Investigating Student Engagement with Written Corrective Feedback on Second Language Writing: Insights from Chinese University Students

Yilin Jiang

A Thesis Submitted in Partial Fulfillment of Requirements for
degree of Doctor of Philosophy in English Language Teaching
May 2024

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The examining committee has unanimously approved this Thesis, submitted by Ms. Yilin Jiang , as a partial fulfillment of the requirements for the Doctor of Philosophy English Language Teaching at Mahasarakham University

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ABSTRACT

While the efficacy of teacher written corrective feedback (WCF) has been extensively explored, a notable research gap exists in examining the disparities in how low-proficiency (LP) and high-proficiency (HP) students receive such feedback in second language (L2) writing. Through an analysis of five writing tasks distributed over a 16-week course, this research explored the affective, behavioral, and cognitive dimensions of student engagement with WCF. Additionally, it investigated the developmental changes in these dimensions over one semester. Participants included six Chinese English as an Foreign Language (EFL) sophomores, with three designated as LP and three as HP students, selected through purposive sampling. Data collection methods included analysis of students' L2 writing tasks, stimulated recall sessions, and semi-structured interviews. The findings unveiled varied engagement performance in its dimensions, portraying the evolution of affective, behavioral, and cognitive engagement throughout the semester. Sociocultural theory, social cognitive theory, and complex dynamic systems theory provided a theoretical foundation, highlighting the interconnected nature of engagement in the L2 writing process. Significantly, the results underscored the pivotal role of teacher WCF in shaping holistic student development. Pedagogical implications stress the need for tailored strategies encompassing emotional support, diverse feedback techniques, and cognitive skill development. Theoretical contributions extend to social cognitive and complex dynamic systems theories, providing deeper insights into language acquisition.

Keyword : teacher written corrective feedback, second language writing, low-proficiency students, high-proficiency students, student engagement

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CHAPTER I
INTRODUCTION

Providing feedback on linguistic errors in students' L2 writing is one of the central concerns of L2 teachers (Han & Hyland, 2015), and research on written corrective feedback (WCF) has not ceased to be popular among researchers (Moser, 2020). However, despite the efficacy of WCF, which has received considerable attention in recent years, little is known about how L2 students engage with WCF and how they react to the feedback provided. Chapter I presents a general introduction to the study, including its background, significance, purpose, research questions, and definitions of terms.

1.1 Background of the Study

Second language (L2) writing is perceived as a great challenge in teaching and learning by teachers and students (Hyland & Hyland, 2019; Wei & Cao, 2020; Sun & Zhang, 2021; Zhan et al., 2021). It is regarded as one of the most demanding language skills, like listening, speaking, and reading (Huang & Zhang, 2020). For both native speaking learners and L2 students, writing is highly required as it is broadly used in all aspects of the studying process, and it is also an essential ability for thesis writing accomplishment. In order to facilitate L2 learners' writing performance, feedback is widely utilized in writing instruction by L2 writing teachers to inform students of their writing problems and weaknesses so that students can improve their writing performance in both local (language) and global (content and organization) aspects (Manchón, 2011; Zhang, 2013; Zhang, 2016).

In second language acquisition (SLA), written corrective feedback (WCF) is provided for the purposes of both L2 writing acquisition and development, with WCF as a distinct and powerful form of interaction between a student and a more knowledgeable teacher (Crosthwaite et al., 2022). In other words, WCF refers to the written comments and responses teachers provide to students' writing in order to enhance students' writing acquisition and development (Bitchener & Storch, 2016; Li & Vuono, 2019). WCF is also seen as an error or grammar correction (Bitchener & Ferris, 2012). It can boost students' confidence levels in writing and enrich teachers'

and students' instructional resources (Cheng & Liu, 2022). Therefore, it has been established as a widely-used intervention approach to scaffold L2 learners' writing process and facilitate their writing output (Bitchener & Storch, 2016; Cheng et al., 2021; Lee, 2020; Cheng & Zhang, 2021). From this perspective, Vygotsky (1978, 1981) introduced the zone of proximal development (ZPD) in sociocultural theory, with the scaffolding provided by more-able others. In Vygotsky's theory, ZPD is defined as the gap between the learner's current and potential levels, which may be bridged with the help of adults or more competent learners (Vygotsky, 1978). WCF is seen as a form of assistance. Thus, whether the WCF provided to the learner is effective needs to consider whether it represents scaffolded assistance within the student's ZPD.

In L2 writing, a typical distinction in WCF is direct (e.g., correct form is given) and indirect (e.g., incorrect form is identified but no correction) feedback; however, these concepts have been applied variably by researchers (Moser, 2020). For instance, direct feedback may consist of removing the wrong form, providing the correct form, adding omitted components, or incorporating metalinguistic feedback that specifies the error type and provides an example. In contrast, indirect feedback includes highlighting, underlining, circling, or a simple checkmark indicating the number of errors. Ellis (2008) proposed seven types of WCF strategies: (1) Direct non-metalinguistic written correction; (2) direct metalinguistic written correction; (3) indirect metalinguistic written correction; (4) indirect written correction (not located); (5) indirect written correction (located); (6) indirect written correction using error codes, and (7) reformulation. The strategies of WCF can be categorized as direct correction and indirect correction. To put it briefly, direct correction provides the correct form. It includes direct non-metalinguistic written correction, direct metalinguistic written correction, and reformulation. In contrast, incorrect written correction, which utilizes error codes to indicate the presence of errors, is classified as indirect metalinguistic written correction, indirect written correction (not located), and indirect written correction (located). A number of studies have shown a strong preference for indirect feedback among writing experts (Ferris & Roberts, 2001; Leki, 1991; Rennie, 2000), whereas direct correction has been found effective by learners in a number of studies (Bitchener, 2008; Ellis et al., 2008; Ellis, 2009; Lee,1997; Liu &

Yu, 2022; Sheen, 2007; Van Beuningen et al., 2012). However, researchers who work within a sociocultural framework argue that it is not possible to identify one type of WCF that is the most effective for all learners, as the effectiveness of WCF rests on how it can be tailored to the learner's developmental level (i.e., the Zone of Proximal Development).

Many empirical studies have demonstrated that WCF is beneficial for fostering the acquisition and development of L2 writing (e.g. Abd Rahim et al., 2023; Sahmadan & Hasan, 2023; Shintani et al., 2014). These studies primarily focus on the optimal way to deliver WCF to maximize the effectiveness of L2 writing. For example, Abd Rahim et al. (2023) confirmed the value of WCF for EFL learners outside English-speaking countries and highlighted the significance of individual and contextual factors in the debate over the effectiveness of WCF. Sahmadan and Hasan (2023) provided empirical support for the view that direct WCF was a suitable and effective method for enhancing students' writing proficiency. The prevailing preference for direct over indirect feedback underscores its beneficial influence on L2 writing development, thus advocating for its integration into writing pedagogy, particularly for error correction. Additionally, Shintani et al. (2014) found that direct correction and metalinguistic feedback (in the form of a handout) had a significant and positive effect on learners' accurate use of the hypothetical conditional. However, their proficiency with the indefinite article remained unaffected. Furthermore, direct WCF proponents have argued that direct correction may assist students in resolving more complex errors effectively than other types of WCF. Van Beuningen et al.'s (2012) study further argued that for untreatable (referred to as "nongrammatical" in their research) errors, metalinguistic feedback in the form of error codes was more effective than direct correction. For treatable (grammatical) errors, the researchers found direct correction to be more effective. Conversely, Van Beunungen et al. (2008) have identified the advantage of direct feedback, while Ferris (2006) has discovered an effect of indirect feedback. However, Truscott (1996) stated that no single form of CF can be expected to help acquire every type of linguistic error.

Extensive research has also investigated the effects of WCF on writing accuracy (e.g. Han & Hyland, 2015; Mahfoodh, 2017; Zhang, 2017). However, providing WCF alone does not ensure that the writing performance of L2 learners will improve (Cheng & Liu, 2022; Moser, 2020). To maximize the value of teacher WCF, students should engage with this practice (Zhang & Hyland, 2018; Zheng et al., 2020). Specific to the field of feedback, student engagement is equal to the ways in which students process corrective feedback. It is a multi-dimensional meta-construct reflected by the three interconnected perspectives: affective, behavioral, and cognitive engagement (Ellis, 2010; Han & Hyland, 2015; Zhang & Hyland, 2018). Affective engagement is defined as students' attitudes towards feedback, behavioral engagement refers to students' behaviors after receiving feedback, and cognitive engagement is students' cognitive investment while responding to feedback (Cheng & Liu, 2022; Ellis, 2010; Han, 2017).

Previous studies investigating students' engagement with teachers' WCF have focused on qualitative enquiry, students' emotional responses, and students' level of language proficiency. For instance, Han and Hyland (2015) investigated the engagement of four average college students with WCF through qualitative enquiry. They found that the students' beliefs and learning experiences, together with the interactional context of receiving and processing WCF, could lead to individual differences in engagement. Mahfoodh (2017) examined how students' emotional responses towards WCF influenced their text revisions and found that emotional reactions like surprise, happiness, dissatisfaction and frustration can affect learners' understanding and uptake of WCF. Cheng and Liu (2022) explored how low-proficiency (LP) and high-proficiency (HP) students engaged with teacher WCF affectively, cognitively, and behaviorally in a Chinese EFL context. Specifically, students' language proficiency was found to be an internal factor and feedback focus as an external factor influenced their engagement with feedback.

Regarding global feedback, LP and HP students' engagement shared similarities, with uniformly low cognitive and behavioral engagement across both groups. A different picture was found in their engagement with local feedback. HP students' engagement with local feedback in the three perspectives was largely consistent with positive

affective engagement and high cognitive and behavioral engagement. In contrast, it seemed to be more difficult for LP learners to achieve consistency among the three dimensions. While they held a generally positive orientation towards local feedback, they did not invest much cognitive effort to process it or make extensive revisions. This inconsistency across the three perspectives is probably ascribed to their low language proficiency. The findings revealed that their language proficiency and feedback focus mediated students' engagement with teacher WCF. From this perspective, a complex and nonlinear relationship across the three engagement perspectives was evidenced in the consistencies and inconsistencies of student engagement.

Despite numerous studies demonstrating the benefits of WCF in enhancing L2 writing accuracy, simply providing feedback does not guarantee improvement (Cheng & Liu, 2022). Student engagement with feedback is crucial for its efficacy, encompassing affective, behavioral, and cognitive dimensions (Ellis, 2010). While previous research has explored student engagement qualitatively, emotional responses, and proficiency levels, there is a gap in understanding how students with varying proficiency levels engage with teacher WCF in EFL contexts and how this engagement evolves over time. Thus, this study investigated student engagement in teacher WCF on L2 writing. The study also aimed to examine the evolvement and development of student engagement with WCF over one semester. Such investigations were conducive to capturing the malleability and dynamism of engagement, yielding valuable insights into the manifestation, prominence, and consistency of engagement.

1.2 Purposes of the Study

The study was to explore L2 student engagement in teacher WCF on L2 writing. Specifically, it aimed to investigate how students with low-proficiency (LP) and high-proficiency (HP) process teacher WCF on L2 writing. The study also examined the evolvement and development of student engagement with WCF to gain a comprehensive understanding of engagement. Two research questions have been formulated to guide the study to accomplish the defined objectives:

1. How do students with low and high proficiency levels engage with teacher WCF affectively, behaviorally, and cognitively?
2. What, if any, development transpires in the level of engagement exhibited by students with low and high proficiency levels in teacher WCF throughout a semester?

1.3 Scope of the Study

This research was conducted at a private university located in the southwestern region of China. The primary objective was to examine the interaction between second-year English major students and their engagement with a teacher's WCF in the context of an English writing course. The course was instructed by a colleague of the researcher in this study.

The investigation into undergraduate student engagement with teacher WCF was approached from three dimensions: affective, behavioral, and cognitive engagement. Various data sources, including students' written assignments, stimulated recall sessions, and semi-structured interviews, were employed to comprehensively explore the extent and nature of student engagement. The study spanned approximately 16 weeks, encompassing the entirety of the academic term in 2023.

1.4 Significance of the Study

The significance of this study is multifaceted, making noteworthy contributions to the field of language education and pedagogy, particularly in the realm of L2 writing and teacher WCF.

By delving into the affective, behavioral, and cognitive engagement of L2 students, the study provides a comprehensive understanding of the intricate interplay between students and teacher feedback. This study underscores the significance of customized instructional methods that account for the varying degrees of engagement observed among LP and HP students, which is a priceless insight for practitioners. By applying the results gleaned from this study, practitioners can enhance their instructional approaches to promote a more effective and inclusive learning environment.

Furthermore, the study contributes to theoretical frameworks by augmenting our comprehension of sociocultural, social cognitive, and complex dynamic systems

theories. By emphasizing the significance of motivation, self-regulation, and social interactions in language learning, this study enhances our understanding of the cognitive mechanisms in incorporating teacher written corrective feedback (WCF) and provides classroom-applicable theoretical insights.

This study benefits various stakeholders: educational practitioners, students, researchers and academia, and educational policymakers. Educational practitioners can utilize customized instructional methods to better meet the needs of students at different proficiency levels, enhancing teaching effectiveness. Students can benefit from more effective teaching methods, improving their language learning proficiency and receiving more support in a more inclusive learning environment. Researchers and academia benefit from the expansion of theoretical frameworks in language education and pedagogy, providing new perspectives and avenues for future research. Educational policymakers can utilize the findings of this study as reference and support for the formulation of language education policies that better align with practical needs. The significance of this study lies in its provision of practical teaching recommendations and its contribution to theoretical exploration in the field of language learning and teaching.

1.5 Definition of the terms

The key terms in this research are defined as follows:

"Student engagement" in this study pertains to the multifaceted responses of EFL students from low- and high-proficiency groups to teacher WCF in L2 writing, encompassing affective, behavioral, and cognitive dimensions.

"Written corrective feedback" is the corrective input provided by the teacher on five students' writing tasks in L2 writing during one semester, aimed at enhancing language accuracy and proficiency.

"Chinese university students" refer to undergraduate English majors from a private university in southwestern China, comprising both 3 high proficiency (HP) and 3 low proficiency (LP) students, who are mandated to take English writing courses as part of their degree program.

"Developments" refer to the changes of LP and HP students' engagement with

teacher WCF after one semester, including the developments of affective, behavioral, and cognitive engagement.

"Second language (L2) writing" refers to the various forms of essay writing, such as narrative, descriptive, and argumentative compositions, as outlined in the English major syllabus.

1.6 Organization of the Thesis

This thesis is structured into five chapters, each serving a distinct purpose in elucidating the research conducted.

The introductory chapter lays the groundwork by providing the study's background, justifying its importance, and articulating research objectives. It also sets the study's scope and offers operationalized definitions of key terms.

In Chapter II, a comprehensive literature review unfolds alongside the introduction of the theoretical framework, encompassing WCF and student engagement. This exploration encompasses their origins, influence, diverse types, strategies, and previous research in both domains.

Dedicated entirely to the research methodology, Chapter III meticulously details the chosen approach. It covers the research paradigm, design, contextual background, participants, instruments/techniques, data collection procedures, data analysis methods, data trustworthiness, and ethical considerations. This chapter acts as a comprehensive guide to the research process.

The fourth chapter conducts a detailed analysis of the interaction between L2 students of varying proficiency levels and teacher ECF in L2 writing. Results are presented through thematic analysis, employing Zheng et al.'s (2020) framework and complemented by excerpts from student stimulated recalls and interviews. The discussion sheds light on how LP and HP students engage with teacher feedback, exploring changes in affective, behavioral, and cognitive dimensions over a semester.

The thesis consolidates the main discoveries in the final chapter, Chapter V. It offers insights into L2 students' responses to teacher WCF in a Chinese private university, explicitly focusing on affective, behavioral, and cognitive engagement. While acknowledging the study's limitations, this chapter also proposes potential avenues

for future research, thereby contributing to the evolving discourse on student engagement in L2 writing and WCF.

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CHAPTER II
LITERATURE REVIEW

This chapter provides an overview of the conceptual theories related to the study. The two main themes, written corrective feedback (WCF) and student engagement, are described, including their origins and influence. Specifically, the types and strategies of WCF are described, and previous studies of WCF are discussed. The development of the construct of student engagement and previous research in this field are also detailed.

2.1 Corrective Feedback (CF)

Corrective feedback, encompassing written corrective feedback, is regarded as an essential activity in the general literature on classroom teaching. In particular, teachers' feedback motivates students by informing them about their performance and whether the student's responses are correct (Good & Brophy, 2000).

2.1.1 What is Corrective Feedback?

In the second language acquisition (SLA) literature, corrective feedback (CF) has been used as an umbrella term to cover negative feedback, error treatment, and error correction occurring in both natural and instructional settings (Sheen, 2011). Indeed, CF can occur in naturalistic settings, provided by native or non-native speakers or in instructional settings where classroom teachers or other students offer it. Chaudron (1977) provided one of the earliest definitions of CF as "any reaction of the teacher which transforms, disapprovingly refers to, or demands improvement of the learner utterance" (p. 31). CF is now widely described as comments on the appropriateness or correctness of learners' production or comprehension of a second language, and it is now one of the most vibrant streams of research in SLA (Li & Vuono, 2019).

CF can occur in a traditional grammar lesson and the context of a communicative activity or exchange in response to student writing. While CF in grammar lessons is not without merit, the use of CF in the context of communicative interactions has attracted the attention of SLA theorists and researchers. Long (1991) argued that CF helps learners to understand the relationship between a particular linguistic form and its corresponding meaning in context, and it can assist acquisition when learners experience a communication problem, make an error and then receive feedback that

helps to make input comprehensible or enable them to modify or correct their utterance. Doughty (2001) argued that CF assists acquisition when the input is provided when the learner is cognitively primed to pay attention to the feedback in what she called “a window of opportunity”. Thus, it should be noted that oral corrective feedback (the type of CF as Long (1991) mentioned above) can occur not only as a result of a communication breakdown but also as a didactic move that draws learners’ attention to form even though the teacher and learners have no trouble comprehending each other. Besides, whether effective CF should be immediate or delayed, it can assist acquisition somehow (Eckstein et al., 2020).

2.1.2 Oral Corrective Feedback (OCF) vs. Written Corrective Feedback (WCF)

There are two types of CF: oral CF (OCF) and written CF (WCF). OCF has been defined simply as “responses to learner utterances containing an error” (Ellis, 2006, p. 28) but also as a “complex phenomenon with several functions” (Chaudron, 1988, p. 152). On the contrary, WCF, also known as error or grammar correction (Bitchener & Ferris, 2012), is “a written response to a linguistic error [and it] seeks to either correct the incorrect usage or provide information about [the error] (Bitchener & Storch, 2016).”

OCF and WCF differ in a number of respects in terms of modality, spontaneity, context, focus, salience, taxonomy, and source (Yu & Lee, 2014; Lee, 2017; Li & Vuono, 2019). As shown in Table 1, OCF involves encoding and decoding aurally presented information, whereas WCF is typically provided visually. OCF is usually offered online during speech production, while WCF is generally delayed and provided after completing a written task. Thus, OCF constitutes an integrated focus on the form where linguistic forms are attended to in context and the learned knowledge is applied or proceduralized in immediate, subsequent production. WCF, by contrast, is decontextualized, and immediate output of the targeted structure is not required. OCF focuses on language-related errors, which may or may not cause communication breakdowns, while WCF may target both language and content - the discourse and organizational aspects of writing. OCF can be implicit or explicit depending on whether learners are aware of the problematic nature of their speech performance.

Contrary to OCF, WCF is always explicit because learners have no trouble

recognizing the corrective intention, regardless of its provision. Thus, the implicit-explicit distinction does not apply to WCF. OCF can be categorized as input-providing or output-prompting based on whether the correct form is provided or withheld. The same distinction applies to WCF, but the terms “direct” and “indirect” have been used to refer to feedback that contains or withholds the correct form, respectively. In the literature on WCF, a distinction has also been made between focused and unfocused CF, which refers to whether CF targets one or multiple linguistic structures. Although this distinction may also apply to OCF, it seems more important for WCF because comprehensive error correction is a prevalent pedagogical practice in L2 writing classes (Lee, 2019). Finally, while the teacher usually provides OCF, both teacher CF and peer CF are expected in writing classes (Yu & Lee, 2014).

The primary research on OCF and WCF centers on teachers’ practices in the classroom, the effectiveness of the feedback, and the beliefs/ attitudes of teachers and students towards OCF and WCF (Li & Vuono, 2019). Lyster and Ranta’s (1997) seminal study identified six major types of OCF: recast, explicit correction, metalinguistic clues, elicitation, repetition, and clarification requests. These six feedback types can be categorized as implicit versus explicit and input-providing versus output-prompting, with the former distinction based on whether the learner’s attention is overtly drawn to the error and the latter on whether self-repair is encouraged. On the other hand, WCF refers to responses and comments on learners’ written production in a second language in written or oral form (Li & Vuono, 2019), with the former referring to written comments provided in the learner’s written script and the latter to verbal feedback on the learner’s written product during individual conferencing (Erlam et al., 2013) or class sessions (Bitchener & Knoch, 2009).

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Table 1 Differences and similarities between OCF and WCF

		OCF	WCF
Differences	Modality	Aural	Visual
	Spontaneity	Synchronous/immediate	Asynchronous/delayed
	Context	Integrated	Isolated
	Focus	Language only	Both language and content
	Salience	Explicit or implicit	Explicit
	Taconomy	Prompt vs. provide; implicit vs. explicit	Direct vs. indirect; focused vs. unfocused
	Source	Teacher	Teacher or peer
Similarities	*Common themes*	*Commonly asked questions*	
	Theoretical debate	Does CF facilitate or impede L2 development?	
	Pedagogical practice	Do teachers provide feedback? What types of feedback do they provide? Is feedback incorporated in students' subsequent production? Is the corrective force of feedback recognized by feedback reveivers?	
	Effectiveness	Does CF facilitate L2 learning? Which types of CF are more effective? Are the effects sustainable? What factors moderate the effects of CF?	
	Teacher and student attitudes and beliefs	What are teachers' and students' attitudes about CF? Which types of feedback do teachers and students favor? Are teachers' stated CF beliefs consistent with their CF practice in the classroom?	

Despite the differences in the characteristics and pedagogical practices of OCF and WCF, they have been examined from similar perspectives. From a theoretical perspective, whether to provide CF, be it OCF or WCF, concerns a core debate over whether L2 learning relies exclusively on positive evidence (i.e., correct linguistic models) or requires both positive and negative evidence (i.e., information about what is unacceptable). In both OCF and WCF research, opponents of CF (e.g. Truscott, 1996) draw on Krashen's (1982) theory, arguing that exposure to authentic linguistic materials and using language to achieve communicative outcomes is key to learning success. Accordingly, CF is deemed ineffective or harmful for L2 development because it only caters to explicit knowledge that is not based on real world oral and written tasks. In this view, oral and written tasks should focus on meaning-making rather than linguistic accuracy. Proponents of CF (e.g. Long, 2015; Lyster, 2015) argue that while positive evidence is critical for L2 success, a small dose of form-focused instruction is essential, especially in the case of nonsalient and semantically redundant linguistic features, such as the French gender or the English third person es, which learners can easily ignore because those features are not meaning distinctive. In WCF research, this debate is translated into the distinction between learning to write (i.e., how to communicate meaning effectively) and writing to learn the language (i.e., how to improve linguistic skills via writing) (Manchon, 2011b).

2.2 Written Corrective Feedback (WCF)

In recent times, a number of scholars have indicated that there might be some advantages for L2 learning that occur in a written context. For example, Williams (2012) has argued that writing requires a focus on form that is often absent during speaking. Besides, writing is slower, and thus, it provides sufficient time for learners to search for and make use of their L2 knowledge. Reichelt (2001) has further claimed that writing incorporated with WCF can draw learners' attention to linguistic forms in their written output, thereby assisting SLA. Furthermore, WCF leaves a permanent record, and the information in WCF may be attended to and referred to more than once. As a result, WCF may have a better and more lasting effect on L2 development than OCF.

2.2.1 Types of WCF

In the literature, WCF has been categorized inconsistently. Ellis (2009) provided three broad categories of WCF: direct, metalinguistic, and indirect feedback. Specifically, direct feedback offers the correct form for the student by replacing the error. Metalinguistic feedback provides the students with a clue by identifying the nature of the error in the form of a brief description or using an error code such as T (for tense). Indirect feedback demonstrates the existence of the error by circling, underlining, or otherwise highlighting without providing further information about the nature of the error. However, in some previous WCF studies, metalinguistic feedback has been considered a form of indirect feedback as it identifies the location of the error, withholds the correct form, and encourages the learner to self-correct (Truscott, 1996). Indeed, a common distinction in WCF is direct (e.g., correct form is given) and indirect (e.g., incorrect form indicated, but no correction) feedback, but researchers have used these terms differently (Moser, 2020). For example, direct feedback can be crossing out the wrong form, providing the correct form, adding omitted items, or including metalinguistic feedback, explaining the type of error and giving an example.

