University of Southampton

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Languages, Cultures, and Linguistics

A Proposed Model of Automated, Peer, and Teacher (APT) Feedback and Its Impact on L2 Learners' Engagement and Writing Performance Changes Over Time

by

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Abstract

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Enhancing the quality of teacher feedback to students' work is a challenge in L2 writing contexts, especially in Asian educational settings. L2 teachers generally have numerous responsibilities and might not have sufficient time to give focused feedback on content. This, in turn, might prevent substantial progress in L2 writing. A novel approach has the potential to solve this particular issue by combining various sources of feedback. In this context, Automated Writing Evaluation (AWE) tools can ensure accuracy, while peer feedback can address various aspects of accuracy and content. This approach frees up teachers to concentrate more on the content and ideas. Such a model, which incorporates automated, peer, and teacher feedback (APT), not only enhances writing improvement at both the surface and meaning levels, but also increases the engagement of L2 learners. This is because it goes beyond traditional feedback techniques that stretch outside the conventional red-pen corrections, fostering a far more enriching and supportive learning environment.

By following a mixed-methods design utilising students' essay writing drafts, pre-test and post-test, observation notes, focus groups, reflective journals, and post-study questionnaire, the integrated data findings suggested the following. First, the APT has decreased the feedback items/errors the students produce in their essays over time. Moreover, they become able to make longer essays with fewer errors. In addition, the APT collaboration work on L2 students' essays was relatively successful. Although every source overlapped a little with the other at the beginning, over time, every source acted uniquely complementing the other and providing a comprehensive model for improving the L2 writing. This improvement would not be possible if the students were not engaged. Despite some influencing factors that affect certain students' engagement with the model, the findings showed that the use of three sources facilitated a positive behavioural, cognitive, and affective engagement gradually in the L2 writing context.

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Research Thesis: Declaration of Authorship

Print name: Seham Alsharif

Title of thesis: A Proposed Model of Automated, Peers, and Teacher (APT) Feedback and Its Impact on L2 Learners' Engagement and Writing Performance Changes Over time

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. None of this work has been published before

Signature: Seham Alsharif Date: December 2024

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Chapter 1 The Introduction

This research examined the use of three sources of feedback; the automated, peer, and teacher, and how they could change the L2 learners' engagement and their L2 writing performance over time. To explain and explore the phenomena, this study followed a quasi-experimental design with one group only at a Saudi Arabian university with no control group involved.

Before I began this project, I have noticed a gap after a thorough exploration and discussion of relevant academic literature (see Chapter 2), which in turn inspired me to select this research topic. Not only that, but also, I became interested to look for ways to improve L2 learners' engagement and writing performance after witnessing difficulty and weakness at the Saudi L2 learners' writing during my five-years teaching experience. Thus, the population of this research study is where I have noticed this weakness and difficulty and it is the context where I am expert of and hence, I could contribute to, at one of the Saudi Arabian Universities. Per se, exploring different sources of feedback helped to understand the learners and their learning needs. In the following sections, the problem and significance, aims and objectives, and the questions of this research study are presented.

1.1 Research Problem and Significance

Feedback, as "the most powerful single influence on achievement" (Carless & Boud, 2018, p. 1315), has been long regarded as an important learning process. So, to make the most of it on learning, investigating how L2 learners can engage with the process has recently interested a growing body of literature, especially in higher education (e.g., Han & Hyland, 2015; Handley, et al., 2011; Winstone et al., 2017; Zhang, 2020). The term "engagement" is viewed as a multi-dimensional construct influenced by both contextual and individual factors (Ellis, 2010; Fredricks et al., 2004). Thus, based on the research of learner engagement with L2 writing feedback, previous studies have proved its "multifaceted, contextualized, and individual-based nature" (Han & Gao, 2021, p. 56). This is because engaging with L2 feedback can be of a significant effect on learners' cognitive, behaviour, and emotional development which, hence, can highly influence their L2 writing performance.

