Suzuki, Nassaji, and Sato (2018), have suggested that future studies should be conducted over a more extended period to investigate how long treatment should take and how much feedback students need to improve their written accuracy. The findings offered in this thesis support this perspective. Finally, the variables analyzed in the present study did not include students' motivations, their attitudes towards WCF, and teachers' skills in providing corrective feedback. These variables would likely also play an important role in understanding the uptake and subsequent impact of WCF on students' writing skills and accuracy.

5.3 Future Research

Future research should not only investigate students' cognitive skills and interpersonal relationships with feedback providers but also explore their emotional responses and interactions when exposed to various written corrective feedback strategies aiming to understand the reasoning behind these interactions. Focusing on interpersonal relationships, strategies in research can provide valuable insights concerning the relationship between emotional factors and the overall effectiveness of feedback. Analyzing how emotions influence students' receptiveness and response to feedback can help teachers to think of interventions that improve learning outcomes.

Finally, it is also important that future research examine the impact of additional variables on feedback effectiveness, such as learners' age groups (including more participants under 18 and across all levels of primary and secondary schooling) and, importantly, the duration of the study. Individuals under the age of 18 receive a considerable amount of feedback in real school contexts; however, there is limited research that has explored key aspects of WCF such as the types of feedback these students receive in real-world situations, how they respond to different feedback techniques that have been used to study feedback with older students, which feedback types and amounts are more or less effective in reducing errors, and teachers' understanding of the feedback they provide as well as what they expect to accomplish with their feedback practices. Concerning the length of the research, an analysis of longitudinal studies can provide a more comprehensive understanding of how feedback impacts learning outcomes over longer periods of time. Karim and Nassaji (2019) drew attention to gaps in existing research, emphasizing the need for studies that reflect real classroom practices and exploring feedback on various types of errors. The authors importantly emphasized the need for future research

measuring long-term feedback effects on writing quality and accuracy, which my study supports as well. Moreover, Karim and Nassaji stressed the importance of research that attempts to understand how factors such as target structures, feedback context, and learner readiness interact with feedback efficacy. By considering these variables, researchers can better identify which factors influence how corrective feedback is received and internalized. These insights will ultimately help teachers to personalize their approaches in order to meet the individual needs of their students.

5.4 Conclusion

The purpose of this study was to investigate trends in strategies of written corrective feedback (WCF) provided by teachers to English as an Additional Language (EAL) learners' writing. The research also aimed to understand the factors that might influence the effectiveness of these strategies. Through the use of content analysis, a total of forty-eight empirical studies from Applied Linguistics and Second Language peer reviewed academic journals, published between 2010 and 2019, were carefully examined according to specific and rigorous criteria. The variables used to code the studies were categorized into three main groups: study characteristics, research design, and treatment.

The analysis revealed that much of the research on corrective feedback was conducted in Iran, the United States, and China, with a focus on WCF work with young adults and adults attending language schools, colleges, or universities. While some studies aimed to challenge skepticism surrounding WCF by discussing its importance in enhancing EAL students' grammatical accuracy, fluency, addressing lexical issues, and reducing errors, others compared feedback strategies, including coded explanations, metalinguistic explanations, rubrics, direct

and indirect feedback, recasts, and peer review, among others. The analysis also indicated that direct and indirect feedback were the most used strategies and drew attention to the fact that certain studies labeled strategies differently, as for example, studies about dynamic feedback in which the characteristics used to describe dynamic feedback appeared similar to the characteristics of indirect metalinguistic feedback.

The results also suggest that there is not a universal best WCF strategy, as corrective feedback efficacy is influenced by myriad factors such as proficiency level, age, and feedback explicitness. Language proficiency and feedback explicitness are intertwined, impacting not only the strategy's effectiveness but also students' emotional responses to it. As observed, lower-level students struggle to interpret strategies like metalinguistic feedback, whereas higher-level students benefit more from this type of feedback. Age also plays a role, since adult learners typically have more analytical skills and metalinguistic awareness, which help them to better comprehend linguistic structures and feedback explanations compared to children. Results also showed that error treatability affects feedback effectiveness, with treatable errors being easier to correct in comparison to untreatable errors, regardless of the type of feedback.

In spite of its valuable insights, the study had limitations, such as a small sample size, short-term studies, and limited focus on variables like students' and teachers' motivation and attitudes towards feedback, as well as teachers' feedback skills. To better understand the impact of different WCF strategies, it is suggested that future research should explore emotional responses, age groups, and study duration, with a particular emphasis on conducting more longitudinal studies.

Despite its limitations, this research has endeavored to offer an insightful exploration of the role and effectiveness of different written corrective feedback approaches for EAL students'

development. The analysis underscores the importance for teachers to understand how different variables may affect the efficacy of corrective feedback. With this understanding, teachers can tailor feedback strategies to meet their students' needs, helping them to develop their writing skills more quickly and effectively.

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