In contrast, indirect feedback includes highlighting, underlining, circling or only indicating the number of errors in the margin. Although some researchers have used the terms interchangeably, indirect and metalinguistic feedback are fundamentally different. While indirect feedback only indicates that an error is present, metalinguistic feedback provides a clue to illustrate the cause and nature of the error.

While metalinguistic feedback is typically operationalized as brief comments or error codes on individual errors and is therefore scattered in a written text, one variant recently appearing in the literature is providing a handout containing the rule explanation of the target structure followed by examples. Specifically, the term "direct feedback" refers to clues or tips that assist learners in self-correcting errors, while "indirect feedback" indicates the location of an error without explanation (Hendrickson, 1978, 1980). To benefit from indirect feedback, learners should possess sufficient language proficiency to comprehend the nature of their errors. In contrast, direct feedback may be suitable for beginners as it offers direct error correction (Kang & Han, 2022). Regarding processing, as Kang and Han (2022) explain, direct WCF places the processing responsibility in the hands of the feedback giver (i.e., the teacher), while direct WCF transfers this responsibility to the recipient of feedback (i.e., the learner).

According to Ellis (2009, pp. 99-102), there are seven types of WCF strategies: (1) direct non-metalinguistic written correction; (2) direct metalinguistic written correction; (3) indirect metalinguistic written correction; (4) indirect written correction (not located); (5) indirect written correction (located); (6) indirect written correction using error codes, and (7) reformulation.

Direct Non-Metalinguistic Written Correction

Direct non-metalinguistic written correction aims to provide the learner with the correct form in several different ways, like crossing out an unnecessary word, phrase or morpheme, inserting a missing word or morpheme, and writing the correct form above or near the erroneous form:

a a the
A dog stole bone from butcher. He escaped with ~~having~~ bone. When the dog was

over a a saw a
going ~~through~~ bridge over ~~the~~ river he ~~found~~ dog in the river.

Direct Metalinguistic Written Correction

The second subcategory of direct feedback is direct metalinguistic written correction, representing the strategy of the correct form with an accompanying explanation. One

common method is to list specific types of errors and then provide a brief metalinguistic comment below the written text. The two types of WCF involve explicit corrections where the learner is offered direct guidelines for editing their writing:

(1) (2) (3)
A dog stole bone from butcher. He escaped with having bone. When the dog was
(4) (5) (6)
going through bridge over the river he found dog in the river.

(1), (2), (5) and (6) – you need 'a' before the noun when a person or thing is mentioned for the first time.
(3) – you need 'the' before the noun when the person or thing has been mentioned previously.
(4) – you need 'over' when you go across the surface of something; you use 'through' when you go inside something ('go through the forest').

Indirect Metalinguistic Written Correction

In indirect metalinguistic written correction, metalinguistic clues are provided indirectly without providing the correct forms with explanations in this correction type. This is similar to direct metalinguistic written correction by providing metalinguistic clues about the errors. For example, if the learner has omitted the indefinite article, the clue might be, "What word do you need before a noun when the person/thing is referred to for the first time?"

Indirect Written Correction (not located)

In this strategy, students' errors are indicated by teachers without either locating or correcting them. The indication only applies in the margin to allow learners to locate their errors and notice the number of errors (e.g. X = one error, XX = two errors) by themselves.

XXX A dog stole bone from butcher. He escaped with having bone.
XX When the dog was going through bridge over the river he
XX found dog in the river.

Indirect Written Correction (located)

Indirect written correction (located) differs from the previous correction in that it

indicates where the errors are located while still not providing the correct form. Various methods can be used to indicate the errors, like underlining the errors, using cursors to show omissions in the students' writing drafts or placing a cross "X" in the margin next to the line containing the error.

> A dog stole X bone from X butcher. He escaped with XhavingX X bone. When the dog was going XthroughX X bridge over XtheX river he found X dog in the river.
> X = missing word
> X__X = wrong word

Indirect Written Correction Using Error Codes

This type of correction provides students with some form of explicit comment about the nature of the errors they have made using error codes (e.g., Art = article, VT = verb tense, Spell = spelling, Prep = preposition, WW = wrong word). Error codes consist of labels placed over the error's location in the margin of the text to signal the specific type of error. Learners are responsible for making the actual correction themselves.

> art. art. WW
> A dog stole bone from butcher. He escaped with having bone. When the dog was
> prep. art. art.
> going through bridge over the river he found dog in the river.

Reformulation

The final type of WCF is a reformulation, which reformulates the entire sentence or paragraph that contains erroneous forms to provide learners with positive input. This correction is used to identify their errors. However, learners have to compare their own and the reformulated text, which places the burden of locating specific errors on them. Reformulation typically involves more than just addressing the linguistic errors that learners make; it also addresses stylistic problems and aims to improve coherence.

As concluded above, the strategies of WCF can be categorized as direct correction and indirect correction (Lee, 2019). In short, direct correction provides the error location and the answers. It includes direct non-metalinguistic written correction,

direct metalinguistic written correction, and reformulation. In contrast, teachers may indicate error location but do not provide correct answers in indirect correction. They may simply underline or circle errors or use error codes to hint at correct answers. Indirect correction includes indirect metalinguistic written correction, indirect written correction (not located), indirect written correction (located), and indirect written correction using error codes that demonstrate the existence of the errors. The main distinction between direct and indirect correction is whether correct answers are provided for students.

There is a strong preference for indirect feedback among writing experts (Ferris & Roberts, 2001; Leki, 1991; Rennie, 2000), whereas direct correction has been found effective by learners in several studies (Bitchener, 2008; Bitchener & Knoch, 2009; Ellis et al., 2008; Lee,1997; Sheen, 2007; Van Beuningen et al., 2012).

Writing experts (Ferris & Roberts, 2001; Leki, 1991; Rennie, 2000) claim that indirect feedback is more effective in helping learners develop their L2 proficiency because it requires learners to attend to their errors by engaging them in problem-solving activities. Ferris (2002) also highlights the risk of direct feedback that leads to misunderstanding students' original content, thus giving inappropriate corrections. The dis-preference of direct correction is because it does not teach learners to engage with or process the feedback deeply (Ashwell, 2000; Ferris, 2011). Ferris (2002) also argues that direct feedback works only with beginners when dealing with "untreatable" errors because it has generally been assumed to enable learners to see their errors juxtaposed against the corrected forms on the page.

However, Van Beuningen et al. (2012) showed that direct feedback led to a correction rate of 78% in students' revisions, which was higher than those in indirect feedback (error codes). Lee (1997) also reported that the accuracy of modifications was considerably lower when learners responded to indirect feedback or metalinguistic clues. She found that EFL students in Hong Kong could make one-word corrections for an average of 50.5% of errors when responding to indirect WCF or metalinguistic comments. Therefore, teachers should make use of both direct and indirect strategies.

Researchers who work within a sociocultural framework claim that it is not possible to identify one type of WCF that is the most effective for all learners, as the

effectiveness of WCF rests on how it can be tailored to the learner's developmental level (i.e., the Zone of Proximal Development). Therefore, based on the existing literature, it is likely that different WCF strategies might be suited to other students, and teachers may face difficulties knowing which WCF strategy should be used to address errors in a student's written text.

2.2.2 The Effectiveness of WCF

As previously mentioned, WCF is explicit because it informs learners that they have made an error in their written texts. In some cases, the correct form is provided to the learner, generally termed "direct feedback"; in other cases, the error is simply pointed out and considered "indirect feedback". The correct form can also be provided directly, along with metalinguistic information or grammar rules, which is referred to as "metalinguistic feedback". In addition, decisions must be made between narrowly focused (intensive correction of one or a limited number of errors) or unfocused (comprehensive) WCF.

WCF has been extensively studied and hotly debated over the past two decades in the fields of SLA and L2 writing (Ene & Kosobucki, 2016). The debates on WCF are mainly fueled by Truscott's (1996) thought-provoking essay. In this essay, Truscott questions the efficacy of error correction as an instructional tool for L2 writing. The key arguments of Truscott's original essay (and its follow-ups) were as follows: (1) grammar correction practice goes against SLA theories; (2) existing evidence suggests that WCF has minimal potential benefit for student writers; (3) the practical problems faced by teachers and students negate the usefulness of grammar correction; and (4) grammar correction is time-consuming for both students and teachers (Truscott 1996, 1999, 2004, 2007). Truscott (1996) also argued that no single form of CF can be expected to help acquire all linguistic error types.

The claim has received much criticism from scholars, who have found that WCF significantly affects L2 writing. Importantly, the effect of WCF on L2 development may depend on the type of WCF that is used and may differ between learners (Guo, 2015). Ferris (1999, 2004) acknowledges that Truscott's critiques highlight the complexities of WCF activities and their practical issues. However, Truscott's dismissal may be unfounded since it neglects many empirical studies supporting the

effectiveness of WCF (Ferris, 1999, 2004). Moreover, several previous studies have investigated the efficacy of different types of focused WCF and have obtained mixed results. For example, some have found an advantage for direct error correction that included metalinguistic information (Bitchener et al., 2005; Sheen, 2007), while others saw an advantage for the metalinguistic explanation (Shintani & Ellis, 2013). Shintani et al. (2014) explicitly explored the effect of direct and metalinguistic feedback and found a stronger effect for the former than the latter. Bitchener (2008) also reported that the students who received direct corrective feedback with written and oral meta-linguistic feedback and those who received direct corrective feedback with no meta-linguistic feedback outperformed the control group who did not receive any feedback.

Similarly, Diab (2015) found that students receiving direct error correction and metalinguistic feedback outperformed students receiving only metalinguistic feedback. Specifically, the students who received direct error correction made fewer pronoun and lexical errors. Moreover, Shintani et al. (2014) found that direct correction and metalinguistic feedback (in the form of a handout) significantly and positively affected learners' accurate use of the hypothetical conditional but not their use of the indefinite article. Furthermore, it has been argued by direct WCF supporters that direct correction may be more effective than other types of WCF in helping learners resolve complex errors. Van Beuningen et al. (2012) study showed that metalinguistic feedback in the form of error codes was more effective for untreatable (called "nongrammatical" in their research) errors, and direct correction demonstrated superior effects for treatable (grammatical) errors. Finally, Ferris (2006) found a positive impact of indirect feedback, while Van Beuningen et al. (2008) noted that direct feedback was more advantageous.

Other studies found little or no difference between direct error correction only and direct error correction that included metalinguistic information (Bitchener, 2008; Bitchener & Knoch, 2009; 2010; Stefanou & Révész, 2015). Arguments in favor of direct feedback forms suggest that it reduces confusion and provides information to sort out more complex (e.g., syntactic) errors (Bitchener & Ferris, 2012). However, the state of a learner's knowledge may be a more critical factor in determining the

effectiveness of different feedback forms. If a learner doesn't have clear declarative knowledge, then direct examples of the form in conjunction with a metalinguistic explanation might be required. On the other hand, if the learner has solid declarative knowledge, direct feedback that only supplies the correct form or even indirect feedback might suffice.

However, such improvements may not necessarily be the result of learning if the feedback was direct and explicit (i.e. if direct error correction or explicit indirect feedback like meta-linguistic codes had been given) or if the error identified by the input had been a mistake or an oversight by the writer. The only way to know whether accurate text revisions result from learning is to look for improved accuracy in writing new texts and compare the texts of writers who received and did not receive WCF. Moreover, the mounting evidence on the effectiveness of WCF does not entirely discredit Truscott's doubts about WCF. To date, many studies attempting to validate the effectiveness of WCF have been small and short-term accounts, and they have tended to offer treatments to relatively straightforward grammatical structures such as article and past tense usage in English (Liu and Brown 2015). There are also considerable discrepancies among WCF studies. For instance, while some studies have reported a significant effect of indirect WCF that only identifies grammatical errors (e.g., Chandler, 2003; Ferris, 2006), others have reported a similar or more positive impact of direct WCF on error identification and correction (e.g., Bitchener, 2008; Bitchener & Knoch, 2009). Similarly, some studies (e.g., Ellis et al., 2008; Sheen, 2007; Yang & Lyster, 2010) have found that WCF focused on a single linguistic feature is most effective. Conversely, other studies have advocated using WCF on various linguistic challenges (e.g., Bitchener et al., 2005; Hartshorn et al., 2010).

Overall, studies investigating the differential effectiveness of WCF seem to have raised more questions than they have answered. First, the advantage of direct correction combined with the metalinguistic explanation reported in the previous studies may raise the question of how effective the metalinguistic explanation alone would be. Secondly, the different results may be explained by the learner's proficiency level, and, as such, proficiency needs to be considered when investigating

the effectiveness of WCF. Third, the differential effects of different types of WCF were found on specific grammatical issues (e.g., past simple tense and articles) but not on others (e.g., prepositions), which may indicate that error type may also play a role in the effectiveness of WCF.

2.3 Types of Errors

Making errors is essential to L2 competence when learning a foreign language (Moser, 2020). How teachers manage errors, and the emphasis they put on correcting errors might influence the atmosphere in the classroom and the learners' willingness to engage with CF. As Hattie (2012) stresses, "[e]rrors invite opportunity. They should not be seen as embarrassments, signs of failure or something to be avoided […] they are signs of opportunities to learn, and they are to be embraced" (p. 124). Exactly that sentiment should be in a teacher's mind when working with learners on reducing their linguistic errors in a foreign language.

Sheen (2011) categorized errors by writing experts into four types: (1) global errors (that interfere with comprehension) versus local errors (surface errors that do not hinder the intelligibility of sentences); (2) stigmatizing versus non-stigmatizing errors (depending on whether the errors offend target language readers); (3) frequent versus infrequent errors (i.e., how often a particular error type occurs with other error types); and (4) "treatable" versus "untreatable" errors (depending on whether the errors occur in a patterned, rule-governed manner).

The answer to the definition of global and local errors in OCF and WCF is different. Burt and Kiparsky (1974) introduced and distinguished between global and local errors in OCF. Local errors do not hinder communication and understanding of the meaning of an utterance. Global errors, on the other hand, are more severe than local errors because these errors interfere with communication and disrupt the sense of utterance. In the WCF field, Lane and Lange (2012) defined these two errors as global errors that more seriously impede intended meaning, such as verb tense and sentence structure, while local errors do not interfere with meaning.

Ferris (1999), in her response to Truscott's (1996) claim that grammar correction is ineffective, identified "treatable" and "untreatable" errors. "Treatable" errors are those that "occur in a patterned, rule-governed way," and "untreatable" errors for which

"there is no handbook or set of rules students can consult to avoid or fix those types of errors." Specifically, "treatable" errors include verb tense and form, subject-verb agreement, article usage, plural and possessive noun endings, sentence fragments, run-ons and comma splices, some errors in word form, and some errors in punctuation, capitalization, and spelling. They are treatable because students can be pointed to a grammar book or rules to resolve problems they can amend. "untreatable" errors include most word choice errors, such as lexical and syntax errors (e.g., word order, word choice, and sentence structure), which are much harder (or sometimes even impossible) to correct by the learners themselves because they cannot simply consult a rule book or dictionary to correct their errors.

Burt (1975) suggested that teachers should focus on "global" rather than "local errors". Others like Ferris (1999) indicated that WCF should be directed at "treatable errors", and Ellis (1993) indicated that CF should be directed at marked grammatical features or features with which the learners have specific problems. Consequently, some researchers conclude that focused error correction should be favoured in WCF (Bitchener, 2008; Sheen, 2007). One particularly important aspect in Ferris' "treatable" and "untreatable" errors is that feedback is very complex and that both the learner and teacher require significant effort.

2.4 Construct of Student Engagement

The word *engage* derives from the French verb *engager* or rather from the base of *gage*, meaning "to pawn or pledge something." originally (Moser, 2020), it was defined as "involving someone or something else" and then "a legal or moral obligation" (Soanes & Stevenson, 2003) in the early seventeenth century and became extremely popular in the twenty-first century. It is "an umbrella term to bring together students' degree of attention, curiosity, interest, and willingness to employ their language proficiency and a repertoire of learning skills to make progress" (Zhang & Hyland, 2018, p. 91). Since then, "engagement" has been used in research to refer to "student engagement" in higher education, meaning student participation in academic work and extracurricular activities, among other aspects.

Student engagement is defined as "the students' psychological investment in an effort directed toward learning, understanding, or mastering the knowledge, skill, or crafts

that academic work is intended to promote" (Newmann, 1992. p. 12). There are several potential reasons to explain the popularity of the research on student engagement. Firstly, since some researchers and scholars interpreted student engagement as working with students, and students need to be seen as co-enquirers (Bryson, 2014a; Dunne & Derfel, 2013a), a positive learning environment created by both teachers and students can boost the student experience in the various teaching contexts. Furthermore, student engagement in higher education would enhance the learner experience of disadvantaged students and the many international students who might feel alienated at universities abroad (Krause, 2005). It would raise the satisfaction of students' learning experience, which is undoubtedly one of the driving forces behind educational policies in the globalized and competitive world of educational institutions. Most importantly, the emergence of student engagement is to improve the performance of students with mediocre or poor results in school (Finn & Zimmer, 2012) to reduce school dropout (Finn, 1989; Rumberger, 1983) and counteract burnout.

Student engagement plays a central role in the CF mechanism by mediating teacher provision of CF and learning outcomes (Ellis, 2010). However, the interpretation of student engagement with WCF is inconclusive and encompasses numerous sub-constructs (Han & Hyland, 2015). The most well-articulated definition of student engagement is probably provided in Ellis's (2010) componential framework for corrective feedback, first proposed by Fredricks et al. (2004).

In Ellis's (2010) framework, student engagement, or learner engagement, is equated to how learners respond to CF received from the teacher. There are three perspectives for examining student engagement: affective, cognitive, and behavioral. In this framework, Ellis (2010) defined affective engagement as students' affective (e.g., anxiety or attitudinal) responses to corrective feedback. Cognitive engagement is defined as the way in which students attend to receive corrective feedback, and behavioral engagement is the student's response to feedback in the form of uptake and revision.

Since Ellis's (2010) framework was initially proposed for corrective feedback in general rather than WCF in particular, Han and Hyland (2015) further defined student

engagement by drawing on a similar conceptualization. In their study, affective engagement was characterized as students' immediate emotional reactions upon receiving WCF, changes in these emotions, and attitudinal responses toward WCF. They represented behavioral engagement as what students do with the WCF received, including students' revisions. In contrast, they used cognitive engagement to refer to investment in processing WCF, manifested in the degree to which students attend to WCF, or in the cognitive and meta-cognitive strategies, the extent to which they process WCF.

More recently, Zheng et al. (2020) developed a framework based on previous frameworks to provide insights and guidelines for future researchers. In their framework, "affective engagement" includes the student's affect (affection), judgment, and appreciation. Affection was defined as the feelings and emotions expressed upon receiving WCF and changes in these feelings and emotions over the revision process. The judgement included personal judgments of admiration or criticism and moral judgement of praise or condemnation towards WCF. Appreciation refers to valuing the worth of WCF, and "behavioral engagement" is viewed as the revision operations in response to WCF, coupled with behavioral processes for learning improvement (see Han & Hyland, 2015). Behavioral engagement mainly revolves around whether L2 writers revise their writing after receiving WCF and what strategies they take to avoid future errors to improve their writing (Han & Hyland, 2015). Based on the studies by Ferris (2006), Han & Hyland (2015), and Zhang (2020), four types of revision operations concluded, namely correct revisions, incorrect revisions, deletions, and no corrections. Besides, cognitive engagement involves learning strategies, seeking conceptual understanding, and using self-regulated strategies (Finn & Zimmer, 2012). Common strategies that facilitate the processing of WCF to improve future writing include keeping an error book (Hyland, 2003), checking a dictionary or seeking a teacher's explanation (Han & Hyland, 2015). Moreover, in line with the previous studies (Chen et al., 2022; Jiang & Yu, 2022; Koltovskaia & Mahapatra, 2022; Zhang & Hyland, 2018), the participants' cognitive engagement with feedback was examined in terms of the revision acts performed and their depth of processing.

Therefore, the conceptual framework based upon the above analysis was constructed and is presented in Figure 1, which allows future researchers to investigate the factors mediating students' engagement with teacher WCF more systematically. This framework views student engagement with teacher WCF as a multifaceted construct that enables a richer characterization of individual students than is possible when studying through a single lens (Fredricks et al., 2004).

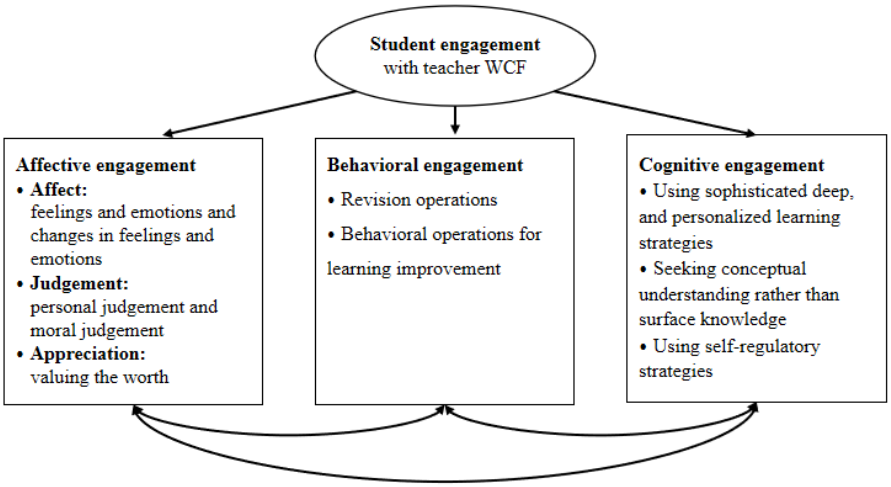

Figure 1 The conceptual framework of student engagement with teacher WCF (Zheng et al., 2020).

2.5 Previous Studies of Student Engagement with Teacher WCF in L2 Writing

A comprehensive exploration of student engagement with teacher WCF reveals a multi-dimensional perspective, with recent studies, particularly at Chinese tertiary-level institutions, shedding light on various facets of this phenomenon (Han & Hyland, 2015; Han, 2017; Tian & Zhou, 2020; Zhang & Hyland, 2018; Zheng et al., 2020; Zheng & Yu, 2018). Han and Hyland (2015) initiated this exploration by qualitatively examining the engagement of four average college students with WCF. Their findings highlighted the intricate interplay between students' beliefs, learning experiences, and the contextual dynamics of WCF processing, revealing individual differences in engagement. Building on this, Zheng and Yu (2018) employed a similar design to investigate the engagement of 12 low-proficiency Chinese L2 English learners. Despite the participants displaying relatively positive affective engagement, their behavioral and cognitive engagement was limited, with lower proficiency negatively influencing cognitive and behavioral aspects.

Han's (2017) multiple-case study focused on the mediating role of students' beliefs in their engagement with WCF, uncovering a unique relationship between learner beliefs and their emotional responses. This study revealed that students who identified as underachievers exhibited a distinct lack of negative emotions when receiving WCF, emphasizing the intricate connection between beliefs, perceptions, and engagement.

Subsequently, Zheng et al. (2020) expanded on the work of Zheng and Yu (2018), exploring individual differences in engagement or disengagement among students with comparable language proficiency. Affective, behavioral, and cognitive engagement distinctions were identified, emphasizing the influence of beliefs, learning goals, and teacher-student relationships. In a parallel vein, Tian and Zhou's (2020) naturalistic case study delved into the engagement of five Chinese learners with automated peer and teacher feedback in an online EFL writing course. The dynamic and reciprocal engagement process observed over a 17-week semester underscored the impact of individual and contextual factors despite the teacher providing less feedback overall.

Adding to this discourse, Liu (2021) highlighted students' universal acknowledgment of the importance and eagerness to receive teacher-written feedback. While students expressed appreciation for the benefits of feedback, challenges were identified, including perceived ineffectiveness of general input and concerns about controversial and unjustified feedback. Similarly, Pan et al. (2023) identified cognitive, affective, and behavioral engagement variations based on language proficiency, emotional responses, and revision rates. Yang and Zhang (2023) demonstrated that skilled self-regulators exhibited more sophisticated engagement, while Zhang and Mao's (2023) research indicated positive developmental changes in student feedback literacy.