The influence on L2 writing performance in this context does not imply a change in grammar only, which is called surface-level aspect, as this does not lead to the desired improvement. However, meaning-level aspects are also important for L2 writing feedback to enable an improvement. Zamel (1983) observed that immersion in an investigative discussion and intensive feedback concerning overall meaning and ideas are recommended during the composing process. Therefore, a widely accepted definition of writing performance covers surface-level areas and meaning-level areas. The

former means the areas that do not change the meaning of the text. It is instead related to grammar and mechanical areas. The grammar areas are related to tense, subject-verb agreement, single and plural forms, the third-person singular, lexical use, etc., while the mechanical areas involve capitalisation, academic writing conventions, punctuation marks, spellings, etc. (Shi, 2021; Tian & Zhou, 2020). The latter, on the other hand, involves a change in the text that alters its meaning. In this sense, it is related to ideas, content, coherence, cohesion, and organisation of the text (Shi, 2021; Tian & Zhou, 2020).

One of the most challenging problems to reach the desired improvement in L2 writing is the sole responsibility positioned on the teacher alone. In Asian educational settings, the learners usually envisage the teacher's role as the main authority. In this sense, some researchers advocate the role of teacher feedback as the only and key element for students' improvement in L2 writing context (e.g., Ellis, 2009; Ferris, 2006; Hyland & Hyland, 2006). As a result, teachers consistently provide feedback to address as many errors in the students' written work as possible (Ferris & Roberts, 2001; Russell & Spada, 2006; Santa, 2006). This led to numerous deficiencies in the feedback provided, as the teacher has to exert excessive effort while correcting. In other words, the teacher ends up with limited feedback on writing addressing either surface-level or meaning-level errors. Hence, a key area of concern in literature is on how to provide feedback during the writing process to ensure a successful outcome. Zhang and Hyland (2022) mention that feedback is successful when it 'feeds forward' not only for the revision's sake of the current text but also for the future L2 writing performance. Thus, the question of whether the teacher alone can provide such effective feedback for the future performance is still uncertain.

Subsequently, researchers began to explore various sources of feedback with the goal of enhancing the learning experience in the L2 writing classrooms by incorporating either teacher feedback alone, automated feedback alone, or peer feedback alone. Thus, a subset of researchers has adopted distinct approaches from the others. In doing so, Table 1 indicates that the first approach accounted for the use of the automated writing feedback, while the second and third approaches concentrated on the use of peer feedback and teacher feedback respectively in L2 writing contexts.

Table 1 The Use of Single Feedback Source Across Literature in L2 Feedback Writing Field.

Feedback Sources	Literature
Automated Writing Evaluation Feedback	Wang et al. (2013)
	Li et al. (2015)
	Liao (2016)
	Hu (2017)
	Zhang (2020)
	Ranalli (2021)
Peer feedback	Lai (2010)
	Shokrpour et al. (2013)
	Hanjani & Li (2014)
	Wang (2014)
	McConlogue (2015)
	Irwin (2017)
	Zhu & Carless (2018)
	Kusumaningrum et al. (2019)
	Fan & Xu (2020)
	Chen (2021)
Teacher feedback	Diab (2005)
	Yang et al. (2006)
	Amrhein & Nassaji (2010)
	Boud & Molloy (2013)
	Marzban & Arabahmadi (2013)
	Dikli & Bleyle (2014)
	Han & Hyland (2015)
	Zheng & Yu (2018)

While these researchers have provided insightful perceptions into the nature of feedback, their studies have primarily focused on the single use of feedback source whether aiming to foster student engagement or student writing performance. From this point on, more researchers investigate combining two feedback sources, such as automated feedback with teacher feedback (e.g., Bai & Wang, 2018; Zhang & Hyland, 2018) or teacher feedback with peer feedback (e.g., Dressler et al., 2019), with the goal of exploring how these feedback sources can play different roles on different aspects of L2 writing. For instance, automated feedback effectively found to address surface-level

errors like grammar, spelling, and vocabulary use, freeing up the teacher's energy and time to concentrate on meaning-level errors like sentence structure, organisation, sentence flow, and coherence (Wilson & Czik, 2016). Furthermore, peer feedback was found to play a crucial role in revealing the success or failure of the automated feedback and could improve learners' writing by providing knowledge, advice, mutual support, and exchanging meanings and ideas with each other (Shokrpour et al., 2013). In addition, teacher feedback was the best in providing in-depth feedback on meaning-level and higher levels of thinking skills (Zhu & Carless, 2018). However, while the roles of different feedback sources should be carefully considered, the approach of combining only two sources did not resolve the issue of providing comprehensive feedback on the essential aspects of L2 writing mentioned earlier, which this study aimed to address.