In the context of Indonesian university students, Kalimantan et al. (2023) revealed variations in engagement based on language proficiency, prior experience, and attitudes towards feedback. Direct WCF addressing grammatical errors emerged as the most effective, but challenges were identified with indirect WCF, particularly in addressing content quality and rhetorical organization issues.

However, despite these valuable contributions, the exploration of student engagement with teachers at WCF remains underexplored compared to research on the provision

and effectiveness of WCF. Notably, the instructional activity of student engagement is moderated by language proficiency (Koltovskaia, 2020; Zheng et al., 2020), urging the need for studies comparing low- and high-proficiency students' engagement. Furthermore, the current body of research falls short in investigating the development or change in student engagement with WCF over time. A longitudinal study encompassing participants with differing proficiency levels in various pedagogical and social contexts is crucial to observing potential dynamic changes in engagement over time.

2.6 Theoretical Frameworks

Student engagement with WCF has received considerable attention from SLA theoreticians and researchers, and it can be considered concerning three theoretical paradigms that have informed SLA research: Sociocultural theory, social cognitive theory, and complex dynamic systems theory.

2.6.1 Sociocultural Theory

In Vygotsky's (1978, 1981) sociocultural theory, learning often happens in the zone of proximal development (ZPD), with the scaffolding provided by more able peers. Indeed, human cognitive development is viewed as occurring in mediated social interaction (Vygotsky, 1981). In sociocultural theory, ZPD is defined as the gap between the learner's current and potential levels (Figure 2), which may be bridged with the help of adults or more competent learners (Vygotsky, 1978). In other words, learning is a cooperative process, which cannot be achieved by each learner alone, so it requires the participation of others (Frawley, 2013). To understand the ZPD, three levels of development need to be distinguished. Vygotsky (1978) distinguished "the actual developmental level, that is, the level of development of the child's mental functions that has been established as a result of certain already completed developmental cycles" (p. 85) and a level of potential development as evidenced in problem-solving undertaken with the assistance of an adult (an expert) or through collaboration with peers (novices). The third level, not commonly mentioned by sociocultural theorists, is the level that lies beyond the learner. The learner cannot perform the task even if assistance is provided. The ZPD lies at the second of these levels, the level of potential development. In L2 writing, learners may not understand

even after obtaining teachers' feedback and, therefore, cannot revise or improve their writing, as their current language level limits them. Therefore, ZPD is the fundamental pedagogy and theory of student engagement in the study, which will assist participants in overcoming their cognition difficulties and crossing the ZPD.

The supportive process L2 students receive from more competent peers or the language teacher for acquiring new knowledge or skills is called scaffolding (Bruner, 1985). It is suggested that L2 learners can achieve higher levels of linguistic knowledge when they receive appropriate scaffolding (Thorne & Lantolf, 2007). According to Sharpe (2008), scaffolding in L2 learning should be "only just enough and just in time" (p. 134) for L2 students to gradually take charge of their learning process. Scaffolding is operationalized by having L2 students deduce the underlying knowledge of a particular form-related error from a collection of standard L2 samples (Nguyen, 2021). No additional support is given if L2 students succeed in this inductive analysis; otherwise, they will receive more hints or cues to facilitate this deduction. Thus, it is claimed that learners, with the assistance of "other regulation" (provided by teachers or more advanced learners), can eventually become "self-regulated" and use the L2 autonomously (Bitchener & Ferris, 2012).

From this perspective, WCF is seen as a form of assistance. Thus, whether the WCF provided to the learner is effective must consider whether it represents scaffolded assistance within the student's ZPD.

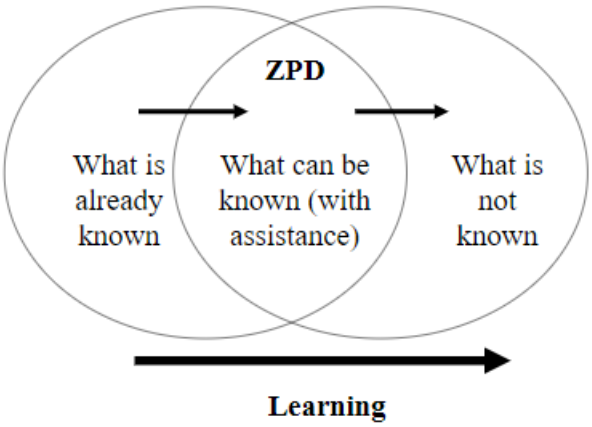

Figure 2 The Zone of Proximal Development (ZPD)

As shown in Figure 2 above, the learner's ZPD is the domain or skill where the learner is not yet capable of using the L2 autonomously but where the performance level can be raised with the writing teacher's scaffolded assistance. Empirical evidence of L2 development in ZPD occurring during scaffolded teaching has been published by several researchers in written contexts (Aljaafreh & Lantolf, 1994; Nassaji & Swain, 2000; Storch and Wigglesworth, 2010). In their longitudinal study of adult L2 learners, Aljaafreh and Lantolf (1994) examined the mediating role of WCF (as a scaffolding strategy), that is, the type of assistance that an expert/tutor (another regulator) can provide on weekly writing assignments. They showed that the degree of a "regulatory scale" (scaffolding) provided by a tutor's oral feedback on students' writing errors diminished over time, and this scaffolding was achieved via implicit and explicit WCF. For example, a very implicit form of WCF involved the tutor indicating that something was wrong in a sentence by saying, "Is there anything wrong in this sentence?". In contrast, a much more explicit form of correction involved the tutor providing either the correct form or some explanation for using the correct form. Aljaafreh and Lantolf (1994) found that the help provided by the tutor became more implicit over time and argued that this was indicative of learning.

Similarly, Nassaji and Swain (2000) also used the regulatory scale to scaffold their learners' ZPD appropriately. They conducted more formal testing of the claim that effective scaffolding is contingent on the state of the learner's ZPD. One Korean ESL learner was given randomly selected feedback, and another was given negotiated ZPD-related feedback. The latter type of feedback helped move the learner toward self-regulation, whereas the former type did not. Storch and Wigglesworth (2010) conducted a more recent study in the sociocultural framework. They investigated why some types of WCF may be more effective than others by reporting case studies documenting how individual learners responded to two different types of WCF. Their findings showed that WCF's effectiveness depended on the type of errors and the learners' proficiency. More importantly, they suggested that individual factors such as learners' attitudes, beliefs and goals, often ignored in WCF research, played an essential role in whether learners could benefit from WCF. Further research employing this approach is needed to help us understand effective methods of providing ongoing WCF to individual learners with different language proficiencies.

2.6.2 Social Cognitive Theory

The social cognitive theory was developed by Albert Bandura based on the concept that learning is affected by cognitive, behavioral, and environmental factors (Bandura, 1991). In contrast to the traditional psychological theories that emphasized learning through direct experience, Bandura posited that virtually all learning phenomena could occur by observing other people's behavior and the consequence of it (Bandura, 1986).

Bandura posited that the process of observational learning was governed by four key aspects: attention, retention, reproduction, and motivation. Attention is a process in which people selectively observe and extract information from ongoing modelled activities (Wood & Bandura, 1989). Retention involves a process of "transforming and restructuring information in the form of rules and conceptions" (p. 362) and storing the information in memory. Reproduction is the act of performing the actual behavior that was observed. The fourth aspect concerns motivation, which propels the learner to attention, practice and retention.

The social cognitive theory emphasizes that observational learning is not a simple imitative process; human beings are the agents or managers of their behaviors (Bandura, 2001). Based on this idea, Bandura has identified several concepts critical for learning, such as human agency, self-regulation, and self-efficacy.

Human agency is the concept that learners intentionally invest in learning and enact behavior change (Bandura, 2001). The core feature of the agency is its "power to originate actions for given purposes (Bandura, 1997, p.3)". Social cognitive theory identifies three modes of human agency: personal, proxy, and collective (p. 13). Self-regulation refers to self-generated thoughts, feelings, and actions that are planned and cyclically adapted to attain personal goals (Boekaerts, 2005, p. 14). According to Bandura, self-regulation operates through a set of psychological subfunctions: self-monitoring subfunction, judgemental subfunction, and self-reactive influences (Bandura, 1991, pp. 250-256). Self-efficacy plays a central role in the self-regulation process. It concerns an individual's belief in their ability to successfully control actions or events in their lives. These beliefs are based on the individual feeling they possess the requisite cognitive abilities, motivation, and resources to complete the

task (Wood & Bandura, 1989). Four main sources of information create students' self-efficacy: enactive mastery experiences, vicarious (observational) experiences, social persuasions and physiological and psychological states (Bandura, 1997).

The unique feature of social cognitive theory is the emphasis on social influence and its focus on external and internal social reinforcement. The social cognitive theory considers the unique way individuals acquire and maintain behavior, while also considering the social environment in which individuals perform the behavior. It integrates the social and cognitive aspects of language learning, and its use has great potential for investigating student engagement with WCF (Han & Hyland, 2019).

In L2 writing practice, L2 writing teachers make great efforts in terms of time and energy to give feedback to students on their writing, but it is often found that students do not engage with it as extensively as teachers had hoped. Recent research in the field of student engagement with teacher WCF has found substantial variations across individual learners in their processing and use of WCF (Han & Hyland, 2015; Zhang & Hyland, 2018). This highlights the phenomenon that individual learners engage with WCF in different ways. Therefore, since WCF is provided, received, and used both as a cognitive device and a social tool carrying interpersonal and interactional meaning (Hyland & Hyland, 2006a), student engagement with teacher WCF should be viewed as a dynamic, socially mediated process.

2.6.3 Complex Dynamic Systems Theory

Complex dynamic systems theory (CDST) was introduced to the field of SLA by Larsen-Freeman (2006). It has been referred to as an "ecological approach" (Kramsch, 2002), an "alternative approach" (Atkinson, 2011), and "new thinking" (Larsen-Freeman, 2017) toward SLA. Since extensive reviews of the WCF literature have come to be dominated by cognitive accounts and sociocultural accounts (Bitchener and Storch 2016; Lee 2017; Storch 2018) but both the cognitive and sociocultural approaches to WCF do not address the wholeness of the learning process (Fogal et al., 2020). Fogal et al. (2020) believe that CDST can make a meaningful contribution to research in the area of SLA by introducing co-adaptation and emergence as concepts capable of encompassing a broad range of both cognitive and sociocultural phenomena.

According to Fogal et al. (2020), there are two principal reasons why CDST may meaningfully serve WCF research. First, CDST adopts the concept of co-adaptation. It regards all objects as systems, including language, individual learners and teachers, and learning environments. Moreover, each individual comprises cognition, motivation, and writing proficiency systems. The relationships or networks among learners and teachers are also systems. They influence each other and change accordingly, sometimes evolving into a novel pattern(s) of interrelated systems and behaviors. This influence is regarded as bi-directional so that social contexts influence learners, and learners simultaneously impact their surroundings. CDST, unlike the cognitive perspective or SCT theory, sees cognitive and sociocultural phenomena as equally essential and allows researchers to focus on either or both of the two aspects while maintaining the underlying understanding that one aspect is co-adapting to the other. Another key feature of co-adaption and a source of L2 development is the concept of iteration. Through repeated operations of the same procedure, the preceding iteration works as input for the next iteration, and the result serves as input that "stabilizes particular patterns of the second language" (Larsen-Freeman & Cameron, 2008, p. 219). CDST can explore multiple instances of WCF across more extensive periods, which might lead to different learner outcomes. Besides, teachers and researchers can expand their time horizons and watch how feedback affects students' learning in the short and long term by emphasizing the iterative nature of co-adaptation.

Second, CDST may serve studies into WCF by inviting a broad range of research methods that allow researchers to investigate WCF multi-faceted (Verspoor et al., 2011). That is because CDST does not require specific research designs and moves away from the principle of cause and effect. It foregrounds processes, system behaviors, and interconnectedness instead. Thus, applying a complex dynamic systems approach encourages researchers to engage with non-traditional designs to answer novel research agendas and questions to focus on processes, systems, and interconnectedness (MacIntyre et al., 2017).

2.7 Summary of this chapter

Previous studies have conceptualized student engagement with WCF, including definitions and frameworks. Although these studies have shown evidence for student engagement, they have not examined how students with different language proficiency levels engage with teacher WCF in L2 writing. In addition, student engagement and its patterns are context-specific and need to be discussed in different instructional contexts (Bae & DeBusk-Lane, 2019; Ellis, 2010). Most importantly, previous studies have not examined the potential changes in student engagement with teacher WCF over time. Therefore, more research is needed to explore how students with different English proficiency levels engage with WCF in various contexts. Understanding how diverse language proficiency learners engage with teachers' WCF effectively and how their engagement develops or changes over time will have theoretical and pedagogical implications.

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CHAPTER III
RESEARCH METHODS

This chapter presents the research methodology employed in this study to investigate how teacher written corrective feedback (WCF) is processed by Chinese university students with varying proficiency levels (LP and HP) in their L2 writing. The chapter commences by introducing the research paradigm and design (3.1), followed by a discussion of the contextual background and participants involved in the study (3.2). Subsequently, the research instruments/techniques utilized are presented (3.3), along with comprehensive details on data collection procedures (3.4) and employed data analysis methods (3.5). Additionally, subsequent sections address the trustworthiness of the collected data (3.6) and ethical considerations considered during this study (3.7). Finally, a summary of this chapter is provided.

3.1 Research Paradigm and Design

This research examined the extent to which students engaged with different language proficiencies in teacher WCF on L2 writing. Utilizing a qualitative research methodology, a comprehensive, contextualized, and in-depth understanding of the topic under investigation was attained (Yin, 2013). This multiple-case study investigated the trends in L2 student participation in teacher WCF regarding L2 writing. In addition, the study aimed to determine how students with different levels of skill (e.g., low and high proficiency) respond to instructor feedback on their L2 writing. The progression and growth of student engagement with WCF over a semester were also investigated.

The research investigated student engagement with teacher WCF by applying sociocultural theory, complex dynamic systems theory (CDST), and social cognitive theory. The engagement of L2 students with WCF was determined to be highly responsive to dynamic and non-static individual and contextual characteristics, as suggested by the sociocultural theory concepts of the zone of proximal development (ZPD) and scaffolding, which illuminate the nature of engagement and its underlying mechanisms (Mao & Lee, 2022). Dynamic WCF is also an educational strategy that provides consistent, timely, meaningful, and controllable CF on student writing following the complex dynamic systems theory (Hartshorn et al., 2010). Indeed,

regarding grammatical accuracy and lexical complexity, neither early nor delayed feedback resulted in a substantial enhancement (Eckstein et al., 2020). Students' engagement with WCF can also be regarded as a dynamic, socially mediated process when evaluated through the lens of social cognition in language learning (Han & Hyland, 2019). To explore the patterns, characteristics, and development of student engagement over a longitudinal period, the current study utilized participants with varying language proficiencies to investigate three dimensions of engagement: affective engagement, behavioral engagement, and cognitive engagement, as well as L2 writing tasks. Teachers-student discussions, stimulated recollections, student drafts, semi-structured interviews, and classroom observations were all included.

3.2 Context and Participants

The research was carried out within the English department of a southwestern China-based private institution. Undergraduate students majoring in English are mandated to participate in a writing course during their second academic semester as an integral component of their three-year degree.

As per the national curriculum standards, it is mandatory for all English majors enrolled in Chinese colleges and universities to complete a minimum of one or two English writing courses throughout their undergraduate studies. Basic English Writing is typically provided to first or second-year undergraduate English majors, whereas Advanced English Writing is available to third-year undergraduates. In addition, the Academic English Writing course is offered to seniors to give them the essential abilities required to compose their graduation theses. The principal objective of the English-language writing courses is to develop students' understanding, proficiency, and comprehension of narrative, expository, and argumentative writing.

Basic English Writing (2nd volume) is a 16-week, 3-credit L2 writing course offered by the chosen university during the initial semester of the subsequent academic year. This course is necessary for undergraduate English majors and is restricted to individuals who have previously completed Basic English Writing (1st volume). Every session of this weekly course lasts for eighty minutes. Furthermore, *Successful Writing* (*2nd edition*) is a required textbook for undergraduate students pursuing General Higher Education in China. It offers extensive explanations of important text

analysis and succinct, methodical assistance with writing directions, characteristics, and strategies of various English paragraphs and compositions. Chinese students who wished to improve their writing proficiency by studying and imitating English works within the framework of their own culture found this resource indispensable. Therefore, it was implemented in this writing course to guide students through creating a five-paragraph essay through detailed instructions that include sentence construction, paragraph organization, word choice, and composition structuring via an outline of drafting and writing process refinement.

Table 2 Demographic information of participants

Group	Participants	Gender	Age	Years of learning English
HP	HP1	Female	20	11
	HP2	Female	20	11
	HP3	Female	19	11
LP	LP1	Female	19	11
	LP2	Female	19	11
	LP3	Female	19	11

Purposive sampling was utilized to select six Chinese English major students (three with high proficiency (HP) and three with low proficiency (LP)) as participants in this study. When the data was obtained, these students were enrolled in a single course during their second year of university, between the ages of 19 and 20. A minimum of 10 years of cumulative experience in English language studies was required. Every participant was a native speaker of Mandarin Chinese who was acquiring English as a second language. They had no prior experience studying English in an English-speaking nation (see Table 2). The students fulfilled the requirements outlined in the university's syllabus by finishing the English writing course for one semester during their first year and another during their sophomore year. Each course was one hour and twenty minutes long, and it was held over sixteen weeks per semester. The principal emphasis of the writing course was on honing L2 essay writing skills in preparation for the Band-4 Test for English Majors (TEM-4). Invited to participate in this study was Li (a pseudonym), a non-native speaker English writing instructor with

three consecutive years of teaching experience at the selected university and a Master's degree in Teaching English to Speakers of Other Languages (TESOL) from Britain.

The language proficiency of the students was assessed using the an IELTS Writing Test Task 2 before initiating this research, the writing instructor conducted this test utilizing a randomly selected essay topic from previous IELTS examinations conducted in China (see Appendix A). The writing scores were evaluated using "Pigai," a web-based automated writing evaluation system. Pigai, an innovative scoring engine, has now assessed over 400 million essays submitted by over 20 million students and provided thorough, real-time ratings (Zhang & Zhang, 2018). To ensure the accuracy and validity of the writing scores produced by Pigai, a panel of three linguistics educators with substantial teaching experience evaluated the student's written work and its associated scores (see Table 3).

Table 3 Participants selection

English proficiency level	Participants	IELTS writing task 2 (100)	Total
HP	HP1	71	**830**
	HP2	65	**793**
	HP3	65.5	**780.5**
LP	LP1	40.5	**675.5**
	LP2	41.5	**675.5**
	LP3	46	**595**

3.3 Research Instruments

To address the research questions, a multiple-case study was conducted to investigate student engagement with teachers' WCF on L2 writing. The focus of this study was on individual students. Therefore, various data sources were utilized to comprehensively understand student engagement, including students' writing (both initial and revised writing), stimulated recall, and semi-structured interviews.

3.3.1 Students' Writing

The purpose of utilizing and reviewing student drafts is to provide students with constructive feedback, enabling them to enhance their responses (Hyland & Hyland, 2019). The genre of the students' drafts encompassed various forms of essay writing in English, including narrative, descriptive, expository, and argumentative compositions, as specified in the syllabus. The topics of these writing tasks were 1) spring festival; 2) make campus life colorful; 3) hobby; 4) computers help learn English; 5) Future career. To ensure the reliability and significance of their drafts, participants were informed that the scores obtained from these writing tasks would contribute to their final semester grades. Participants were granted ample time for writing and permitted to utilize online or library resources while adhering strictly to academic integrity guidelines. These tasks were completed at a location chosen by each participant. Students composed their drafts using Word files provided with prompts designed to maintain consistency among participants and facilitate comprehension of the assigned writing task. The prompts were derived from topics covered in the course book. Teacher WCF was employed to enhance student's writing proficiency through handwritten comments and responses on their drafts.

3.3.2 Stimulated Recall

Applied linguistics research has substantially used stimulated recall for more than two decades. The methodology entails the retrospective elicitation of verbal commentaries from participants regarding their interactive cognitive activity during action or participation in an event, as well as their interpretations or rationales for their behavior and decisions (prompted by a recall support tool) (Sanchez & Grimshaw, 2019). The stimulated recall method was employed to assess the student's understanding and awareness of the WCF offered by the teacher in their writings, with the primary goal of addressing the first research question, that is, how students comprehend and respond to teacher WCF. This approach allows researchers to gain insights into the cognitive and metacognitive processes executed by students in reaction to and processing of WCF. The student participants in this research were subjected to video recording and observation as the instructor urged them to receive, process, and utilize WCF. They were then instructed to participate in a stimulated recall session within twenty-four hours, during which they were required to view

video recordings and provide verbal commentary on them to recall their thoughts and emotions, either involuntarily or in response to prompts from the researcher. In order to assess students' cognitive, behavioral, and affective engagement with teacher WCF, precisely their processing depth and sentiments, their thoughts and whatever entered their minds during the reading process were documented and recorded audibly (Zheng & Yu, 2018). Upon the student modifying the text or offering comments, as depicted in the video, the researcher halted the video and requested the learners to articulate their opinions verbally. Additionally, the researcher inquired about the participants' views while writing by posing questions such as "*Why did you do that?*" and "*Did you notice the correction?*" The stimulated recall was carried out in a serene instructional room, with each participant being able to express their choice for the activity in their native language, which was Chinese (see Appendix B).

3.3.3 Semi-Structured Interviews

To elicit sufficient information to address the study inquiries, semi-structured interviews were utilized as supplemental research instruments to stimulate recall (Han & Hyland, 2015). This research instrument served the investigation of the second research question related to the participants' evolving engagement levels with teacher WCF during the research span. By gathering qualitative and open-ended data, semi-structured interviews enable participants to explore personal and occasionally delicate matters while expressing their ideas, feelings, and beliefs about a specific subject (Burns, 2009). To examine the progression or alterations in the participants' involvement with teacher WCF over a period of time, audio recordings of the individual interviews were taken at the commencement and conclusion of the research period, with their consent. The semi-structured interviews centered on the participants' prior engagement experience with teacher WCF, except for the initial interview conducted at the outset of the study (see Appendix C). Students who participated in the study were queried regarding any alterations in their level of engagement during the final interview conducted at the end of the research span. Interviews often last between thirty and sixty minutes.

3.4 Data Collection Procedure

The data-gathering process began on the first day of the semester and continued for the entire sixteen-week term. As illustrated in Figure 3, the English writing instructor at the chosen university received training before data collection to improve his understanding of this research work, including its aims, criteria for participant selection, data collection procedure, and teacher WCF. Various data sources were gathered, including student written responses, stimulated recalls, and semi-structured interviews.

Throughout their research, students were instructed to compose a take-home essay comprising two drafts: an initial draft, which was subsequently updated in accordance with the guidance of their instructor. Prompts were supplied to promote consistency in the participants' selection of topics. The instructor provided WCF feedback on every student's initial draft in light of their errors. In addition, no interventions were implemented throughout the study.

To maintain the integrity of the teacher's WCF process, no restrictions were placed on the substance or language of the feedback given. In addition, the students incorporated the provided WCF into their rewritten works. A stimulated recall session was undertaken, including the students, to investigate their cognitive and affective responses concerning the teacher's WCF. A stimulated recall interview (conducted in Chinese) was utilized to record students' responses to the WCF supplied by their teacher within a 24-hour following the revision of their compositions. During the teacher's WCF, students were encouraged to recall their cognitive processes, goals, and strategic replies. Each participant was engaged in this session for an estimated duration of 15 to 25 minutes. Furthermore, revision procedures were executed, written materials produced by participants (e.g., students' drafts, a teacher's WCF feedback), and discovered error types were consulted.

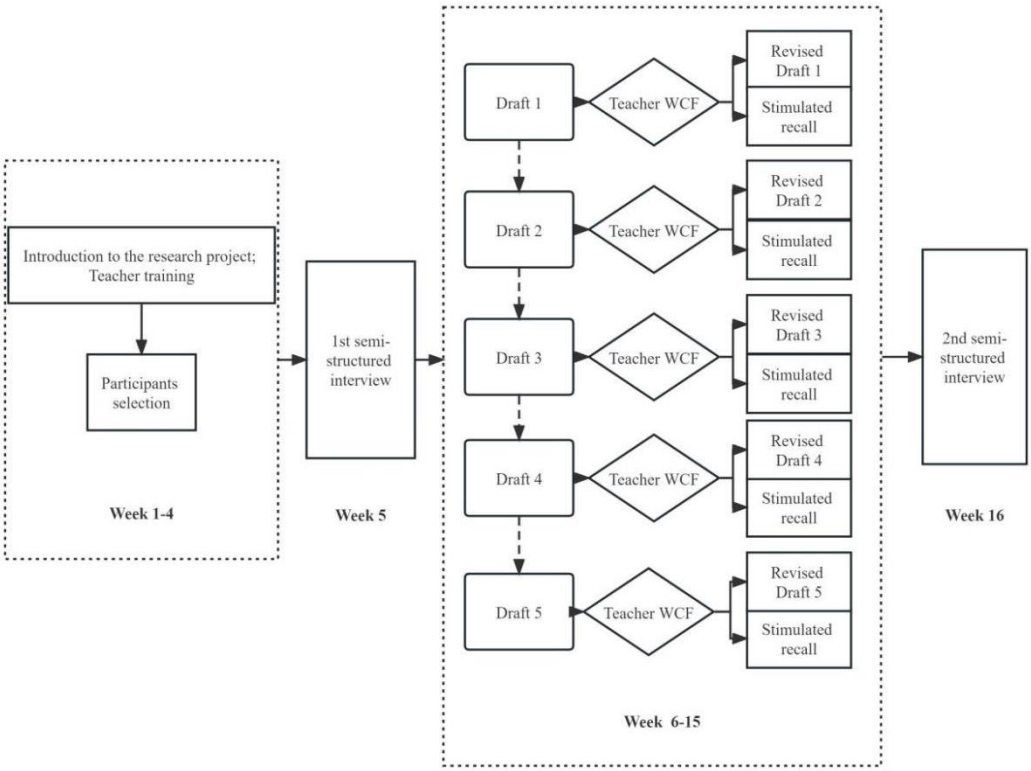

Figure 3 Timeline of data collection

Additional data for analyzing any developments or shifts in student engagement with teacher WCF over a single semester were gathered through two distinct semi-structured interviews performed at the start and end of the research period. In particular, before the initiation of the research, a semi-structured interview was conducted to inquire about students' prior experiences with teacher written correction feedback (WCF), essay composition, draft revision, and their perspectives on teacher WCF and language learning. In conclusion, a post-study comparable semi-structured interview was conducted for 20-30 minutes to gather participants' perspectives on the feedback they received. Each interview was captured audibly and transcribed.

3.5 Data Analysis

To answer the research questions, the data analysis consists of (1) the text analysis of student participants' drafts and WCF and (2) the qualitative analysis of transcriptions of interviews, verbal reports, teacher-student conferences, observation notes, and class documents.

3.5.1 Analysis of Students' Writing

The students' writing analysis focused on the revisions implemented between the initial draft and the final product. The purpose of analyzing textual data was to investigate how students revised in response to feedback, as this demonstrates their level of behavioral engagement (Zhang, 2020). This investigation's results pertained to students' responses to WCFs received from teachers. These included the number of adjustments made to each draft, the degree to which feedback remarks were accepted, and whether any further unsolicited revisions were made.

The analysis specifically entailed a thorough scrutiny of the adjustments that the students made in their amended papers. Additionally, the investigation encompassed the evaluation of student acceptability of teacher WCF patterns. The purpose of this research was to determine whether or not students swiftly implemented suggested modifications, as supported by studies by Ferris (2006), Han & Hyland (2015), and Zhang (2020). This required identifying revision operation types, including deletions, accurate revisions, incorrect revisions, and no corrections. This intricate investigation aimed to offer valuable perspectives on the student's ability to accept constructive comments and their openness to receiving help with their writing.

Additionally, the analysis considered cases of unsolicited updates in which students themselves implemented modifications that went beyond the parameters of the comments offered. Gaining insight into the characteristics and regularity of these impromptu modifications aided in thoroughly assessing students' autonomous critical thinking and self-guided development in writing proficiencies.

3.5.2 Analysis of Transcriptions

The second part of the data analysis involved a comprehensive and systematic examination of students' cognitive and affective engagement. To ensure a thorough understanding, qualitative analysis was conducted on various data sources, including transcripts of interviews, stimulated recall sessions, and relevant excerpts from observation notes that directly addressed the research questions.

Precise organization and coding were applied to individual participant transcripts and notes to streamline the analysis process. For further examination, this classification system sought to discover recurring motifs associated with involvement. A singular

emphasis was placed on engagement-related information during the data reduction phase of the first coding process. In addition, participants were requested to verify the transcripts to ensure the transcription's accuracy. To obtain a complete understanding of the qualitative data, each transcript was subjected to meticulous manual processing, which included many reads. As a preliminary coding scheme for profiling students' engagement with teacher WCF, the conceptual framework borrowed from the study by Zheng et al. (2020) (Figure 1 in Chapter II) was then implemented.

A more sophisticated methodology was implemented during the subsequent step of second-level coding. To assess the transcripts, three fundamental codes were developed: affective, behavioral, and cognitive engagement. Affect, judgment, appreciation, revision operations, behavioral operations for learning enhancement, utilization of learning techniques, the pursuit of conceptual comprehension, and employment of self-regulatory strategies were all coded in conjunction with their corresponding sub-dimensions. This facilitated a more profound investigation into how these various elements interacted with the engagement profile of each participant.

Additionally, a separate analysis was conducted on individuals with diverse language abilities to provide a better understanding of possible discrepancies among degrees of language proficiency concerning these three aspects (affective, behavioral, and cognitive). Any significant similarities or variations across students with varying language proficiencies were identified by comparing engagement patterns at this third-level coding stage.

3.6 Trustworthiness of the Data

To bolster the dependability and credibility of the data analysis, an inter-coder was selected and provided with comprehensive training to examine the textual data and transcripts autonomously. This intercoder was a seasoned professional with more than ten years of experience as a university professor. Involvement on her part was intended to corroborate the results gleaned via stimulated recalls and interviews with participants and provide an objective viewpoint.

Incorporating this inter-coder was primarily intended to validate the identification of error kinds, feedback strategies, and revision activities in student papers. To identify

and rectify any errors or anomalies, the researchers could verify and reconcile their findings against the initial coding scheme employed by the principal investigator.

The percentage agreement was computed using data from prior research by Han and Hyland (2015) and Koltovskaia (2020) to evaluate the inter-rater reliability of the principal investigator and the inter-coder. The agreement was assessed across a range of dimensions, including error types, feedback strategies, revision operations, affective engagement, behavioral engagement, and cognitive engagement.

Profound levels of agreement were attained by the inter-coder across all studied categories. With regard to the identification of error types, feedback strategies, and revision operations in students' drafts, the inter-coder and researcher achieved reliability values of 98%, 96%, and 98%, respectively. In addition, for assessing affective engagement, behavioral engagement, and cognitive engagement, the inter-coder reliabilities were 92%, 95%, and 91%, respectively.

When conflicts emerged between the two coders during their separate analyses, conversations were conducted to amicably settle these differences. The objective was to improve codes and augment comprehension as a whole by means of collaborative endeavors. By employing an iterative procedure, the results derived from analysing participants' responses were strengthened, consolidated, and representative of a wide range of viewpoints.

3.7 Ethical Considerations

Concerns of informed permission, participant anonymity, and beneficence/reciprocity were addressed in the present study. All participants provided informed consent by signing a consent statement that detailed the study's objectives and their voluntary involvement; this ensured compliance with ethical research principles. The template for the consent form was modified from the official IRB website (see Appendix D). The anonymity of the participants was guaranteed by employing pseudonyms; further precautions were implemented to safeguard the reputation of the university where the research was conducted. Extraneous personal data was omitted from the data analysis process to ensure the preservation of anonymity. Moreover, participants might have benefited from this research by developing a greater understanding of their involvement in L2 writing, which might ultimately improve their writing skills. A

summary of these advantages was included in the consent form.

3.8 Chapter Summary

This chapter offers a thorough overview of the research methodology, including specific information regarding the participants, setting, instruments utilized, methods of data collecting, and analysis. As the investigation progresses, the forthcoming chapter discloses the findings and provides a comprehensive analysis of them. This establishes the foundation for an extensive investigation and nuanced analysis of the results in the following discourse, facilitating a more profound comprehension of the consequences of the study.

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CHAPTER IV
RESULTS AND DISCUSSION

The current chapter provides a comprehensive analysis of the interaction between second language (L2) students at distinct proficiency levels (low and high) and teacher written corrective feedback (WCF) in L2 writing. The study explored participants' engagement performance and observed changes in affective, behavioral, and cognitive aspects resulting from their interaction with the teacher's WCF.

4.1 Introduction

This section aims to deepen our understanding of how students with different language proficiency engage with teacher WCF in their L2 writing. The focus is the qualitative description and analysis of responses from six participants regarding WCF provided by their teacher. The research employed a multiple-case study approach and various qualitative data sources, including students' L2 writing, stimulated recall sessions, and semi-structured interviews to comprehensively explore affective, behavioral, and cognitive dimensions of student engagement from low-proficiency (LP) and high-proficiency (HP) groups.

The chapter is structured into three main sections. First, a thematic analysis of student engagement based on Zheng et al.'s comprehensive framework (2020) was undertaken. This analysis introduced three themes: affective, behavioral, and cognitive engagement, along with corresponding sub-themes and their descriptions. To vividly illustrate these themes, excerpts from student stimulated recalls and semi-structured interviews are included as examples, offering an in-depth exploration of student participation in these critical aspects.

Next, the second section addressed the first research question, exploring how LP and HP students engaged affectively, behaviorally, and cognitively with teacher WCF. This section aims to provide an in-depth understanding of how students interacted with teacher WCF and explore the implications of these interactions.

Finally, the third section addressed the second research question, examining changes in affective, behavioral, and cognitive engagement with teacher WCF among LP and HP students over a semester. By comparing data from the beginning and end of the semester, potential evolutions in student engagement and discussing factors that may

contribute to these changes were unveiled.

4.2 Thematic Analysis of Student Engagement

Zheng et al.'s (2020) comprehensive framework explore student engagement in the WCF process, encompassing affective, behavioral, and cognitive dimensions with distinct sub-themes (see Table 11).

Affective Engagement

Within Zheng et al.'s (2020) framework, they defined affective engagement as the emotional and attitudinal aspects of a student's involvement with WCF, comprising the student's affect (affection), judgment, and appreciation. **Affect** refers to the feelings and emotions expressed upon receiving WCF, including changes in these emotions throughout the revision process. **Judgment** encompasses personal assessments of admiration or criticism and moral judgments of praise or condemnation towards WCF. **Appreciation** involves valuing the worth of WCF. Collectively, these sub-themes offer a comprehensive understanding of the emotional and attitudinal aspects that shape a student's affective engagement with a teacher's WCF. The sub-theme of judgment is exemplified by students' remarks indicating their assessments of the feedback they receive. Appreciation, the third sub-theme of affective engagement, is explained through students' expressions of gratitude and acknowledgment of the value of WCF.

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Table 4 Thematic analysis of student engagement

Theme	Sub-theme	Descriptions	Examples
Affective Engagement	Affect	Feelings and emotions expressed upon the receipt of WCF	Motivated, encouraged, overwhelmed, happy...
	Judgement	Personal judgement of admiration or criticism and moral judgement of praise or condemnation towards WCF	more reliable, easily spot my mistakes, ...
	Appreciation	Valuing the worth of WCF	super helpful, always appreciated, important, ...
Behavioral Engagement	Revision operations	Revision operations in response to WCF	revise correctly, no revision, incorrect revise, ...
	Behavioral operations for learning improvement	Behavioral operations taken for learning improvement	go through, search for the corresponding sentence, try to figure out...
Cognitive Engagement	Using learning strategies	Use sophisticated, deep, and personalized learning strategies	develop an efficient approach, explore phrases with similar meanings, and rely on basic online dictionaries to find alternative words, ...
	Seeking conceptual understanding	Seeking conceptual understandings rather than surface knowledge	actively research the underlying grammar rules
	Using self-regulated strategies	Utilizing self-regulated strategies	Maintain a comprehensive checklist, and try to remember the common mistakes pointed out in previous feedback.

Behavioral Engagement

Behavioral engagement with WCF refers to students' observable actions and responses as they interact with the feedback provided on their written work. It is characterized as revision operations in response to WCF, combined with behavioral processes for learning improvement. **Revision operations** involve the specific actions taken by students in response to WCF. These particular actions can be divided into four types: correct revisions, incorrect revisions, deletions, and no corrections (Ferris, 2006; Han & Hyland, 2015; Zhang, 2020). **Behavioral operations for learning improvement** include the broader set of actions and strategies students employ to enhance their overall writing skills. This involves a reflective and strategic approach

to feedback, as students actively seek ways to incorporate suggestions for long-term learning.

Cognitive Engagement

Cognitive engagement refers to students' mental processes and activities to understand, process, and respond to feedback. The cognitive dimension of engagement encompasses using learning strategies, seeking conceptual understanding, and using self-regulated strategies. This entails students' awareness and knowledge of WCF and cognitive and meta-cognitive operations employed in processing and responding to feedback. The sub-theme of **using learning strategies** exemplifies cognitive engagement through sophisticated learning strategies. **Seeking conceptual understanding** is another sub-theme of cognitive engagement. It means seeking conceptual understandings rather than surface knowledge. A crucial component of cognitive engagement is **the use of self-regulated strategies**. It refers to the utilization of self-regulated strategies, signifying the implementation of strategies that individuals regulate themselves. In summary, this thematic analysis thoroughly explored the multidimensional nature of student engagement with WCF. Expanding on this analysis, the subsequent section presented research findings by examining how students with different proficiency engage with teacher WCF affectively, behaviorally, and cognitively, providing a comprehensive understanding of their distinct responses to the feedback.

4.3 Student Engagement with Teacher WCF on L2 Writing

This section presents detailed descriptions of how students with different language proficiency respond to the teacher's WCF on their L2 writing.

4.3.1 Affective Engagement with Teacher WCF

This section investigates students' affective responses to teacher WCF, exploring the affect, judgment, and appreciation of both LP and HP students in their L2 writing. Stimulated recalls were used to uncover how students of different language proficiency engage with teacher WCF affectively.

Affect

One of the sub-themes that falls under the umbrella of affective engagement is affect, which relates to the sentiments and emotions that are expressed when receiving WCF (Zheng et al., 2020). Both LP and HP students demonstrated similar emotional responses to the teacher WCF. Instead of a singular emotion, both groups had a variety of complex feelings towards the teacher's WCF. They shared a common sense of intrigue among a range of feelings. This was discovered through an analysis of the interview scripts provided by the participants. For example, an LP1 student stated that she was experiencing a number of feelings on the teacher's feedback on her writing, and one of the feelings was "**a sense of curiosity**". Other LP students echoed similar sentiments, such as "**I really want to know**" and "**I am wondering how to make it right**". The argument can be seen in the excerpts [1] [2] [3] below.

> [1] "I also feel **a sense of curiosity and excitement** to figure out where exactly my errors are." (LP1)
>
> [2] "**I really want to know** what comment (circled it) actually means." (LP2)
>
> [3] "But I know what I have to do, so **I am wondering how to make it right**." (LP3)

Like LP students, HP reported a range of sentiments and emotions, including intrigue. HP1, for instance, expressed being "**curious**". Others in the HP group also shared similar feelings like "**eager**" and "motivated and encouraged", as reflected in the excerpts [4] [5] [6] below.

> [4] "I feel **a sense of excitement and curiosity**." (HP1)
>
> [5] "I am **interested and eager** to learn from my mistakes and improve my language skills." (HP2)
>
> [6] "It makes me feel **motivated and encouraged** to continue improving my writing skills." (HP3)

The commonality in emotional responses, particularly the shared sense of intrigue, suggests that both LP and HP students, despite proficiency differences, expressed a genuine curiosity and eagerness to understand and improve from the teacher's WCF. This shared curiosity highlights a universal aspect of affective engagement in the learning process, emphasizing the importance of recognizing and leveraging this common emotional thread for effective instruction across proficiency levels. These findings suggest that both LP and HP students share a range of sentiments and

emotions in response to a teacher's WCF on their writing, which is aligned with the previous studies from Liu (2021), who highlighted various emotions among students, including happiness, anxiety, confusion, and satisfaction, emphasizing the affective engagement aspect of the learning process.

However, some shades of differences remain in responding to the teacher's WCF on L2 writing among the two cohorts. The level of positive and motivated engagement exhibited by HP students was superior to that of LP peers. More precisely, when getting corrections, LP students showed a range of emotions, including dejected, burdened, and uncertain. That is, "**I feel frustrated**", "**I feel overwhelmed**", "**I don't know**". The excerpts in [7] [8] [9] prove this argument. On the other hand, even with similar feelings of intrigue, HP learners demonstrated a different spectrum of sentiments, such as self-driven, inspired, enthusiastic, and a bit embarrassed when receiving the teacher's WCF on their writing, such as being "**curious**", "**motivated**", "**encouraged**", "**excited**", and "**shamed on her errors**", which underscore their commitment to rectifying identified shortcomings to achieve ongoing progress (see excerpts in [10] [11] [12]).

> [7] "I would say that receiving feedback with underlines or circles can be a bit challenging at first. It always makes me feel a little **frustrated** or **confused** because **I don't immediately understand** the corrections." (LP1)
>
> [8] "I feel like **I've lost** because I didn't get the teacher's comment on my writing. However, **I really want to know** what the comment (circled it) actually means. I feel **a bit overwhelmed and unsure** when seeing my sentences or phrases reformed." (LP2)
>
> [9] "**I find it difficult to understand** the suggested changes to my sentences or phrases. When I look at these underlined parts, I feel **overwhelmed and I don't know** how to make the revisions. But I know what I have to do, so **I wonder how to make it right**." (LP3)
>
> [10] "I feel **a mix of emotions**...I feel **motivated and encouraged** to improve my writing skills with these corrections. I feel **a sense of excitement and curiosity**...However, I also feel **a bit shamed** for making such simple mistakes." (HP1)
>
> [11] "I am **interested** and **eager** to learn from my mistakes and improve my language skills...it makes me feel **happy**. I feel **supported**, and it **boosts my confidence**...I feel **happy and motivated** because I know that these errors with underlines or circles are relatively minor and can be easily corrected. I see it as an opportunity to improve my overall accuracy." (HP2)
>
> [12] "It makes me feel **motivated and encouraged** to continue improving my writing skills. Receiving underlined and circled comments, I feel **a bit confused**. It is **frustrating** not knowing what the errors are or how to fix them. I also feel **a sense of uncertainty**, **wondering if I'm missing something important** or if there's a specific reason behind the underlines and circles." (HP3)

Overall, LP students tended to feel frustrated and uncertain, possibly due to lower confidence. In contrast, HP students displayed positive, self-driven emotions, indicating higher motivation and confidence. These emotional disparities highlight the need for tailored support and personalized teaching approaches to address varying student needs and enhance writing performance. These findings are consistent with the outcomes of previous research conducted by Yang & Zhang (2023), which suggested that adept self-regulators exhibit more advanced affective engagement when processing teacher feedback than those less skilled in self-regulation. Moreover, it also aligns with previous studies by Lee (2008) and Mahfoodh (2017) that LP individuals questioned the effectiveness of certain feedback, suggesting a hesitancy to fully appreciate the WCF provided. This hesitancy may be attributed to ongoing language development, as Zheng et al. (2020) discussed, where LP students face complexities in understanding nuanced corrections.

Judgement

Judgement, involving personal assessments and evaluations of corrections, encompasses critiques, admiration, or moral judgments (Zheng et al., 2020). Both groups demonstrated confidence in their teacher's WCF, viewing corrections as a chance for development. Specifically, LP students regarded teacher's WCF as "**a guide**" or "**a valuable opportunity**". Similarly, HP students took the feedback from their teacher as "**an opportunity**" for growth and self-improvement. The following excerpts show the evidence of this statement:

[13] "I **trust** the feedback and use it as **a guide for future writing**." (LP1)

[14] "I view the feedback as **a valuable opportunity for self-correction and improvement.**" (LP2)

[15] "I **trust** that my teacher's feedback is valuable and will **contribute to my overall growth**." (HP1)

[16] "I view this comment "repetition" as **an opportunity for growth and improvement**." (HP2)

[17] "I see it as **an opportunity for improvement.**" (HP3)

The similarity illustrates that the students from the two groups not only have confidence in their teacher's feedback but also perceive it as a crucial opportunity to enhance their writing skills and overall development. The shared positive outlook on

teacher WCF might create a constructive learning atmosphere, encouraging students to actively embrace opportunities for improvement in their writing. This judgement would foster trust, collaboration, and autonomous learning, contributing to the continual growth of students' writing skills. The positive attitude displayed by both LP and HP students toward the teacher's WCF is noteworthy. They were not only eager to receive comments but also perceived them as crucial for recognizing and revising errors in their writing. As highlighted by Afifi et al. (2023), this positive emotional response translated into increased diligence in subsequent writings, with students actively avoiding the repetition of identified errors. The fact that students found the comments insightful and made efforts to comprehend and rectify their errors echoes the importance of affective engagement in the learning process. The positive engagement with teacher WCF observed in both LP and HP student groups aligns with social cognitive theory and sociocultural theory. The students' proactive attitude, eagerness to receive feedback, and perception of its crucial role in improvement reflect the self-regulation and agency emphasized in these two theories. Additionally, the cooperative learning environment, trust in the teacher's guidance, and active avoidance of repeated errors resonate with the principles of sociocultural theory, highlighting the importance of scaffolding and the Zone of Proximal Development (ZPD) in student learning. Overall, these theories provide a framework to understand and explain the positive impact of teacher WCF on student engagement and writing skill development.

However, notable differences emerged in their viewpoints. While the majority of LP students expressed affirmative attitudes, LP3 specifically questioned the effectiveness and value of WCF. More precisely, both LP1 and LP2 said a positive reception of corrections, valuing the transparency, forthrightness, and guidance offered. They saw feedback as a catalyst for improvement and augmentation of linguistic proficiency. LP2 recognized the educative potential inherent in feedback, proactively involving herself with errors and acknowledging the value it contributes to her writing proficiency. The statements can be illustrated in the following excerpts in [18] and [19]. Their responses reflect a constructive and self-reflective approach to feedback, emphasizing a commitment to continuous improvement.

In contrast, LP3's judgment is more mixed. While LP3 found it convenient to discern errors with corrections, there was difficulty comprehending specific reforms and scrutinizing the efficacy of feedback, especially regarding the suggestion to "**use more authentic expressions**". LP3 grappled with discerning the value in some feedback, articulating skepticism regarding its pertinence to her lower proficiency level. This response highlights a more skeptical and apprehensive stance towards WCF than LP1 and LP2. The excerpt in [20] evinces the argument effectively.

> [18] "I **appreciate the clarity and directness of the corrections**, understanding that they are meant **to improve my overall writing**." (LP1)
>
> [19] "I **trust** the corrections provided and see them as **valuable guidance**. It **gives me confidence** in my ability **to improve** and **makes me more aware of the mistakes** I need to avoid in the future." (LP2)
>
> [20] "It's **easy for me to spot my errors** with the corrections made by my teacher aside...(However), I **struggle to see the value** in this comment "use more authentic expressions" from my teacher. I **question its effectiveness** and wonder if there is other feedback that could better cater to my lower proficiency level." (LP3)

Conversely, HP students constructively embraced corrections. They demonstrated elevated confidence and understanding in feedback, acknowledging corrections as vital support that cultivates a constructive approach to continual education. Specifically, HP1 showcased an open-minded stance towards corrections, viewing them as opportunities for individual advancement rather than as critiques (see excerpt [21]). HP2 and HP3 echoed the viewpoint of HP1, regarding the critiques as insightful guidance for elevating their language proficiency (see excerpts [22] and [23]). The emphasis on the significance of meticulousness was perceived as a subtle prompt. Students at HP evaluated comments objectively, acknowledging their valuable impact on developing writing abilities.

> [21] "I **treat feedback with an open mind** and **see them as opportunities for growth**. I don't take them personally or feel discouraged. Instead, I view them as **valuable feedback** that **helps me refine my language skills** and become a better writer." (HP1)
>
> [22] "Instead of viewing corrections as criticism, I see them as **valuable** feedback. I carefully **assess the feedback with an objective and critical mindset**...I take the feedback as **a valuable reminder**." (HP2)
>
> [23] "I appreciate the feedback and **use it as a learning tool** to correctly understand and apply grammar rules. It helps me become **more aware of my mistakes** and **motivates me to work on them**. Personally, I admire this feedback strategy because it helps me **see alternative ways to express my ideas more effectively**." (HP3)

The differences reflect the impact of students' judgement and language proficiency on their responses to teacher WCF. In comparison, most LP students exhibited a positive attitude toward individual differences, such as the skepticism displayed by LP3. In contrast, HP students generally constructively approached feedback, highlighting the influence of individual judgement and language proficiency on feedback reception. This suggests that variations in students' mindsets and proficiency levels may affect their learning experience and progress in handling feedback. The findings align with the open-minded approach reported in previous studies. The viewpoint of corrections as opportunities for growth, expressed by HP students in our study, echoes the findings of Han and Hyland (2015) and Zheng and Yu (2018). These studies emphasize that HP individuals tend to view corrections as valuable feedback, contributing to continuous improvement and fostering a positive mindset.

Appreciation

Appreciation signifies that students recognize the importance and value of direct non-metalinguistic written correction, demonstrating that they comprehend the constructive nature and significance of the feedback provided (Zheng et al., 2020). LP and HP students appreciated the teacher's dedication and diligence in delivering essential corrections. The notions of "**appreciate**", "**time**", and "**effort**" can be seen in the excerpts below:

> [24] "I **love** how my teacher took the **time** to give such detailed feedback and corrections. It shows the **effort** he put into it, and I **appreciate** that." (LP1)
>
> [25] "I **like** how my teacher pointed out the specific mistakes I made." (LP2)
>
> [26] "I'm **thankful** for my teacher's **time and effort** in reviewing my writing tasks, making it easier for me to revise my work quickly." (LP3)
>
> [27] "I **appreciate** the **effort and time** invested by my teacher in providing me with corrections. I understand that he intends to help me improve, and I'm **grateful** for their guidance." (HP1)
>
> [28] "I **express gratitude** for his guidance and take his corrections seriously. I **appreciate** the **effort and expertise** of my teacher who provides me with corrections. " (HP2)
>
> [29] "I **truly appreciate** the **effort and time** taken by the teacher." (HP3)

The expected points of appreciation highlight a shared understanding among LP and HP students regarding the constructive nature of feedback, the importance of corrections, and their recognition of the teacher's commitment and effort in fostering their improvement as writers. These findings align with a study by Afifi et al. in 2023,

which suggests that students generally hold favorable opinions about teacher WCF in writing education.

However, upon careful examination of the excerpts from the stimulated recalls of the two groups, subtle distinctions in their expressions of appreciation for teacher's WCF become evident. While LP and HP students appreciated their teacher's care and feedback, they differed in their focal points. In particular, LP students greatly appreciated alternative expressions and valued the teacher's indirect feedback approach. For example, LP1, in excerpt [30], noted, "**I also like that he goes beyond just fixing mistakes by suggesting alternative ways to express myself...**". The feedback process not only nurtured their independent thinking and analytical skills but also encouraged a sense of personal investment in their learning journey. This sentiment is vividly reflected in their expressions [31] [32]. For instance, LP2, upon noticing the underlined and circled errors, recognized that there might be something wrong. This realization prompted her to "**take charge of her learning and think really carefully**". She sensed that the teacher employed this approach to encourage her to be "**more independent and rely on herself**". LP3 also appreciated the teacher's feedback, however, in a pragmatic, time-saving context, acknowledging its helpfulness for quick revisions. Despite this, LP3 was somewhat disconnected from the purpose of the feedback. LP3 wanted extra help or comments along with the errors, showing that LP3 was not fully affectively engaged and needed more direct support. Support for these findings is apparent in the excerpt [32] below:

> [30] "It's clear that my writing teacher genuinely **cares** about helping me get better. I also like that he **goes beyond just fixing mistakes** by suggesting alternative ways to express myself, showing a **focus on developing a more sophisticated writing style**. Those underlined comments from my teacher are great; they show **trust** in my ability to find and correct my own errors, promoting **self-reliance** and **taking ownership of my learning.**" (LP1)
> [31] "Getting feedback helps me understand my mistakes and makes me feel like my teacher cares about helping me get better. I like that they give suggestions on how to say things differently. When my teacher points out mistakes and circles them, **it makes me feel like I need to take charge of my learning and think really carefully**. **It makes me want to be more independent and rely on myself when I write**." (LP2)
> [32] "It's constructive for me to revise my work **without putting in a lot of effort and time**, especially when the correct answers are already provided. I believe the teacher can provide me with **some guidance or comments alongside** pointing out the errors, rather than just underlining or circling them." (LP3)

In contrast to LP students, HP students not only profoundly appreciated the teacher's effort and time spent on corrections but also expressed profound gratitude for the personalized guidance provided. They actively applied corrections to their writing, recognizing the invaluable role of the teacher's dedication and support in their overall growth as proficient writers. Collectively, they emphasized the teacher's belief in their potential for growth and improvement, underscoring the positive influence of the teacher's expertise on their writing abilities. Each student actively incorporated corrections, viewing the teacher's feedback and suggestions as invaluable contributions to their development. Furthermore, they acknowledged that the teacher's feedback created a positive and encouraging learning environment, serving as an indispensable tool for continual writing improvement. Supporting evidence is present in the excerpt below:

> [33] "I appreciate how my teacher **takes the time to review my work and give me helpful insights**. It's awesome that **he believes in my potential to grow and improve**. I take his corrections seriously and try my best to apply them in my writing. The effort he put into giving me feedback and suggestions is truly priceless. I'm so grateful for his guidance and his confidence in my abilities." (HP1)
>
> [34] "I'm really grateful to my teacher **for his dedication and support**. He has been so generous with his time and effort guiding me through the feedback process. It's amazing how his expertise has had such a positive impact on my writing skills. His commitment to helping me improve has been **truly invaluable**, and **I can't thank him enough for his guidance.**" (HP2)
>
> [35] "I really love this feedback strategy because it shows that **my teacher genuinely cares about my growth and development**. It's like having **a supportive teammate cheering me on**, **creating a positive and encouraging environment** to keep improving my writing skills. I appreciate how it helps me better understand grammar rules and enhances my sentence structure. It's such a valuable tool for improving my writing, and I'm grateful to have it." (HP3)

To the best knowledge of the researchers, no previous study has explored the sub-theme of appreciation within the broader context of affective engagement. The distinction in appreciation between LP and HP students reveals insightful preferences in how students value teacher WCF. LP students prioritize trust in their abilities and a heightened sense of responsibility, suggesting a desire for autonomy. On the other hand, HP students collectively value personalized guidance and the positive influence of the teacher, indicating a preference for a mentorship-oriented relationship. These insights align with the previous study (Afifi et al., 2023), stating that individual attitudes towards feedback influence students' affective engagement. Therefore, it suggests the need for tailored instructional strategies, acknowledging individual

differences in student expectations and preferences. Addressing these nuances can create a more effective and inclusive teaching and learning environment.

Overall, the analysis of affective engagement with teacher WCF reveals distinct patterns between LP and HP students. LP students expressed mixed emotions, including intrigue, discouragement, burdened, uncertainty and occasional frustration, while HP students demonstrated a more positive and motivated engagement. LP individuals sometimes struggled to perceive the value of specific feedback, questioning its effectiveness, while HP students consistently approached corrections with an open mind, viewing them as opportunities for growth. The depth of understanding and trust in feedback is more significant in HP individuals, fostering a positive mindset towards continuous learning.

However, it's noteworthy that the depth of understanding and trust in feedback, a distinctive feature observed in HP individuals in our study, adds a nuanced layer to the existing literature. While previous studies touch upon positive engagement, emphasizing the depth of understanding and trust as significant factors influencing HP students' affective engagement represents a novel contribution. This aligns with the call for a more nuanced perspective on engagement, as suggested by the broader literature on student engagement with WCF.

In summary, the findings of this section complement existing research on affective engagement observed in both LP and HP students. The hesitancy of LP students to fully appreciate feedback and the positive, growth-oriented mindset of HP students are consistent themes. However, the nuanced exploration of the depth of understanding and trust in feedback adds a valuable dimension to our understanding of affective engagement, contributing a unique perspective to the existing body of literature on this topic.

4.3.2 Behavioral Engagement with Teacher WCF

This section explores students' observable behavioral actions and responses when interacting with WCF on their written work. This engagement involves two sub-themes: revision operations and behavioral operations for learning improvement (Zheng et al., 2020). Stimulated recalls were used to unveil how students of different language proficiency engage with teacher WCF behaviorally.

Revision Operations

Revision operations include correct revisions, incorrect revisions, deletions, and no corrections in response to WCF (Ferris, 2006; Han & Hyland, 2015; Zhang, 2020). Both LP and HP students made correct revisions, showing that they actively made efforts to correct errors they understood and confidently addressed. In the LP group, for example, LP1 stated, "**I carefully check the feedback and revise the errors correctly**". Similarly, other LP students echoed similar sentiments, such as "**I revise it immediately**" and "**I can get it done correctly**", as reflected in the excerpts [36] [37] [38] below. Likewise, HP exhibited an operation to accurate revisions. HP1, for instance, expressed that "**my revisions are accurate and in line with the teacher's feedback**." Others in the HP group also shared a similar revision, as reflected in the excerpts [39] [40] [41] below.

> [36] "I carefully check the feedback and **revise the errors correctly**." (LP1)
>
> [37] "I **revise it immediately** because I can **fix the errors in the right way** with the feedback." (LP2)
>
> [38] "I can **get it done correctly** with my teacher's feedback." (LP3)
>
> [39] "After receiving the feedback, I **focus on the red marks** and **carefully analyze** the corrections. I make sure that **my revisions are correct** and **in line with the suggestions** my teacher gave me." (HP1)
>
> [40] "I checked the highlighted errors and fixed **them up right away**. I can **do it well** with the teacher's help from the feedback." (HP2)
>
> [41] "I revise the mistakes with the help of my teacher's feedback. I can **complete it correctly**. I always **revise them as soon as I receive it.**" (HP3)

Overall, the similarity in the revision operations of both LP and HP students suggests that, regardless of proficiency level, students actively and confidently engage with feedback, make accurate corrections, and demonstrate a timely approach to revision. The passage highlights positive attitudes and effective revision operations employed by both groups of students. In essence, the commonality in accurate revisions reflects a positive and proactive response to teacher feedback, emphasizing a collaborative and growth-oriented learning approach within both LP and HP student groups. The findings align with Liu's (2021) study that all students engaged in feedback-generated revisions, ranging from word to content level. The results reflect a broader pattern of proactive and growth-oriented student engagement with feedback, transcending

proficiency levels and cultural contexts.

However, unlike HP students who made correct revisions consistently, LP students, especially LP2 and LP3, sometimes chose to remove errors or didn't make any changes, which falls into the "deletion" and "no corrections". These operations of revising errors show different ways LP and HP students interacted with teacher WCF behaviorally. To be specific, most LP students (LP2 and LP3) expressed their struggle with challenging or unclear errors. Therefore, they chose to delete or leave these errors unchanged if they were unsure of the correct revision.

Moreover, the ways of handling confusion and challenges were different. LP2 attempted to understand and revise the challenge errors based on her knowledge of grammar rules and language conventions. At the same time, LP3 admitted to not taking the time to reflect on WCF or fully understand the corrections provided by the teacher. LP3 just copied and pasted corrections without addressing the underlying issues. The argument is evident in the excerpts in [42] and [43].

> [42] "I try to **correct and revise the errors**...I apply my knowledge of grammar rules and language conventions to make the necessary revisions; however, I have some errors. It's difficult and difficult for me to revise them accurately. In such cases, I have to **delete the errors or leave them** as if I'm unsure of the correct revision." (LP2)
>
> [43] "I simply skim over the corrections without fully understanding the mistakes I made or the correct answers provided. I don't take the time to reflect on why I made those errors or how to avoid them in the future. I just need to **copy and paste them**. But for the comment underneath, I **ignored it and didn't correct it**. Honestly, I sometimes ignore these marks." (LP3)

These differences illuminate the varying levels of behavioral engagement, understanding, and responsiveness to teacher WCF between the two proficiency groups, underscoring LP students' challenges in effectively incorporating corrective feedback for sustained learning and improvement. The distinctiveness of HP students' "**correct revisions**" compared to the varied responses, including "**deletion**" and "**no corrections**", from LP students aligns with the behavioral engagement patterns reported by Han (2017), Zheng et al. (2020), and Pan et al. (2023), where individual differences contribute to diverse engagement outcomes.

Behavioral Operations for Learning Improvement

Behavioral operations for learning improvement refer to common strategies that facilitate the processing of WCF to improve future writing (Han & Hyland, 2015;

Zheng et al., 2020). By analyzing the verbal reports from stimulated recalls, both LP and HP students sought ways to enhance their writing skills and actively incorporate feedback suggestions for long-term learning. To elaborate, in the LP group, individuals exhibited a conscientious effort in reviewing and comprehending feedback, illustrated by statements in excerpts [44] [45] [46] such as "**I carefully review each correction and try to understand**" (LP1) and "**I actively review the teacher's feedback**" (LP2). This underscores a tangible commitment to documenting and utilizing corrections for ongoing improvement.

> [44] "I **carefully review** each correction and **try to understand**." (LP1)
>
> [45] "I **actively review the teacher's feedback**, focusing on highlighted grammatical issues." (LP2)
>
> [46] "I **quickly scan it** (the feedback)." (LP3)

Similarly, the HP group marks some shared behavioral operations. HP students, like their LP counterparts, invested time and effort in comprehending the meaning of the feedback. For example, HP3 stated, "**I take time to think about the feedback**". This shared characteristic emphasizes a mutual commitment to understanding and learning from the feedback provided by teachers. Furthermore, even though the specific behavioral operations may differ, the ultimate goal of HP and LP students remained the same, that is, to enhance the understanding of feedback content and foster personal growth. Insights in the following excerpts exemplify the argument:

> [47] "I **make a conscious effort** to try new ways of expressing things and use what I learned from the feedback in my future writing. My aim is **to make my writing more advanced and polished**. " (HP1)
>
> [48] "I **carefully choose** the words and phrases while writing, and I **explore alternative ways** to express ideas without relying on repetitive phrases or words." (HP2)
>
> [49] "I **take time to think about** the feedback and how it connects to my writing...I **revise my writing carefully**." (HP3)

The shared behavioral operations for learning improvement among both groups underscore a fundamental principle: active behavioral engagement in the learning process is a universal and helpful strategy for enhancing writing skills. The commitment demonstrated by both groups in conscientiously reviewing, understanding, and incorporating feedback aligns with the studies from Qi and Lapkin (2001) and Sachs and Polio (2007) that participation is crucial for effective learning.

The critical distinction between LP and HP students lies in their approach to behavioral operations for learning improvement. While where LP students exhibited diverse engagement, with variations in active and passive strategies, HP students consistently demonstrated proactive and positive methods to enhance language skills through WCF. To elaborate further, while LP1 and LP2 actively embraced corrections and explored supplementary resources by using "**a notebook to write down the corrections**" or "**grammar books and online resources**", LP3 adopted a more passive stance, merely skimming over corrections and "**simply accept the changes**". The provided excerpts in [50] [51] [52] underscore the argument. Conversely, HP students consistently employ proactive strategies, actively participating in understanding the errors, applying corrections promptly, and engaging in a reflective revision process. These findings could be supported by the excerpts in [53] [54] [55] below:

> [50] "I have a notebook to **write down the corrections**." (LP1)
>
> [51] "I **scan through** the corrections, **paying close attention to** the grammatical issues that were pointed out. To further enhance my understanding and practice, I **explore additional resources** such as grammar books, online resources, or language learning websites." (LP2)
>
> [52] "I **go through** the feedback when I receive it, **just like that**. It is **a routine** in my understanding. I just **simply accept** the changes made by the teacher without actively learning from them." (LP3)
>
> [53] "I **carefully review** each correction and assess...I **pay attention to** any patterns or recurring mistakes that I make. I learned a lot from the examples, which changed how I approach writing. I **never stop trying to use new expressions** and use what I learned from rewriting my writing. I aim to make my writing more advanced and polished. I **pay extra attention to** these areas to ensure I don't make the same mistakes in the future." (HP1)
>
> [54] "I use the examples given in my own work, **trying out different ways** of saying things and changing structures...I **watch** English movies or TV series, **listen** to English music, and **read** English books or articles." (HP2)
>
> [55] "I **use the advice** on rewriting actively, putting the lessons into my writing. I also **pay attention to** grammar and punctuation to ensure everything is correct. I take time to **think about the feedback** and how it connects to my writing. This **reflection** helps me see where I need to improve and the specific things I should work on." (HP3)

This variability aligns with the individual differences in engagement noted by Han and Hyland (2015) and Zheng et al. (2020), where students' beliefs, learning experiences, and interactional contexts contribute to differences in engagement. LP3's passive stance, relying on routine acceptance and seeking external guidance without more profound understanding, mirrors findings by Hyland (2003), Mahfoodh (2017),

and Pan et al. (2023), indicating that not all students fully address teacher feedback. The revision rates varied among students, and HP students showed higher engagement in revising their drafts. Furthermore, the commitment to refining language skills through a reflective revision process in the HP group corresponds with the findings of Zheng and Yu (2018), emphasizing that HP students are more likely to view corrections as opportunities for growth rather than criticism.

In summary, both groups actively pursued strategies for learning improvement, as reflected in their commitment to understanding and incorporating feedback. The similarities lie in their positive responses to teacher feedback, demonstrated by the active correction of errors. However, nuanced differences emerged in the consistency and approach of engagement. LP students exhibited varied levels of behavioral engagement, with some opting for deletions or no corrections, indicating struggles with unclear errors. On the other hand, HP students consistently maintained a positive and reflective approach, actively participating in understanding errors and promptly applying corrections. This dichotomy underscores the impact of individual factors and proficiency levels on student engagement with teacher WCF. While LP and HP students shared the goal of learning improvement, their distinctive approaches highlighted the complex interplay of factors shaping behavioral engagement in response to feedback.

4.3.3 Cognitive Engagement with Teacher WCF

The cognitive engagement of LP and HP students was uncovered through the sub-themes of learning strategies, conceptual understanding, and self-regulation (Zheng et al., 2020). While both groups shared a commitment to language improvement, differences in the depth and breadth of their engagement revealed distinctions in their approaches across these three vital sub-themes.

Using Learning Strategies

Learning strategies refer to students' diverse methods and approaches to enhance their understanding and proficiency in language learning (Zheng et al., 2020). In examining the cognitive engagement of LP and HP students regarding the use of learning strategies, both groups demonstrated a commitment to deal with teacher feedback through various approaches. In the LP group, multiple techniques were employed to

address language challenges. For instance, LP1 used learning strategies such as a meticulous review of errors, reflective thinking, and dependence on online resources. She not only "**checked the highlighted errors**" but also engaged in thoughtful reflection on the reasons behind these errors and consulted online resources like "**online grammar apps or dictionaries**". Similarly, LP2 and LP3 demonstrated comparable learning strategies. The provided excerpts below lend further support to the established findings.

> [56] "I **check my writing and the highlighted errors**. I **think about why** those errors occurred and **how I can avoid** making them in the future. Sometimes I look up **online grammar apps or dictionaries** for help." (LP1)
>
> [57] "I always **carefully review** the feedback and my errors, **compare them**, and **think about grammar rules by checking online resources like English learning apps**. These methods **help me understand** the feedback and **make the correct revisions** to **improve my writing**." (LP2)
>
> [58] "I just **copy and paste the corrections** provided by the teacher. I sometimes **ask my classmate or check the apps** on my phone if it is really difficult for me to revise." (LP3)

Similarly, HP students demonstrated a parallel commitment to addressing the teacher's WCF and refining their language proficiency through distinct learning strategies. HP students thoroughly analyzed teacher corrections like their LP counterparts, comparing them meticulously with their original work. In their pursuit of enhancement, HP students went beyond by seeking additional resources such as grammar guides and writing textbooks, aiming to deepen their understanding of specific language nuances. For example, HP1, in excerpt [59], stated that "**I pay attention to the changes**" and "**compare them**", which emphasized her commitment to improvement. Furthermore, she enhanced her learning by "**using online resources like English learning platforms**". Similar sentiments were echoed by HP2 and HP3, as illustrated in excerpts [60] and [61]:

> [59] "I **pay attention to the changes** made and **compare them** to my original writing. This analysis helps me understand advanced sentence structures and concise expressions. I also do vocabulary-building exercises and grammar practice **using online resources like English learning platforms**." (HP1)
>
> [60] "I **analyze the corrections** made by my teacher and **compare them** to my original work. I also **seek additional resources**, such as **grammar guides or writing textbooks**, to **deepen my knowledge on specific language aspects**." (HP2)
>
> [61] "I actively **read a lot** to make my language skills better. I **read different things** like books, articles, and essays on lots of topics. By getting into all sorts of written stuff, I **get used to different writing styles, words, and how sentences are put together**. This **helps me get way**

better at using language. ” (HP3)

The commonality suggests a shared commitment among students, regardless of their proficiency levels, to addressing teacher WCF and enhancing language skills. Whether LP or HP students, they employed similar learning strategies such as meticulous error review, reflective thinking, and reliance on online resources. The finding is consistent with the conclusions obtained by Qi and Lapkin (2001), Sachs and Polio (2007), and Zhang and Hyland (2022). This shared dedication to improvement indicates a universal desire among students to deepen their understanding of language nuances and actively engage in the language learning process, irrespective of their initial proficiency levels.

However, differences arose in the depth and variety of strategies employed. Among LP students, a common theme was the immediate correction of errors, often relying on familiar strategies, such as regular practice opportunities. For instance, LP1 in excerpt [62] focused on error correction through meticulous review and reflective thinking, emphasizing known strategies like online resource dependence. LP2 and LP3 also showcased immediate correction efforts, with LP3 specifically highlighting the use of online grammar apps and dictionaries for quick reference (see excerpt [64]). On the other hand, HP students exhibited a more comprehensive and varied set of strategies to enhance their language skills. HP1, for example, not only focused on error correction but also utilized memory aids and engaged in thorough comparisons of teacher corrections with the original work. HP2 displayed a diverse range of activities, including extensive reading, showcasing a broader approach to language enhancement, as detailed in the excerpt [66]. HP3’s learning strategies involve analyzing original and reformulated sentences for specific changes, examining patterns, and actively engaging in extensive reading. The excerpts below back up these findings.

[62] “I **carefully review each correction** and **try to understand t**he specific grammatical errors or superficial issues that were pointed out...I look up **online grammar apps or dictionaries** for help.” (LP1)

[63] “I actively seek out learning resources such as **grammar books, online tutorials, and language learning websites**.” (LP2)

[64] “My trick is to **use less unfamiliar vocabulary or sentences to decrease the number of errors** next time. I try to **fix the mistake quickly and get it done**. I sometimes **ask my classmate**

or check the apps on my phone if it is really difficult for me to revise." (LP3)

[65] "Rather than focusing solely on surface knowledge, I have **a deep desire to understand the underlying concepts** of the language...I also **employ memory aids, note-taking techniques, and self-quizzing methods** to reinforce my learning." (HP1)

[66] "I **read good writings** to see how writers avoid saying the same things over and over and make their writing clear. I also practice using different words and changing my sentences to make my language more varied and clearer. I **watch English movies or TV series, listen to English music, and read English books or articles** to help me use English naturally to eliminate these mistakes in my writing." (HP2)

[67] "I **compare** the original sentences with the reformulated ones to understand the specific changes made and the impact on clarity and coherence. I also **carefully examine the patterns and trends** in the reformulated sentences **to identify common errors and areas for improvement**. I actively **read a lot** to make my language skills better." (HP3)

This contrast underscores that, while LP students primarily concentrated on correcting errors without further reinforcing overall writing skills, HP students demonstrated a propensity for employing more sophisticated learning techniques. This observation suggests that HP students adopted a more holistic and advanced approach to language enhancement, emphasizing the importance of diverse learning methods beyond mere error correction. The findings align with the study conducted by Pan et al. (2023), indicating that students utilize diverse learning strategies when dealing with teacher WCF on L2 writing.

Seeking Conceptual Understanding

Within the framework of Zheng et al.'s (2020) study, conceptual understanding pertains to the depth and clarity with which LP and HP students grasp language-related concepts. In exploring conceptual understanding, the two groups shared a commitment to achieving conceptual understanding in language proficiency. Representative excerpts from LP students emphasized a shared commitment to active learning through correction and comprehending the principles behind language mistakes. LP1 noted in excerpt [68] that "**I use resources...to deepen my understanding of...**", indicating a proactive effort to utilize additional materials for a more profound comprehension. This sentiment is further reinforced by LP and LP3 in excerpts [69] and [70] below:

[68] "I **use resources**...**to deepen my understanding of** ..." (LP1)

[69] "...This way, I can **grasp the underlying concepts** and apply them correctly in future writing." (LP2)

[70] "I use...to **seek the understanding**..." (LP3)

Similarly, in their stimulated recall responses, HP students echoed a commitment to seek conceptual understanding when dealing with teacher WCF. HP1 highlighted the utilization of resources for "**a clearer understanding**" in the excerpt [71], indicating a dedication to achieving clarity in language-related concepts. Likewise, other HP students also exhibited the same commitment by emphasizing the importance of seeking conceptual understanding. The argument can be seen in the excerpts [72] and [73] below:

[71] "I use...to help me **have a clearer understanding** of..." (HP1)

[72] "I **seek to understand**...This helps me **develop a more comprehensive understanding** of..." (HP2)

[73] "I try to **make it clear** by using...I want to **understand**...for my future writing." (HP3)

The findings are similar to Mahfoodh's (2017) study; that is, both LP and HP students made a concerted effort to comprehend the fundamental principles of language during their investigation of conceptual understanding. This highlights a shared commitment to foundational language principles, irrespective of proficiency levels, further emphasizing the universality of certain learning strategies and goals among students.

However, differences emerged in the extent to which they explored these concepts and their independence in seeking understanding. The LP group has various basic approaches to seeking conceptual understanding. To elaborate, LP1 appears to be proactive, using resources like grammar books and learning apps, as seen from the excerpt [74]. LP2, on the other hand, demonstrated a more reflective approach by actively analyzing corrections to grasp underlying concepts. However, LP3 revealed a struggle with deeper analysis and an inclination towards surface-level comprehension, seeking assistance from external sources when faced with challenging errors. This disparity in the LP group's strategies is further highlighted in excerpts [75] and [76], underscoring the variations in their exploration of language-related concepts.

[74] "I **use resources**, such as grammar books and English learning apps, **to deepen my understanding of the grammar rules and writing conventions** related to the highlighted errors." (LP1)

[75] "To deepen my understanding of the corrections, I **take the time to analyze and reflect on them**...This way, I can **grasp the underlying concepts** and apply them correctly in future writing." (LP2)

> [76] "I **don't fully understand** them sometimes. I feel overwhelmed by the language learning process and focus **more on surface-level understanding** rather than digging deeper into the underlying meaning. I **use grammar books or ask my classmates** to **seek understanding** if the errors are difficult for me to revise." (LP3)

Conversely, from excerpts [77] [78] [79], it is evident that the HP group exhibited a more advanced and independent approach. HP1 demonstrated a high level of conceptual understanding by considering underlying grammar rules and stylistic elements in teacher feedback. HP2 emphasized seeking a comprehensive understanding of grammatical rules and language principles, showcasing a depth of analysis beyond mere surface comprehension. HP3 stood out with an extensive and independent approach, utilizing various resources and engaging in exercises to ensure a profound comprehension of language corrections. This emphasizes a high level of independence and a comprehensive understanding within the High-Proficiency group.

> [77] "Looking at the teacher's feedback, I **think about the underlying grammar rules, sentence structures, and stylistic elements** that contribute to the improved clarity and effectiveness of my writing. I **carefully analyze** the corrections made by the teacher, paying attention to the reasons behind them." (HP1)
>
> [78] "I **seek to understand the grammatical rules or language principles** that govern them. This helps me develop a more comprehensive understanding of the language and enables me to **apply the corrections in a broader context.**" (HP2)
>
> [79] "I take the time to **explore the underlying principles and rules** behind grammar structures. I **consult language references,** textbooks, and language learning apps to deepen my understanding of these concepts. I **do exercises** and activities given by my teacher in the writing class. I make sure to **really understand the language corrections** by looking into the concepts and rules behind them. This means I **explore different ways to express things**, study grammar rules, and practice in real situations to make my writing clearer." (HP3)

This study reveals notable differences among learners exploring language concepts and pursuing independent understanding. The findings align with Pearson's (2022) study, underscoring the need for differentiated teaching strategies in language education to cater to the diverse learning approaches and levels of independence among students because cognitive engagement is associated with language proficiency and feedback literacy. Still, there can be misinterpretations of feedback, especially if it is not explained clearly.

Using Self-Regulated Strategies

As outlined by Zheng et al. (2020), self-regulation refers to the ability of LP and HP students to autonomously manage and control their learning processes. The self-regulated strategies adopted by LP and HP students highlighted their autonomy in learning and improvement. Both LP and HP students demonstrated self-regulated

strategies, including goal-setting and active engagement in the improvement process. The excerpts from LP students exemplified their dedication to setting clear objectives, as indicated by statements such as "**I aim to" (LP1) and "My main goal is to..."** (LP3). These students actively remind themselves of their learning objectives and employ strategic planning to address their challenges in L2 writing and the handling of teacher WCF. The argument is substantiated by the excerpts referenced in [80] [81] and [82].

[80] "I **aim to** reduce the frequency of..." (LP1)

[81] "I **remind myself** that..." (LP2)

[82] "My **main goal** is to..." (LP3)

Similarly, HP students exhibited a shared commitment to self-regulation through goal-setting and planning strategies. Statements such as "**regularly reflect**" (HP1) and "**set specific goals**" (HP2) underlined their meticulous approach to continuous improvement. The following excerpts illustrate the argument.

[83] "I **regularly reflect** on my writing performance and **set specific goals** for improvement..." (HP1)

[84] "I **set specific goals** for myself, both **short-term and long-term**, and **create a study plan** to achieve them." (HP2)

[85] "I **break down** my writing tasks **into smaller, manageable steps** and **arrange specific time** for each aspect." (HP3)

The noteworthy convergence between LP and HP students reveals that despite differences in performance levels, both LP and HP students actively engaged in self-regulated strategies, emphasizing goal-setting and strategic planning as key components of their autonomous learning processes. This study echoes previous research emphasizing autonomy in learning and improvement (Zheng et al., 2020; Zhang & Hyland, 2022; Yang & Zhang, 2023).

While both groups engaged in self-regulation, the distinction between LP and HP individuals lies in the depth of engagement with meta-cognitive strategies. According to previous studies, cognitive strategies involve the actual processes and techniques individuals employ to comprehend and retain information, while meta-cognitive strategies involve the awareness and regulation of one's cognitive processes (Ferris et al., 2013; Storch & Wigglesworth, 2010). LP individuals tended to focus more

narrowly on cognitive strategies and immediate improvement goals. In the excerpts provided, LP1 exhibited cognitive strategies with a focus on specific goals for improvement based on identified errors. LP2 preferred to address errors confidently and pursue gradual improvement while acknowledging mistakes as a natural part of the learning process. Alternatively, LP3 emphasized the lack of self-discipline and prioritizes task efficiency. The excerpts in [86] [87] [88] support the viewpoints.

> [86] "I **set specific goals** for improvement **based on the highlighted errors**. These goals include **reducing the frequency** of specific errors and **improving the overall clarity and coherence** of my writing." (LP1)
>
> [87] "I prefer to **focus on the errors** that I can confidently fix and aim for **gradual improvement** over time. I **remind myself** that **making mistakes is a natural part** of the learning process" (LP2)
>
> [88] "I know I lack the self-discipline. **My main goal is to save time and complete the task efficiently.**" (LP3)

On the other hand, HP individuals demonstrated a more comprehensive engagement with both cognitive and meta-cognitive strategies. HP1 engaged in reflective practices by regularly assessing writing performance, setting specific improvement goals, and comparing revised sentences to previous versions (see excerpt [89]). HP2 employed regular progress monitoring and strategic adjustments, analyzing strengths and weaknesses in writing while actively managing their learning (excerpt [90]). HP3, similarly, engaged in a thorough review of previous writing pieces, identified areas for improvement, set specific goals, and reflected on mistakes as a guide to avoid similar errors in the future, showcasing a nuanced understanding of their writing and language use (excerpt [91]). The evidence below lends support to these findings.

> [89] "I **regularly reflect** on my writing performance and **set specific goals** for improvement. When I work on my writing, I like to **look back and think about** how I did. After I fix things, I **check** my new sentence against the old one to see if it's better. " (HP1)
>
> [90] "I **monitor my progress regularly** and **adjust my learning strategies** accordingly. I **analyze my strengths and weaknesses** in writing and identify areas that require further attention. I try to **manage my learning**." (HP2)
>
> [91] "I **review my previous writing pieces** and identify areas for improvement. I **set specific goals** for myself, such as improving sentence structure or reducing grammatical errors, and **monitor my progress**. I also **reflect on my own writing mistakes** and use this feedback as a guide to avoid similar errors in the future. I **regularly think about my writing and language use**, figuring out where I can do better." (HP3)

In brief, HP students exhibited a nuanced understanding of their writing and language use, showcasing a more sophisticated approach compared to the more task-oriented

focus of LP individuals. The differences align with the subtle findings of Han (2017), Zheng and Yu (2018), Afifi et al. (2023), and Yang and Zhang (2023). Previous studies have argued that LP students exhibit heightened awareness of meta-cognitive operations in processing teacher feedback for planning, self-evaluating, and reflecting on their writing. The depth of cognitive engagement varied between LP and HP, with the latter making extensive revisions and providing metalinguistic explanations, while the former exhibited more limited engagement.

In summary, the cognitive engagement of both LP and HP students reveals noteworthy similarities and differences across three sub-themes: using learning strategies, seeking conceptual understanding, and employing self-regulated strategies. Regarding learning strategies, both LP and HP students displayed a shared commitment to addressing teacher feedback through meticulous error review, reflective thinking, and reliance on online resources. This universal dedication to improvement indicates a common desire among students to deepen their understanding of language nuances, regardless of their initial proficiency levels. However, differences emerged in the depth and variety of strategies, with HP students employing more sophisticated and holistic approaches than LP students' task-oriented focus.

In seeking conceptual understanding, both LP and HP students exhibited a commitment to comprehending language-related concepts, emphasizing the universality of specific learning strategies and goals. Nevertheless, differences surfaced in the extent and independence of exploration, with HP students demonstrating a more advanced and independent approach, actively engaging in a comprehensive understanding of language corrections. The findings underscore the need for differentiated teaching strategies to accommodate diverse learning approaches and levels of independence among students.

Concerning self-regulated strategies, both LP and HP students demonstrated a shared commitment to goal-setting and strategic planning for continuous improvement. Despite differences in performance levels, both groups actively engaged in self-regulated strategies, emphasizing autonomy in learning and improvement. However, the distinction lies in the depth of engagement with meta-cognitive strategies, where HP students showcased a more comprehensive approach than LP individuals' task-

oriented focus. These differences highlight the nuanced understanding of writing and language use among HP students, aligning with previous research emphasizing the importance of meta-cognitive operations in language learning and feedback processing.

Overall, affective engagement in teacher WCF differed between LP and HP students, revealing diverse patterns: LP students exhibited mixed feelings and reluctance, whereas HP students displayed enthusiastic and driven attitudes. On the basis of their behavior, LP students cast doubt on the efficacy of feedback, whereas HP students approached corrections with candor and a proactive, growth-oriented attitude. On a cognitive level, distinctions became apparent as both LP and HP students utilized learning strategies and endeavored to grasp concepts; however, HP students exhibited a more all-encompassing and independently motivated cognitive engagement, which indicated a greater dedication to ongoing progress. The dynamic interrelationship between affective, behavioral, and cognitive engagement highlights the interconnected nature of student participation, with positive affective engagement influencing active behavioral and comprehensive cognitive engagement for language proficiency.

Student engagement results with teacher WCF reveal a nuanced relationship between affective engagement in teacher WCF and the three theoretical paradigms underpinning second language acquisition research: sociocultural theory, social cognitive theory, and complex dynamic systems theory (CDST).

In the context of sociocultural theory, the study emphasizes the importance of the zone of proximal development (ZPD) in facilitating student engagement with WCF. The findings suggest that students, especially those with LP, may struggle to understand and apply feedback, as their ZPD limits their ability to autonomously use the language. On the other hand, HP students demonstrated more effective engagement, reflecting the principles of sociocultural theory, where scaffolding is crucial for learners to bridge the gap between their current and potential levels. The depth of understanding and trust in feedback, observed in HP individuals, reflects the sociocultural perspective, emphasizing the role of collaborative learning and support

in language development. The ZPD concept, as discussed in sociocultural theory, serves as the fundamental pedagogy guiding student engagement, aiming to overcome cognitive difficulties and promote progress.

Moving to social cognitive theory, the study highlights the role of observational learning in student engagement with WCF. Attention, retention, reproduction, and motivation, as outlined by Bandura (1986; 1991), play a significant role in how students respond to feedback. HP students' positive engagement may be attributed to their ability to effectively observe, retain, and reproduce corrective behaviors, reinforcing the importance of social cognitive theory in understanding student engagement with WCF. The emphasis on human agency, self-regulation, and self-efficacy aligns with the study's observation that HP students exhibited enthusiastic and driven attitudes, indicating a proactive and growth-oriented approach to corrections. This theory provides insights into why some students (HP students) engage more extensively with WCF, linking it to their beliefs, attitudes, and goals.

Finally, complex dynamic systems theory introduces co-adaptation and emergence as key concepts influencing student engagement with WCF. The interconnected nature of affective, behavioral, and cognitive engagement resonates with CDST, which views cognitive and sociocultural phenomena as equally important. The notion of iteration in CDST aligns with the study's recognition of ongoing progress, suggesting that feedback processes are dynamic and continually shaping students' language development over time. The findings highlight the bidirectional influence of affective engagement on cognitive and behavioral engagement, emphasizing the dynamic and evolving nature of language learning processes. Additionally, the emphasis on iterative processes in CDST aligns with the longitudinal exploration of feedback effects on learning outcomes.

In summary, the results provide insights into the intricacies of student engagement with teacher WCF, and these insights can be effectively explained and enriched by considering the theoretical frameworks of sociocultural theory, social cognitive theory, and complex dynamic systems theory. Each theory contributes to understanding different facets of the engagement process, emphasizing the social, cognitive, and dynamic aspects of language learning.

4.4 The Developmental Changes of Student Engagement with Teacher WCF on L2 Writing

The purpose of this section is to document the developmental engagement of LP and HP students with instructor WCF on L2 writing for one semester through semi-structured interviews within this section. This study aims to investigate the changes that occur in the participants' level of participation over time. The first interview will concentrate on the participants' previous experiences, and the final interview will address the participants' developmental shifts. Regarding both LP and HP students, this part offers a comprehensive knowledge of how student involvement with teacher WCF evolves throughout the research period.

4.4.1 Affective Engagement Development

In examining the affective engagement of students for one semester, significant developmental changes were observed in the sub-themes of affect, judgment, and appreciation.

Affect

In terms of affect, both the LP and HP groups exhibited changes over one semester, according to an analysis of the developmental changes that occurred. At the beginning of the semester, participants in both groups exhibited a wide range of emotional responses, with anxiety emerging as a predominant sentiment among most participants, as reflected by words such as "**nervous**", "**worried**", and "**anxious**" in their provided excerpts below. Within the LP group, exemplified by LP1, a spectrum of emotions was evident. LP1 expressed, "**I feel a bit nervous**", which is mirrored by LP2, who articulated, "**I am excited and a bit nervous**". The argument can be seen in the excerpts [92] and [93] below:

> [92] "I feel **a bit nervous or uncertain** about my writing abilities." (LP1)
>
> [93] "I am **excited and a bit nervous**. I **want to see** how I can make my writing better, but I'm also **worried about** possible mistakes." (LP2)

Similarly, members of the HP group also shared a common ground of mixed emotions. HP3 conveyed, "**I am a bit worried about getting feedback**" (see excerpt [96]), and this sentiment was echoed by HP1 and HP2 in excerpts [94] and [95]. The evidence supporting this argument is shown in the excerpts below:

[94] "I feel **a mix of excitement and nervousness** about the writing class and the feedback." (HP1)

[95] "I have **a mix of emotions and feelings**. On one hand, I feel **a bit anxious or nervous** about what the feedback I would have. At the same time, I also feel **curious and eager** to see the feedback." (HP2)

[96] "I am **a bit worried** about getting feedback on my writing. But I am also **open to learning and getting better**." (HP3)

While both the LP and HP groups experienced a range of emotions and anxiety at the commencement of the semester, a closer examination reveals nuanced differences in the complexity of these emotions. In the LP group, students expressed a combination of hesitancy (including doubt and apprehension), enthusiasm, and indifference towards teacher WCF. Specifically, LP1's expression of doubt with the term "**uncertain**" in excerpt [92] and LP2's concern expressed as "**worried about**" in excerpt [93] reflected a certain level of apprehension. On the other hand, LP2's excerpt also revealed a positive aspect with the expression of enthusiasm as "**excited**". Notably, LP3 articulated a sense of indifference by stating, "**I don't have any strong feelings about the feedback**" (see excerpt [97]).

[97] "I **don't have any strong feelings** about it (feedback)...Now I get the feedback for this semester, my thoughts change a bit. I think there is too much to deal with; I feel **tired but still have to face it**." (LP3)

Conversely, the HP group members exhibited a slightly different emotional landscape. HP students showcased a more optimistic and curious outlook. To be specific, they obtained a longing and interest in receiving feedback from their teacher, as conveyed in excerpts [94] and [95], where terms such as "**excitement**", "**curious**", and "**eager**" were used. Particularly, HP3 brought a distinct perspective. Unlike the predominantly positive outlook of some of the other participants, HP3 expressed concern about feedback but with a willingness to improve, mentioning, "**I am a bit worried about getting feedback...But I am also open to learning and getting better.**" in the excerpt [96].

Over the semester, two distinct groups have shown significant shifts in their affect on teacher WCF on their L2 writing. Students from both groups demonstrated increased confidence, acknowledged the positive influence of feedback on motivation, and reported a heightened sense of achievement. For instance, LP1 remarked in excerpt [98], "**I feel a sense of accomplishment and pride in my improvement.**" and "**more**

sure of myself and motivated" from LP2 in the excerpt [99]. This positive transformation was mirrored in the statements by HP1 and HP2 (see excerpts [100] [101]) that "**My emotions have changed from uncertainty to a sense of accomplishment**" and "**I feel a mix of pride and accomplishment**".

> [98] "I can see my improvement. I feel **more confident** in my writing skills. I feel **a sense of accomplishment and pride** in my improvement." (LP1)
>
> [99] "I feel **more sure of myself and motivated**." (LP2)
>
> [100] "My emotions have **changed from uncertainty to a sense of accomplishment**." (HP1)
>
> [101] "I feel **a mix of pride and accomplishment** because I have been able to address the previous feedback and make noticeable improvements in my writing. It is **a rewarding feeling** to see the fruits of my hard work." (HP2)

However, the key distinction between LP and HP students lies in the excerpts [102] and [103] from LP3 and HP3, respectively. Unlike other students who experienced positive changes, LP3 and HP3 shifted towards a more passive emotional state in that they conveyed a sense of burden at the end of the semester, feeling "**tired**" and "**overwhelmed**".

> [102] "My thoughts change a bit. I think there is too much to deal with; I feel **tired but still have to face it**." (LP3)
>
> [103] "I feel **relieved** knowing my teacher spent time giving me detailed advice. But sometimes, there was a lot of feedback, and it made me feel **a bit overwhelmed and frustrated** because I know there is more work to be done." (HP3)

Throughout the semester, both student groups experienced emotional shifts in response to teacher WCF on their L2 writing. While most demonstrated increased self-assurance and a sense of fulfillment, LP3 and HP3 stood out, expressing fatigue and being drowned towards the end of the semester, indicating a unique emotional trend within these groups. This observed phenomenon resonates with the findings of Afifi et al.'s (2023) study, which suggests that the overall positive developmental changes in students' affective engagement are subject to individual attitudes towards feedback sources.

Judgement

Regarding the judgement between LP and HP students towards teacher WCF, perceptions shifted over a semester. At the beginning of the semester, both LP and HP students shared common sentiments regarding feedback as a crucial and positive tool

for L2 writing development. LP1, for instance, demonstrated an awareness of "**the opportunity**" to receive feedback and emphasized the significance of learning from it. Similarly, LP2 underscored the constructive purpose of feedback in facilitating personal improvement by stating, "**help me get better**". On the high proficiency side, HP1 emphasized the consistently constructive and encouraging nature of the teacher's feedback, aligning with the constructive aspect highlighted in the LP group. Furthermore, HP2 reflected their shared perspective, viewing feedback as "**an opportunity for growth and learning**". In essence, both LP and HP individuals recognized the value of feedback as a catalyst for improvement, indicating a mutual understanding of its role in fostering personal development at the commencement of the semester. The argument finds reinforcement in the excerpts provided below:

[104] "I have **the opportunity** to receive feedback and **learn from** it." (LP1)

[105] "The feedback is meant to **help me get better**." (LP2)

[106] "My teacher's feedback is **always constructive and encouraging**." (HP1)

[107] "I treat the feedback as **an opportunity for growth and learning**." (HP2)

However, LP3 and HP3 distinguished themselves from their respective proficiency groups through unique attitudes and judgement on their teacher's feedback. The excerpt in [108] from LP3, "**I see it as just something I have to do, not something I want to do**", reflected a passive attitude to feedback. LP3 perceived it as a necessary task rather than an eagerly anticipated opportunity for improvement, setting them apart from the generally positive and growth-oriented perspectives expressed by other LP individuals. Similarly, HP3 echoes LP3's statement in [109], "**The feedback must be helpful, but I am not sure how helpful it is**", unveiling a nuanced viewpoint within the HP group. Unlike the confident responses from other HP students, HP3 expressed uncertainty about the effectiveness of feedback. This uncertainty suggests a more cautious or critical approach, possibly indicating higher expectations or a discerning evaluation of the feedback's true impact.

[108] "I see it as **just something I have to do**, not something I want to do." (LP3)

[109] "The feedback **must be helpful**, but **I am not sure how helpful it is**." (HP3)

Over one semester, both LP and HP students experienced notable changes in their perspectives on feedback, strengthening their views on it as a positive and effective tool. The LP group, for instance, emphasized the opportunities for direction, prospect,

and improvement presented through feedback, as articulated by LP1 and LP2 in excerpts [110] and [111], like "**guidance and support**" and "**a chance to do better**". Their expressions highlighted an evolving discernment of feedback, recognizing it not merely as a correction tool but as a constructive means to enhance their writing skills. Similarly, within the HP group, there was a further articulation of positive viewpoints regarding feedback, with students acknowledging it as an effective tool or resource for their writing development. Evidence backing the argument can be derived from the subsequent excerpts [112] and [113], such as "**a valuable tool**" and "**a valuable resource**". This demonstrated a deeper understanding of feedback's role in fostering continuous improvement and growth as proficient writers.

> [110] "I've received **guidance and support** to correct my mistakes." (LP1)
>
> [111] "Each suggestion is **a chance to do better**." (LP2)
>
> [112] "The feedback is **a valuable tool** for me to learn and grow as a writer." (HP1)
>
> [113] "His feedback is **a valuable resource** for me to further refine my writing skills and continue my growth as a writer." (HP2)

It is noteworthy that HP3, who initially expressed uncertainty about the effectiveness of feedback, demonstrated a shift in perspective after a semester of experience. She now recognized the usefulness of feedback, stating, "**help me see where I'm doing well and where I need to improve**" in the excerpt [114], indicating a positive evolution in her judgement. This change may signify a deeper engagement with the feedback process, leading to a more positive perception of its impact on her writing skills.

> [114] "His feedback really **helps me see where I'm doing well and where I need to improve** in my writing." (HP3)

However, LP3, in contrast, maintained a consistently negative attitude throughout the semester. Starting from viewing feedback as a mandatory task, her perspective evolved into expressing dissatisfaction with the abundance of feedback with terms like "**a lot of it**" and "**tough**" in the excerpt [115] below. This shift from a sense of obligation to outright complaining about the volume of feedback suggests a persistent negativity that did not improve over the semester.

> [115] "There's **a lot of it**, and it feels like a lot to handle. It's **tough** for me." (LP3)

The results are in accordance with a demonstrated positive affective engagement,

particularly as students become accustomed to the feedback from the writing teacher. Students not only found the comments helpful but also actively revised their essays, expressing satisfaction with the tool (Afifi et al., 2023). These findings underscore the dynamic nature of students' perceptions of feedback, underscoring the importance of customized strategies to optimize its effectiveness across various proficiency levels.

Appreciation

The notable developmental changes happened in terms of appreciation over one semester. Specifically, at the beginning of the semester, while students may not explicitly express gratitude towards teacher feedback, particularly within the LP group, their attitudes and perspectives can be inferred from the provided excerpts. The LP students, as seen in LP1 and LP2 from the excerpts [116] and [117], acknowledged the chances to receive feedback and its intended purpose of improvement with terms such as "**the opportunity**", "**learn from it**", and "**help me get better**". Similarly, HP students exhibited a positive outlook. In HP2, there was an expression of "**help me be much better**". Furthermore, HP1 echoed with others who showed her appreciation by expressing "**gratitude**" directly towards the teacher's feedback. The provided excerpts serve to underpin the presented argument.

[116] "I have **the opportunity** to receive feedback and **learn from** it." (LP1)

[117] "The feedback is meant to **help me get better**." (LP2)

[118] "I **feel gratitude** for my teacher's **effort** on my work." (HP1)

[119] "His feedback can **help me be much better** in my writing." (HP2)

However, LP3 and HP3 stood out from other LP and HP students. To delve deeper, LP3 displayed an attitude towards teacher WCF that suggested a sense of entitlement, as evidenced by her excerpt in [120], where she expressed a sentiment of "**taking it for granted**". This implies that LP3 perceived feedback as something expected and routine. On the other hand, HP3's perplexed or uncertain attitude towards feedback suggests a distinct contrast. By stating, "**I don't fully realize how much the feedback would impact my growth**" (see excerpt [121]), HP3 conveyed a perception that feedback posed more challenges or uncertainties, possibly indicating a lack of confidence or understanding in her language abilities.

[120] "I **take it for granted**." (LP3)

[121] "I **don't fully realize how much the feedback would impact my growth** as a writer." (HP3)

The end-of-semester attitudes reflect a notable positive shift among both LP and HP students, indicating a heightened appreciation for teacher feedback. This is evident through the terms such as "**thanks**", "**grateful**", and "**gratitude**" in the following excerpts. Specifically, in the LP group, students such as LP1 and LP2 showed increased assurance in their capacity to enhance their writing with the assistance of their teacher's feedback in excerpts [122] and [123] like "**more confident**" and "**trust the feedback more and believe more in my ability**". In the HP group, a similar trend is observed, where students acknowledge the significant impact of their teacher's direction and assistance. HP1 noted in the excerpt [124], "**I feel more grateful for my teacher's guidance and support, as their feedback has played a significant role in my growth as a writer.**" This sentiment is echoed by HP2, who states in [126] below. Remarkably, LP3 and HP3 demonstrated noteworthy transformations in their attitudes towards teacher WCF when compared to their initial sentiments at the commencement of the semester. Their shift from an initial stance of indifference (LP3) and uncertainty (HP3) to a genuine appreciation showcases the profound impact of the teacher's guidance and support throughout the academic term. The excerpts in [124] and [127] underpin the presented argument.

[122] "I **feel more confident** in my writing skills." (LP1)

[123] "I **trust the feedback more** and **believe more in my ability** to learn and improve." (LP2)

[124] "**Thanks,** my teacher, for **the time and effort**. And his **patience**." (LP3)

[125] "I **feel more grateful** for my teacher's guidance and support, as their feedback has played a significant role in my growth as a writer." (HP1)

[126] "I also feel **a sense of gratitude** towards my teacher for his **guidance and support**." (HP2)

[127] "I'm **truly grateful** for his **support** in helping me become a better writer. The feedback is thorough and clear." (HP3)

The results align with the previous studies by Han and Hyland (2015) and Liu (2021), in which students expressed their appreciation and gratefulness for WCF. Especially in Zhang et al.'s (2023) study, a similar situation occurred, transitioning from initial anxiety to a sense of gratitude for the WCF. This evolution underlines the transformative influence teachers can wield in skill enhancement and fostering a positive and appreciative learning environment.

4.4.2 Behavioral Engagement Development

Significant developmental changes were observed during one semester in the sub-themes of revision operations and behavioral operations for learning enhancement. These changes were observed from the perspective of analyzing the behavioral involvement of students.

Revision Operations

Notable differences emerge in their behaviors when comparing the revision operations of LP and HP at the beginning of the semester. The LP students exhibited a mixed response to feedback, acknowledging the implementation of correct revisions, incorrect revisions, deletion, and no correction. LP1, as expressed in the statement [128], admitted to "**making some incorrect revisions or even choosing not to revise certain parts**". Others in the LP group also revised similarly as seen in excerpts [129] and [130]. This suggests a struggle to fully grasp and apply the feedback received. On the other hand, HP students, as articulated in statements [131] [132] [133], demonstrated a more meticulous and conscientious approach. They indicated a careful reading and thoughtful consideration of feedback, coupled with a solid commitment to revising every highlighted error accurately. The language used by HP students, such as "**carefully read and think about**" and "**try my best to revise every highlighted error correctly**", implies a proactive stance toward correction, emphasizing a consistent ability to rectify mistakes.

> [128] "I **make some correct revisions** based on the feedback, but I also **make some incorrect revisions** or **even choose not to revise** certain parts altogether." (LP1)
>
> [129] "I cannot guarantee that I can revise all errors in the right way, so **sometimes I just remove or leave them there**." (LP2)
>
> [130] "If a correct answer is provided alongside, I will **follow the feedback and make the correction**. But if not, I may **sometimes delete or make it incorrectly** in my revised writing." (LP3)
>
> [131] "I **carefully read and think about** the feedback, I **try my best to revise** every highlighted error **correctly**. And I **often revise my errors correctly**." (HP1)
>
> [132] "I **read feedback carefully** and **try my best to fix every mistake**. I can **revise them correctly** most of the time." (HP2)
>
> [133] "I often **revise my errors in the right way** with the help of my teacher's feedback." (HP3)

Towards the end of the semester, notable changes emerged in the revision operations of LP students. There was a reduction in instances involving deletion, no revision, and

incorrect revisions. LP students exhibited a proactive approach when faced with challenges, such as difficulty understanding the teacher's feedback or uncertainty about making specific revisions. They actively sought external resources to assist them, ensuring the accuracy of their revisions. Specifically, all LP students mentioned "**make more right revisions**", "**make fewer wrong revisions**", or "**fix errors more accurately**" with "**the help of online resources**" in the excerpts [134] [135] [136]. This shift in behavior indicates a strategic effort on the part of LP students to address weaknesses and improve their revision skills. In the case of HP students, they continued their diligent and conscientious approach to revision, maintaining consistency in their efforts. From the beginning of the semester, they possessed a clear understanding of how to leverage external resources to ensure the correctness of their revisions. For example, LP1 stated, "**I know clearly how to ensure and keep the correctness of my revisions from the very start**". Other HP students echoed HP1's sentiments, as supported by the excerpts below in [137] [138] [139]. This persistence in seeking external help reflects the HP students' commitment to excellence and strategic use of available resources to refine their revision processes.

> [134] "I have **learned a lot and better understood** the feedback. I can **make more right revisions** now." (LP1)
>
> [135] "I **make fewer wrong revisions now**. And I can **fix my errors more accurately**. If I get stuck understanding some feedback, I **check the online resources for answers**." (LP2)
>
> [136] "I **can make more right revisions now**. Teacher's feedback is helpful. I know how to deal with it with **the help of online resources**." (LP3)
>
> [137] "I know clearly of how to **ensure and keep the correctness of my revisions from the very start**. I **look up various sources** such as online grammar guides writing forums, and even ask my classmates or teachers for help. " (HP1)
>
> [138] "I keep **the accuracy of my revisions** and improve the quality of my work." (HP2)
>
> [139] "I **use some online resources** to help me out if I cannot understand the feedback. I always do so **from the beginning of the semester**. So I can **make fewer mistakes** and **revise them correctly**." (HP3)

Overall, the findings are consistent with the studies conducted by Zheng et al. (2020) and Pan et al. (2023), where researchers observed variations in revision rates among students. The modifications made by LP and HP students towards the end of the semester showcase not only their evolving strategies but also their commitment to refining their understanding and improving their academic performance.

Behavioral Engagement for Learning Improvement

At the beginning of the semester, LP students shared a commonality in their commitment to reviewing and revising their work based on the feedback provided by their teachers. All LP students employed the behavioral operation by scrutinizing the marked errors by the teacher and rectifying the specified errors. For example, LP1 "**scanned the red marks**" and "**revised the marked errors**", as shown in the excerpt [140]. LP2 and LP3 similarly acknowledged this method (see excerpts [141] and [142]). However, this method is straightforward, with some limitations. The primary limitation lies in its simplicity, as it may not foster a thorough understanding of the underlying concepts or address the root causes of errors. This behavior concentrates on surface-level corrections without encouraging a deeper engagement with the feedback, potentially leading to repetitive mistakes in the future.

[140] "I **scan the red marks** and **revise the marked errors**." (LP1)

[141] "I **just read through the comments and revise the errors.**" (LP2)

[142] "I **read the feedback** and **revise the errors with teacher's corrections**." (LP3)

Conversely, HP students actively sought additional resources, explored supplementary materials, and invested extra time refining their understanding of the feedback. Firstly, HP students all expressed a meticulous approach to examining the specific errors highlighted by their teachers in their written work, using phrases such as "**carefully read my work**" and "**go through the feedback**", showing a shared commitment to thoroughly examining the guidance provided by their teacher. They also displayed a proactive attitude toward addressing identified errors. They actively participated in the process of revising their work, concentrating on addressing each error individually. HP3, for instance, emphasized the importance of tackling challenges encountered during the revision stage, stating, "**When I meet difficulties in revising it, I always use online dictionaries for answers**". The utilization of online dictionaries is also echoed by HP1 and HP2, as evident in the excerpts [140] and [141]. Lastly, all three HP students demonstrated a dedication to conducting a comprehensive final examination of their revised work before submission. The excerpts such as "**I recheck the revision to make sure everything looks fine**" and "**I revise it and check it before handing it in**" reflect a meticulous and detail-oriented approach to their

writing.

> [140] "I **carefully read my work** and **focus on the specific errors pointed out** by my teacher. I then **revise them one by one**. I **pay extra attention to unmarked areas** to ensure I don't make the same mistakes that may not be highlighted by my teacher. I **analyze the feedback** and **think** if there are any other alternative ways to revise them. I **use an online dictionary** to look for other alternative ways. Finally, I **recheck the revision** to make sure everything looks fine." (HP1)

> [141] "I **go through** the feedback and **compare it** with my writing to see why my teacher changed my words or even a whole sentence. I like to **look up the online dictionary** to help me understand the feedback better. Then I **revise** it and **check it** before handing it in." (HP2)

> [142] "I **revise the errors one by one** according to the feedback from my teacher. When I meet difficulties in revising it, I always **use online dictionaries** for answers. Before submitting my revised work, I always **recheck grammar and punctuation** to ensure everything is correct." (HP3)

Over the semester, LP students have shown significant progress in their level of engagement with feedback. A noticeable shift from a simple and direct approach to a more sophisticated one is evident. For example, LP1 exhibited a thorough examination of feedback and the utilization of additional resources for improvement, showcasing a deliberate commitment to enhancing her learning experience (see excerpt [143]). Similarly, both LP2 and LP3 also "**go through the feedback**" and "**use online resources**", as supported in excerpts [144] and [145]. Notably, LP1, by incorporating a dedicated notebook to document corrections and advanced expressions, revealed a proactive stance towards self-improvement compared to her LP peers. This intentional action underscores LP1's awareness of the enduring significance of feedback, emphasizing the recognition that preserving this information is crucial for ongoing reference and continuous progress.

> [143] "I **read the feedback carefully**. I have **a notebook**, and I use it to **write down corrections.** I also **write down the advanced phrases or sentences** on it as a reference. I collect these advanced expressions **from my teacher's feedback online resources**." (LP1)

> [144] "I **check the feedback**, **thinking about the pointed errors**. I **use other resources** such as grammar books, online resources, or language learning **websites to know the feedback better**." (LP2)

> [145] "I **go through the feedback** when I receive it. Then I **use online resources** to help me revise it accurately." (LP3)

In contrast, HP students consistently demonstrated a sophisticated engagement with feedback throughout the semester, each employing distinct strategies. HP1 proactively utilized advanced resources and efficiently addressed grammatical concerns from the beginning, emphasizing writing improvement and proficiency. HP2, initially pursuing

self-directed learning, refined its strategy by consistently acquiring new information and engaging in knowledge-sharing. HP3 shifted focus from grammatical errors to utilizing advanced resources and actively integrating criticism, showcasing a comprehensive strategy for improvement by semester-end. The argument is evident in the excerpts provided in [146] [147] [148] below.

> [146] "I **still use the old method** to revise my work and check my writing. It's useful for me. I **find more online resources** to help me **reduce grammatical errors,** and help me **revise my work faster and better.** Then I can focus more on my writing." (HP1)
>
> [147] "There is **only one change**, that is, I come to **discuss more with my classmates**, especially when I want to **use different words or phrases to reduce the repetition** of my writing. It's useful and effective." (HP2)
>
> [148] "I **learn from the feedback**, make sure that **I won't make similar mistakes next time**. So I **use more online resources** to **reduce the basic grammar issues**." (HP3)

Overall, the observed behavioral changes in both LP and HP students align with Zhang et al.'s (2023) study, underscoring the importance of feedback in the learning process and revealing varying levels of commitment and strategic adaptation to enhance academic performance.

4.4.3 Cognitive Engagement Development

In examining students' cognitive engagement for one semester, significant developmental changes were observed in the sub-themes of using learning strategies, seeking conceptual understanding, and using self-regulated strategies.

Using Learning Strategies

Learning strategies played a pivotal role in the learning progress of both LP and HP students. The students of LP showed significant development in their utilization of efficient learning strategies, progressing from rudimentary methods to more systematic and diverse ways. On the contrary, HP students, who had already attained a high level of proficiency, persisted in honing and broadening their sophisticated methodologies, embracing novel techniques to augment their writing experiences.

At the outset of the semester, both LP and HP employed distinct learning strategies. In the case of LP, exemplified by statements [149] and [151] from LP1 and LP3, the predominant strategy was a somewhat passive engagement with feedback. LP1 acknowledged the habit of rereading feedback and revising accordingly without

delving into deeper analysis. LP3 further emphasized this passive approach, indicating a tendency to mainly revise highlighted portions without a clear understanding of the reasons behind the changes. Statements such as "**read it again**", "**mainly revise the highlighted parts**", and "**don't think that much**" support these arguments. Additionally, LP2 acknowledged having only a basic grasp of grammar rules and encountered difficulties when trying to use them in writing in an excerpt [150]. On the other hand, the HP group demonstrated more active and varied learning strategies. HP1 showcased an organized approach by "**making outlines**" to structure information. HP2 and HP3, as seen in statements [153] and [154], engaged in collaborative learning with peers ("**work with my friends**"), utilized online resources ("**use the internet**"), investigated intriguing subjects independently ("**learn things on my own by exploring topics I think interesting**"), and took notes while reviewing the teacher's feedback ("**read and learn the teacher's feedback and take notes**"). These strategies reflect a more holistic and comprehensive learning approach.

> [149] "When I got feedback, I usually just **read it again and revise it accordingly**. I **don't think that much**." (LP1)
>
> [150] " I **knew a bit about grammar** in writing, like verb tenses and matching subjects with verbs. **But using these rules in my writing is tough**. I **don't have a clear plan** for learning, so I can't always get it right." (LP2)
>
> [151] "I **just mainly revise the highlighted parts** without really figuring out **why those changes are needed**." (LP3)
>
> [152] "I have **some good ways to learn**. For example, I like to **make outlines to organize information**, and I also **look for other materials to understand things better**." (HP1)
>
> [153] "I always **work with my friends** to understand things better, I also **use the internet** to find information for my writing, and I **learn things on my own** by exploring topics I think interesting sometimes." (HP2)
>
> [154] "I like to **read and learn** the teacher's feedback and **take notes**." (HP3)

Over one semester, students in the LP demonstrated notable progress in their application of learning strategies. LP1 progressively redirected her focus, actively pursuing additional resources, encompassing "**grammar books and online courses**", to enhance her comprehension. Similarly, LP2 instituted a more systematic approach by formulating "**checklists**" and assimilating peer input by "**asking my friends for their thoughts on my work to get better**". LP3, commencing with constrained knowledge, actively probed into diverse revision strategies, sought peer commentary,

and leveraged web resources for improvement. Detailed support for these assertions can be found in the excerpts below.

> [155] "I want to learn more, so I **actively** search for things like **online lessons** and **grammar books**. I want extra help to understand things better and improve." (LP1)
>
> [156] "I start doing things in **a more organized way**. I **make checklists** to help me remember what to do, and I also **ask my friends for their thoughts on my work** to get better." (LP2)
>
> [157] "I **try out different ways** to make my work better. I **ask my friends for advice**, and I also **look for help online** to get feedback and improve." (LP3)

On the contrary, HP students demonstrated an early and consistent mastery of sophisticated learning processes. HP1, who was already employing methods like outlining and locating supplementary materials, further developed and broadened her approaches, delving into more sophisticated methods like mind maps. The excerpt in [158] backs up this statement: "**I try out more advanced methods like creating detailed plans, using visual aids like mind maps**". Likewise, HP2, which had initially implemented various methods, augmented its repertoire by exploring novel techniques such as mind mapping and active inquiry. HP3, already employing a diverse range of tactics, implemented more tactics by investigating novel methodologies such as thought mapping and visualization. The subsequent excerpts in [158] [159] [160] evidenced the aforementioned argument.

> [158] "As the semester goes on, I **keep working on improving** how I learn. I try more advanced methods like **creating detailed plans** and **using visual aids like mind maps**. I also **explore online resources** and **seek more challenging materials** to expand my understanding." (HP1)
>
> [159] "I **add new ways of learning**. I try using **mind maps**, which are like visual diagrams, to organize information in a cool way. I also start **actively asking questions** to understand things better, **trying out different approaches** to see what works best for me." (HP2)
>
> [160] "I **try more ways to study better**, like **using cool tricks with pictures and mind maps**. I also **check out online learning sites**, and it really helps me understand things in a new and better way." (HP3)

Based on the analysis above, it is evident that LP students demonstrated significant progress, evolving from basic to more systematic learning strategies, while HP students consistently refined and expanded their sophisticated approaches throughout the semester. Consistent with Zhang and Hyland (2018), Liu (2021), and Pan et al. (2023), these findings reveal that proficiency levels play a crucial role in the development of learning strategies. Furthermore, the findings imply that proficiency levels not only influence the selection of learning strategies but also shape the

evolution of academic progress over time for both LP and HP students.

Seeking Conceptual Understanding

Regarding the development of seeking conceptual understanding, significant changes were observed among LP students as they shifted their attention from superficial corrections to the proactive pursuit of learning fundamental concepts. On the other hand, students from HP, who were already well-versed, further developed and elevated their sophisticated methodologies, demonstrating a profound comprehension and nuanced implementation of concepts in their work.

At the start of the semester, the disparities between LP and HP are evident in their approaches to conceptual understanding. LP students faced an apparent struggle to grasp the conceptual understanding. For example, LP1 expressed difficulty comprehending advanced concepts even after multiple readings of the teacher's feedback, stating, "**Even I read the feedback again and again, I find it a bit hard to understand some of the more advanced ideas in the teacher's feedback**" in excerpt [161]. This reflects a persistent challenge in assimilating complex ideas. LP2 further exemplified this struggle by seeking clarification from the teacher but still falling short of a complete understanding, as shown in the excerpt [162]. Additionally, LP3, as seen in excerpt [163], revealed a tendency to focus on basic elements such as "**grammar**" and "**spelling**" during revision, neglecting the overarching concepts and challenging aspects.

> [161] "I have to say, even I **read the feedback again and again**, I find it **a bit hard to understand some of the more advanced ideas** in the teacher's feedback." (LP1)
>
> [162] "I **ask the teacher to explain things again** when he reaches me, but I **still can't fully get it**." (LP2)
>
> [163] "I **mostly pay attention to revising basic things**, like grammar or spelling. I **don't really get the main ideas or the tough parts**." (LP3)

In contrast, HP students exhibited a proactive approach to conceptual understanding from the outset. HP1 engaged in discussions with peers and actively sought clarification from the teacher when faced with difficulties, demonstrating a commitment to addressing challenges head-on. As expressed by HP1, "**I actively take part in discussions with my classmates, ask the teacher questions when I don't**

understand something" in the excerpt [164]. Similarly, HP2 emphasized communication with classmates and posing questions to the teacher to enhance comprehension of the main ideas. Moreover, HP3 employs effective study strategies like note-taking and collaborative learning, showcasing a comprehensive effort to delve into the depth of the subject matter. The following excerpts can support the statement.

> [164] "I **actively take part in discussions with my classmates**, **ask the teacher questions** when I don't understand something." (HP1)
>
> [165] "I **talk a lot with my classmates** and **ask the teacher questions** to understand the main ideas better." (HP2)
>
> [166] "I **take notes** while studying. I **work with my classmates** to learn together." (HP3)

Over the semester, LP students exhibited significant evolution in their methodology towards acquiring conceptual comprehension. After encountering early difficulties in comprehending more complex ideas, LP1 transitioned to actively participating in discussions with peers and the instructor, actively seeking clarification to improve her understanding, stating, "**I start talking a lot with my classmates and the teacher. I ask questions, share my ideas, and make sure to ask for help when I don't understand something**". Actively participating in discussions and finding supplementary materials to rectify misunderstandings, LP2 initially sought clarification from the instructor. Engaging in debates and seeking clarity to acquire a more comprehensive knowledge of underlying principles led to a metamorphosis of LP3, which had previously concentrated exclusively on surface-level corrections. The argument is evident in the excerpts provided in [167] [168] [169] below.

> [167] "My teacher set more group discussions this semester, so I **started talking a lot with my classmates and the teacher**. I **ask questions**, **share my ideas**, and **make sure to ask for help** when I don't understand something." (LP1)
>
> [168] "I **actively join conversations with classmates and the teacher**. This helps me hear different opinions and also help me understand some points better from different points of view." (LP2)
>
> [169] "I **take part in discussions** our teacher provided, **ask questions** when I have something unclear." (LP3)

Conversely, HP students constantly demonstrated sophisticated approaches in pursuing conceptual comprehension right from the start. HP1, via active participation in talks, maintained a steadfast stance. HP1 refined her analytical abilities, acquired a

more nuanced comprehension of intricate subjects, and actively implemented her knowledge in her written work. As excerpt [170] mentioned, HP1 stated, "**I keep doing things that work well for me. I practice thinking carefully about things, make sure I understand complex ideas and use what I know in my writing to improve it.**" Through active participation in debates and individual study, HP2 honed her critical thinking abilities, acquired the capacity to comprehend intricate concepts, and effectively incorporated conceptual comprehension into her written work. By utilizing an array of approaches, HP3 enhanced her capacity for analysis, mastered the implementation of complex concepts, and applied conceptual comprehension by "**writing on the notebook**". More details can be found below:

> [170] "I **keep doing things** that work well for me. I **practice thinking carefully about things**, **make sure I understand complex ideas** and use what I know in my writing to make it better." (HP1)
>
> [171] "I get better at **understanding complex things** and **thinking really carefully**. I use what I learned to **make my writing better**. I always **talk a lot in class**, **ask cool questions**, and **check out more information in books and online** to see different sides of things." (HP2)
>
> [172] "I **write in my notebook** about what I learned to **make sure I really understand it** and to **find ways to do even better**." (HP3)

The findings resonate with the studies by Pan et al. (2023) and Yang and Zhang (2023), revealing a correlation between students' conceptual understanding, feedback processing, and performance. Consistent with Pan et al.'s (2023) findings, HP students exhibited a proactive approach to seeking conceptual understanding from the outset, engaging in discussions, active class participation, and effective study strategies. This aligns with Yang and Zhang's (2023) exploration of skilled self-regulators undergoing a conceptualizing phase in revision, as reflected in HP students' refined analytical abilities and active implementation of knowledge in their written work. The result outcomes reinforce the existing literature, suggesting a clear connection between students' proficiency, feedback comprehension, and the development of conceptual understanding.

Using Self-Regulated Strategies

In the realm of self-regulated strategies, this section underscores the substantial transformations experienced by both LP and HP learners. LP learners experienced substantial transformations, transitioning from lacking self-regulated techniques to

implementing formalized methodologies to track progress and establish objectives. Having achieved a certain level of proficiency, HP students persistently improved and advanced their methods, demonstrating an adult and proactive stance towards self-regulation over the semester.

At the beginning of the semester, there are discernible distinctions between LP and HP students. The key disparity lies in the degree of self-reliance and proactive engagement in the learning process. Specifically, LP students lean towards external guidance. They heavily relied on the guidance of the teacher, expressing sentiments in [173] [174] [175] such as "**I depend a lot on the teacher**" (LP1), "**I usually just follow what the teacher tells me to do**" (LP2), and "**I always need the teacher to tell me what to do**" (LP3). These statements collectively highlight a dependence on external direction and a limited ability to self-initiate learning processes. On the other hand, HP students demonstrated an intrinsic ability to take charge of their learning journey. They exhibited a proactive and autonomous approach to their learning experiences. Statement in [176] supports this argument, such as "**I am good at deciding what I want to learn, keeping an eye on how I am doing, and finding ways to get better on my own**", underscoring a capacity for self-directed learning, goal-setting, and reflective practices. The following excerpts can back up the statement:

> [173] "I **depend a lot on the teacher** to tell me what to do." (LP1)
>
> [174] "I'm **not very good at taking charge of my own learning**. I usually just **follow what the teacher tells me to do**." (LP2)
>
> [175] "I always **need the teacher to tell me what to do**." (LP3)
>
> [176] "I am **good at deciding what I want to learn**, **keeping an eye on how I am doing**, and **finding ways to get better on my own**." (HP1)
>
> [177] "I always **check how I am doing**, **set goals**, and **think about my progress**." (HP2)
>
> [178] "I **think about what I'm good at and what I need to work on.**" (HP3)

Over one semester, the LP students demonstrated significant progress in applying self-regulated methods. LP1, which lacked effective self-regulation mechanisms at the outset, gradually developed the ability to assess progress, establish objectives, and integrate periodic self-reflection in order to measure progress. The progression is evident in statements such as [179], where LP1 mentioned "**making plans**", **"setting**

goals", and "**thinking about her writing regularly**". LP2 and LP3 echoed this statement in [180] and [181]. This demonstrates a newfound commitment to self-regulation, emphasizing a conscious effort to track progress and establish objectives. In contrast, HP students exhibited remarkable self-regulation. HP1, for instance, further developed her tactics through effective time management, goal-setting refinement, and the cultivation of robust self-reflection skills, all of which were built upon a solid foundation. As illustrated in [182], HP1 "**set clear goals**", "**regularly look at how I'm doing**", "**come up with plans to overcome the difficulties**, and "**always try to find new ways to improve**". With the refinement of goal-setting, the implementation of effective self-assessment, and the development of strategies to surmount obstacles, HP2, who had established a firm foundation, witnessed a progression in developing her strategies. HP3, which had previously adopted a substantial number of self-regulated tactics, further developed through the improvement of goal-setting, the incorporation of insightful self-evaluation, and the creation of techniques to sustain concentration and fortitude. The excerpts below can support the argument.

> [179] "I **make plans** to see how I am doing, **set goals**, and **think about my writing regularly** to get better." (LP1)
>
> [180] "I **decide what I want to achieve**, **make study plans**, and **often think about my writing** to see how I'm getting better." (LP2)
>
> [181] "I **regularly check** how I am doing, **set goals**, and **observe my progress** over time to improve." (LP3)
>
> [182] "I **set clear goals**, like what I want to achieve, and then I **regularly look at how I'm doing**. If I face any challenges, I **come up with plans to overcome them**, and I'm **always trying to find new ways to improve**. It's like a continuous process of making things better and learning from experiences." (HP1)
>
> [183] "I **make my goals more specific**, **regularly check how I'm doing**, and **figure out ways to stay focused**." (HP2)
>
> [184] "I **keep making things better**. I **get clearer about my goals**, **use my time well**, and **regularly think about how I'm doing**." (HP3)

The findings of the current study align with the nuanced observations of Han (2017), Zheng and Yu (2018), Afifi et al. (2023), and Yang and Zhang (2023), highlighting the distinctions in self-regulation among LP and HP students. This suggests a consistent pattern across multiple studies, emphasizing the significance of recognizing and understanding the varying levels of self-regulation exhibited by students with

different proficiency levels.

The exploration of developmental changes draws on three established theoretical frameworks: sociocultural theory, social cognitive theory, and complex dynamic systems theory. The results underscore the dynamic and interconnected nature of affective, behavioral, and cognitive engagement within these theoretical perspectives.

To begin, this investigation aligns with Vygotsky's sociocultural theory, particularly in the context of the zone of proximal development (ZPD) and scaffolding. The progression of affective engagement resonates with Vygotsky's emphasis on social interaction in cognitive development (Vygotsky, 1981). The observed behavioral engagement changes in both LP and HP students, encompassing evolving revision strategies and a commitment to academic improvement, align with the concept of scaffolding in sociocultural theory. Cognitive engagement, evident in the transition from rudimentary to systematic approaches and consistent improvement in self-regulation strategies, parallels Vygotsky's focus on the ZPD, with teacher feedback as a form of scaffolding (Vygotsky, 1978; Bitchener & Ferris, 2012).

Furthermore, the investigation resonates with social cognitive theory (Bandura, 1991). Transformations in affective engagement, such as the shift from initial anxiety to heightened confidence, align with Bandura's concept of self-efficacy developed through experiences (Wood & Bandura, 1989). Changes in behavioral engagement, including evolving revision strategies and a commitment to improvement, reflect Bandura's notions of self-regulation and intentional decision-making in learning (Bandura, 1991, 2001). Developments in cognitive engagement, such as the progression from rudimentary to systematic approaches, align with Bandura's emphasis on attention, retention, reproduction, and motivation in observational learning (Bandura, 1986).

Lastly, the investigation aligns with CDST principles, emphasizing the co-adaptation and interconnectedness of various systems (Fogal et al., 2020). The development in affective engagement is evident as both LP and HP students transition from initial anxiety to heightened confidence, reflecting the interconnectedness of affective and cognitive phenomena (Larsen-Freeman & Cameron, 2008). The increased appreciation for teacher feedback underscores the reciprocal influences within

systems, supporting CDST's view (Fogal et al., 2020). Behavioral engagement changes, such as evolving revision strategies, demonstrate the dynamic nature of learners' responses consistent with CDST's focus on evolving behaviors within systems.

In conclusion, the developmental changes in affective, behavioral, and cognitive engagement observed in this study highlight the integrated nature of sociocultural theory, social cognitive theory, and CDST in explaining students' engagement with WCF. The collaborative and social aspects emphasized by Vygotsky complement Bandura's focus on observational learning and self-regulation. The interplay between these frameworks provides a comprehensive understanding of the intricate processes involved in students' engagement with feedback, emphasizing the importance of both social and cognitive factors in language learning. The alignment of observed developmental changes with sociocultural and social cognitive theories suggests a synergistic relationship between social interaction, scaffolding, observational learning, and self-regulation. This study contributes to the existing literature by highlighting the interconnected nature of affective, behavioral, and cognitive engagement in the context of L2 writing development.

4.5 Summary of this Chapter

This chapter provides a comprehensive analysis of the dynamic between L2 learners, particularly those at the LP and HP proficiency levels, and the WCF of the teacher as it relates to L2 writing. The principal aims of this study were to assess the level of engagement exhibited by the participants and examine the discernible alterations in affective, behavioral, and cognitive domains that ensued from their contact with the teacher's WCF. The thematic analysis of student engagement offers a fundamental comprehension of students' diverse reactions and developmental trajectories in LP and HP cohorts.

The results presented in this chapter emphasize the interrelatedness of cognitive, behavioral, and affective engagement. Positive emotional engagement is crucial since it influences comprehensive cognitive and active behavioral engagement, especially in language proficiency development. As the text shifts to the following chapter, "Conclusion and Suggestions," these observations establish a framework for a

thoughtful discourse regarding the consequences of the research findings and serve as the basis for insightful recommendations that seek to improve second language writing instruction in accordance with students' levels of proficiency and level of engagement.

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CHAPTER V
CONCLUSION AND SUGGESTIONS

This chapter synthesizes the key findings of the present study, offering valuable insights into the affective, behavioral, and cognitive engagement of L2 students in response to teacher written corrective feedback (WCF) within the context of a private university in China. It also addresses the study's limitations while proposing suggestions for future research.

5.1 Conclusion

The study has yielded a nuanced understanding of the dynamic interplay between L2 students and teacher WCF, differentiating between lower proficiency (LP) and higher proficiency (HP) students. A thorough examination of affective, behavioral, and cognitive engagement over a semester sheds light on the intricate learning process and the nuanced interactions between students and feedback.

5.1.1 Student Engagement with Teacher WCF on L2 Writing (RQ1)

The analysis of student engagement with teacher WCF on L2 writing has unveiled distinct patterns across affective, behavioral, and cognitive dimensions, especially between LP and HP students. Both groups exhibited curiosity, as shown by their affective engagement; however, the HP students displayed a higher degree of positive motivation. The analysis of behavioral engagement in revision operations revealed that HP students demonstrated a more optimistic and self-driven approach than their LP counterparts. As evidenced by cognitive engagement in the form of learning strategies, HP students positively embraced corrections, but LP students were often more skeptical. These subtle distinctions emphasize the importance of individualized assistance in meeting the varied needs of students.

Notably, the present research emphasized that HP students placed importance on different modes of expression, whereas LP students prioritized personalized guidance and a mentorship-oriented relationship. It is critical for teachers to acknowledge the varying degrees of engagement among students since this requires them to offer supplementary assistance to LP students to cultivate self-assurance while building a setting that promotes autonomous learning for HP students. The study drew insights from sociocultural theory, social cognitive theory, and complex dynamic systems

theory, suggesting a comprehensive understanding of the multifaceted factors influencing student engagement in L2 writing.

5.1.2 Developmental Changes of Student Engagement with Teacher WCF (RQ2)

The investigation into the developmental changes of student engagement in L2 writing over one semester, mainly focusing on the influence of teacher WCF on LP and HP students, has revealed significant transformations across affective, behavioral, and cognitive domains.

Evidently, both LP and HP students exhibited distinctive attitudes toward the development of affective engagement. HP and LP students demonstrated a discernible change in their evaluation and interpretation of feedback, as seen by the transition from early apprehension to increased self-assurance. The progression from initial anxiety to heightened confidence was evident in both LP and HP students, indicating a positive evolution in their judgment and perception of feedback. Notably, each student exhibited a heightened recognition of the value attributed to the teacher's guidance, underscoring the tremendous effect that it can have. Regarding behavioral engagement, students in both the LP and HP groups demonstrated evolving strategies and dedication to improving their academic performance through changes in their revision operations. The HP students showed a more meticulous and conscientious approach, actively seeking supplementary resources, in contrast to the mixed responses exhibited by the LP students. Self-regulation strategies increased consistently across HP students, but cognitive engagement advanced from rudimentary to systematic approaches among LP students.

These developmental changes align with sociocultural, social cognitive, and complex dynamic systems theories; they demonstrated the interdependence of cognitive, behavioral, and affective engagement in the L2 writing process. The present results emphasize the critical role of teacher WCF in promoting comprehensive engagement and development among students with different levels of language proficiency. The study highlights the crucial influence that teachers can exert over students' cognitive, affective, and behavioral strategies in L2 writing.

5.2 Implications

The implications derived from this research are profound, emphasizing the need for tailored instructional strategies that accommodate the diverse engagement levels of students. To elaborate, recognizing the emotional journey students undergo is imperative. Fostering a positive learning environment can significantly enhance affective engagement. Pedagogical strategies should address emotional shifts, promoting a supportive atmosphere that facilitates confidence-building and positive responses to feedback. Incorporating varied revision strategies and encouraging a meticulous approach to feedback implementation is crucial to improve behavioral engagement. Tailoring instructional methods to address distinct engagement patterns between LP and HP students can contribute to developing effective revision practices. Facilitating the use of learning strategies, promoting conceptual understanding, and encouraging self-regulated learning are essential for fostering cognitive engagement. Meta-cognitive training in language courses can further assist students in developing reflective thinking skills and enhancing cognitive engagement.

5.2.1 Pedagogical implications

The findings of this study have significant pedagogical implications, particularly in the realm of scaffolding strategies to enhance student engagement. Recognizing the distinct patterns of affective, behavioral, and cognitive engagement between LP and HP students, educators can tailor their instructional approaches. For instance, fostering positive motivation and addressing skepticism among LP students may require additional support and encouragement. In contrast, HP students may benefit from more independent, self-driven activities to channel their curiosity positively. Therefore, scaffolding strategies need to be differentiated, acknowledging the diverse needs of students to foster a more inclusive and engaging learning environment.

Furthermore, the study suggests that students at different proficiency levels respond differently to WCF in L2 writing. Teachers can employ tailored scaffolding strategies to improve students' L2 writing skills. the study reveals the importance of considering individual differences in students' cognitive and emotional development when designing instructional strategies. By recognizing the diverse engagement patterns among LP and HP students, educators can tailor their pedagogical approaches to meet

the specific needs of each group. For LP students, providing additional support and encouragement to build confidence and address skepticism is crucial for fostering positive engagement with WCF. In contrast, HP students may benefit from more independent and challenging tasks that capitalize on their advanced linguistic skills and motivation. Therefore, educators should adopt a flexible and adaptive approach that acknowledges the unique characteristics and learning preferences of each student, ultimately promoting a more inclusive and effective learning environment.

5.2.2 Theoretical implications

The study's insights into the affective, behavioral, and cognitive dimensions of student engagement with teacher WCF shed light on social cognitive theory. The nuanced understanding of how HP students exhibit superior positive motivation and self-driven approaches while LP students may be more skeptical provides valuable insights. This understanding contributes to social cognitive theory by emphasizing the role of motivation, self-regulation, and social interactions in the language learning process. It prompts further exploration into the cognitive processes of integrating corrective feedback, offering a deeper comprehension of the social cognitive mechanisms at play in language acquisition.

Furthermore, the study aligns with complex dynamic systems theory, emphasizing the interconnectedness of affective, behavioral, and cognitive engagement in the L2 writing process. The developmental changes observed over the semester, including shifts in attitudes, revision operations, and learning strategies, highlight the dynamic nature of language learning. This underscores the need for a flexible and adaptive instructional approach that accommodates the evolving needs of students. The study contributes to the understanding of how language development occurs as a complex, dynamic system, providing a foundation for further exploration of the factors influencing the dynamic interplay in language acquisition.

The study also extends the implications of the ZPD theory by emphasizing the importance of tailored support and scaffolding in creating a better learning atmosphere and facilitating language acquisition. The findings suggest that personalized guidance for LP students and independent learning opportunities for HP students contribute to increased engagement and positive developmental changes. In

understanding the diverse engagement levels, teachers can apply appropriate scaffolding techniques to ensure students operate within their ZPD. This underscores the teacher's critical role in scaffolding students' acquisition of new input, mainly through feedback, to optimize language learning experiences and outcomes.

5.3 Limitations and Suggestions

Building on the acknowledged limitations of the study, alternative considerations and avenues for future research can contribute to a more comprehensive understanding of student engagement with teacher WCF in L2 writing.

Regarding participants and setting, the study's narrow focus on six female second-year English major students from a single private institution in southwestern China raises concerns about the generalizability of the findings. Further, the age variation among participants, despite their shared sophomore-level status, presents a noteworthy limitation in the study's generalizability and interpretation. As individuals at different stages of cognitive and emotional development, their responses to WCF may vary. This discrepancy in age could potentially influence their receptiveness to feedback, their level of cognitive processing, and their emotional reactions. Consequently, the findings and implications of the study should be interpreted with caution, considering the potential impact of age-related differences on student engagement dynamics. To enhance future research, it is recommended to expand participant diversity by including male students and individuals from various academic years, considering age as a variable in analyses to better understand its impact on student engagement with teacher written corrective feedback. Collaborating with multiple private institutions across different regions of China would also contribute to a more comprehensive understanding of potential contextual variations in student engagement with teacher WCF.

Regarding the research design, the exclusive reliance on a multiple-case study design might limit the depth of insights into factors influencing student engagement. Future studies could adopt a mixed-methods approach to address this limitation, combining qualitative methods like stimulated recall and interviews with quantitative measures such as surveys or observations. Additionally, conducting longitudinal studies would provide valuable insights into the dynamic nature of student engagement, capturing

how it evolves and fluctuates over an entire academic year.

In terms of research instruments, the study's dependence on retrospective measures like stimulated recall and interviews may introduce biases and memory distortions, potentially limiting the accuracy of insights into real-time student engagement. To overcome this limitation, it is suggested to integrate real-time measures such as classroom observations or instant feedback sessions. Utilizing technologies like eye-tracking or physiological measures can provide immediate and objective assessments of student engagement. Diversifying data sources, including peer or automated written corrective feedback, would also contribute to a more holistic understanding of student engagement, enhancing the validity and reliability of the study's conclusions.

By addressing these limitations and implementing the suggested strategies, future research can contribute to a more robust understanding of student engagement with teacher WCF in the context of L2 writing, ensuring broader applicability and nuanced insights.

5.4 Chapter Summary

In summary, understanding the multifaceted nature of student engagement with teacher WCF is essential for optimizing language learning outcomes. Tailoring instructional approaches based on identified affective, behavioral, and cognitive patterns can contribute to more effective language instruction, fostering a positive and growth-oriented learning environment.

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APPENDICES

พหูนํ ปณฺฑิโต ชีเว

Appendix A: IELTS Writing Test Task 2 on Jan 23rd, 2021 in China

Name: _____

WRITING TASK 2

You should spend about 40 minutes on this task.
Write about the following topic:

When you learn a foreign language, all four skills (listening, reading, speaking, and writing) are equally important. To what extent do you agree or disagree?

Give reasons for your answer and include any relevant examples from your own knowledge or experience.
Write at least 250 words.

Appendix B: The Stimulated Recall Questions Guide

(Adapted from Lira-Gonzales et al., 2021 and Pan et al., 2023)

1. How did you feel immediately after you received your first draft with teacher's feedback? (在收到带有老师反馈的第一稿后，你有什么感受？)
2. What does the teacher want you to do here? (老师在这里想让你做什么？)
3. What types of errors did you receive feedback on in this draft? (在你的这一稿中，你收到了哪些方面的反馈？)
4. What was your mistake here? (你在这里犯了什么错误？)
5. What does this code/circle/underline mean here? (这里的代码/圈圈/下划线代表什么意思？)
6. What did you do to correct this error? (你是如何纠正这个错误的？)
7. What were you thinking about when reading your teacher WCF? (当阅读老师的评语时，你在想些什么？)
8. What did you do with the errors in your first draft? (你对第一稿中的错误采取了什么措施？)
9. What were you thinking about when revising your first draft? (在修改你的第一稿时，你在想些什么？)
10. What do you think of your teacher's feedback on these errors in the first draft? (你对老师在第一稿中对这些错误的反馈有什么看法？)
11. How do you usually use your teacher's feedback on your errors to revise your drafts? (你通常如何利用老师对你错误的反馈来修改你的草稿？)
12. Why did you delete this error or this part identified by the teacher's feedback? (为什么你要删除老师反馈中指出的这个错误或这一部分？)
13. Why did you substitute this word or phrase? (为什么你要替换这个词或短语？)
14. Why did you add this word, phrase, or sentence here? (为什么你要在这里添加这个单词、短语或句子？)
15. Do you have any other comments on teacher feedback on errors, or reflections on this learning experience in general? (总体而言，你对老师的反馈或者对这次学习经历有什么想法？)

Appendix C: The Semi-Structured Interview Questions Guide
(Adapted from Cheng & Liu, 2022 and Pan et al., 2023)

1. Could you please share your experiences with English writing? (你能分享一下你在英语写作方面的经验吗？)
2. Do you think teacher WCF is important for your English writing? (你认为教师的书面反馈对你的英语写作重要吗？)
3. In general, what are your thoughts on teacher feedback in your writing? (总体而言，你对教师在你写作中的反馈有何看法？)
4. How do you usually incorporate teacher feedback on linguistic errors into your writing revisions? (你通常如何将教师关于语言错误的反馈融入到你的写作修改中？)
5. What is your approach upon receiving WCF from your teacher? (你收到教师的书面纠正反馈后的处理方式是什么？)
6. What did you think of the teacher's feedback in your essay? Was it helpful? (你对老师在你的文章中的反馈有何看法？是否有帮助？)
7. How did you use the feedback to revise your essay? (你如何利用反馈修改你的文章？)
8. What was your feeling to the teacher's feedback? Can you give any examples? (你对老师的反馈有什么感觉？能给出一些例子吗？)
9. How did you make revisions after receiving the teacher's feedback? Can you give any examples? (在收到老师的反馈后，你如何进行修改？能给出一些例子吗？)
10. To what extent do you understand the teacher's feedback on your errors? (你对老师关于你错误的反馈有多大程度上的理解？)
11. What strategies do you employ to revise your essays and enhance your English language proficiency? (你采用什么策略修改你的文章来提高你的英语水平？)
12. What goes through your mind when reading your teacher's feedback? (当你阅读教师反馈时，你会想到什么？)

13. Would you like your teacher to modify the way they provide feedback on errors? Why? (你喜欢老师给你的纠错反馈方式吗？为什么？)
14. Do you have any additional comments, suggestions, or reflections on teacher feedback, revisions, or English writing in general? (总体而言，你对老师的反馈和修改有什么建议或想法吗？)

พหูนํ ปณฺฑิโต ชีเว

Appendix D: The Consent Form

关于学生在第二语言写作课堂中如何参与教师书面纠正反馈参与度的知情同意书

我自愿参与蒋一琳老师的博士研究项目。该研究旨在收集关于学生在第二语言写作课堂中如何参与教师书面纠正反馈的信息。

1. 我自愿无偿参与此研究，并可随时退出。
2. 如果在面试过程中感到不适，我有权拒绝回答任何问题或提前结束面试。
3. 我同意参与并接受由研究者蒋一琳老师组织的至少15分钟的面试，面试将被录音，然后制作成文稿。
4. 研究者将使用化名以保护我在面试中的身份。
5. 我已阅读并理解同意书。我所有的问题都得到了解答，我自愿同意参与。

姓名：……

签名：……

日期：……

พหูนํ ปณฺฑิโต ชีเว

The Consent Form on Student Engagement with Teacher Written Corrective Feedback (WCF) in the Second Language (L2) Writing Classroom

I am volunteering for a PhD study led by Miss. Yilin Jiang. The aim of this study is to gather information on how students engage with teacher written corrective feedback (WCF) in a second language (L2) writing classroom.

1. I voluntarily participate in this research without compensation and may withdraw at any time.
2. If I feel uncomfortable during the interview process, I have the right to refuse to answer any questions or terminate the interview in advance.
3. I agree to participate and accept at least a 15-minute interview organized by the researcher, Miss. Yilin Jiang. The interview will be recorded and transcribed.
4. The researcher will use a pseudonym to protect my identity during the interview.
5. I have read and understood the consent form. All my questions have been answered, and I voluntarily agree to participate.

Name: .....

Signature: .....

Date: .....

พหูนํ ปณฺฑิโต ชีเว

MAHASARAKHAM UNIVERSITY ETHICS COMMITTEE FOR RESEARCH INVOLVING HUMAN SUBJECTS

Certificate of Approval

Approval number: 262-293/2023

Title : Investigating Student Engagement with Written Corrective Feedback on Second Language Writing: Insights from Chinese University Students.

Principal Investigator : Ms. Yilin Jiang
Responsible Department : Faculty of Humanities and Social sciences
Research site : -

Review Method : Expedited Review

Date of Manufacture : 24 July 2023 **expire :** 23 July 2024

This research application has been reviewed and approved by the Ethics Committee for Research Involving Human Subjects, Mahasarakham University, Thailand. Approval is dependent on local ethical approval having been received. Any subsequent changes to the consent form must be re-submitted to the Committee.

Ratree S.
.....
(Asst. Prof. Ratree Sawangjit)
Chairman

Approval is granted subject to the following conditions: (see back of this Certificate)

ปณฺ ฑิโต

All approved investigators must comply with the following conditions:

1. Strictly conduct the research as required by the protocol;
2. Use only the information sheet, consent form (and recruitment materials, if any), interview outlines and/or questionnaires bearing the Institutional Review Board's seal of approval ; and return one copy of such documents of the first subject recruited to the Institutional Review Board (IRB) for the record (if applicable);
3. Report to the Institutional Review Board any serious adverse event or any changes in the research activity within five working days;
4. Provide reports to the Institutional Review Board concerning the progress of the research upon the specified period of time or when requested;
5. If the study cannot be finished within the expire date of the approval certificate, the investigator is obliged to reapply for approval at least two month before the date of expiration.
6. All the above approved documents are expired on the same date of the previously approved protocol (Protocol Number.....)

* A list of the Institutional Review Board members (names and positions) present at the meeting of Institutional Review Board on the date of approval of this study has been attached (per requested). All approved documents will be forwarded to the principal investigator.

ปณ ศิโต

BIOGRAPHY

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