Therefore, due to the significance of each source's role in the L2 writing classroom, researchers have recently shown interest in combining the three sources, namely the AWE, peer, and teacher (APT) feedback — a topic that is still relatively scarce (e.g., Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022). Yet, those researchers have solely focused on the APT impact on the learners' engagement, ignoring its wider influence on their L2 writing performance. In this context, it is important to understand that the improvement in L2 writing is not solely a result of the collaboration of various feedback sources, but a result of engaging with it as well. Consequently, previous studies that combined the three sources confirmed its advisability (Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022) and, hence, called for further research to investigate the L2 writing performance, an area not explored within this scope (Tian & Zhou, 2020).

Indeed, during my teaching experience, I noticed that the learners' engagement was key to their language proficiency improvement. For instance, the more attentive (engaged) the learners are, the more they gain a better outcome, compared to their peers in the classroom. In addition, I observe that the more the learners are active and engaged with the feedback, the greater is the awareness they develop in avoiding errors later, resulting in a gradual improvement in performance throughout the semester. Further, how they receive the feedback also matters for their engagement and improvement. In this sense, I have observed that whenever I integrate the automated writing feedback with their writing tasks, the writing class becomes more energetic, interactive, and self-motivated to discuss and compare their writing with peers.

In light of this perspective, I decided to focus my research on how the collaboration of automated, peer, and teacher feedback (APT) could change learners' engagement and writing performance over time. As an outcome of exploring the relative literature, this focus is of great importance because, till now, the literature on the nature of the three sources of feedback vis-à-vis writing performance improvement, along with the learners' engagement, has been very limited. Examining the effectiveness of L2 writing feedback should give equal importance to these three components,

which, in turn, has the potential to make this study an original contribution to the body of knowledge in this field (See Chapter 2).

1.2 Research Aims and Objectives

After identifying the research problem and its significance, the aims and objectives were set for a large group of L2 university-level learners within a Saudi Arabian university. In light of this model, an inclusive understanding of how learners engage and improve their writing could assist researchers and teachers alike in similar and different contexts. In other words, this research could inform theoretical and practical contributions to the field of L2 writing feedback. Therefore, the aims of this study are as follows:

First, this research aims to investigate the collaboration role of the APT feedback as one model on L2 learners' written work. Second, it aims to investigate the impact of the model on the students' writing performance change. Third, it aims to investigate the same on the students' engagement over time. Accordingly, this research attempts to achieve three objectives. First, it explores and explain the nature of the APT collaboration in terms of what is the role that every source can take with the others to provide the students with comprehensive feedback on their written works, whether the feedback items offered by each source overlap or complement the other sources. Second, it explains and explore how the APT helps change the students' L2 writing through three phases: after each APT step, after each task, and before and after the intervention as a whole. Third, it explores and explains how the students cognitively, behaviourally, and affectively could engage with the model and whether individual and contextual factors influence their engagement. Through these objectives, this proposed model could answer the research three main questions.

1.3 Research Questions

Throughout my previous teaching experience, the research problems and significance, and the research aims and objectives, I assume that the proposed model could have the potential to enhance the learners' engagement cognitively, behaviourally, and affectively, and then enhance their writing performance in a recursive process of writing along with different steps of feedback therein. To test these assumptions, the APT will be explored through the following specific questions:

1. *How does the APT model impact L2 learners' writing performance over time?*
This question focuses on how APT contributes to reducing weaknesses in students' written work over time. This way, it aims to explore and justify whether APT improves their writing performance across different tasks by reducing their errors count/feedback items or not.

2. How does the feedback provided by APT sources complement or duplicate each other?
This question focuses on the collaboration nature of the APT sources. It helps to explore the role of each source, the specific feedback provided by each source, and whether the feedback given by each one is unique and complementary to one another, or if there is overlap in the feedback provision.

3. *How does the APT model impact L2 learners' engagement cognitively, behaviourally, and affectively over time? What are the contextual and individual factors that affect their engagement?*
This question helps to explain how students were engaged cognitively, behaviourally, and affectively throughout their writing process, both inside and outside the classroom. It also provides an explanation of the individual and contextual factors that influenced their engagement or disengagement with the model.

Thus, this research's quasi-experimental design seems to suit the mixed-methods approach, following the perspective of pragmatism in order to effectively answer the research questions (See 3.1 and 3.1.1). In light of this, this research employs a combination of quantitative and qualitative data instruments such as the pre-test and post-test, focus groups, observation, reflective journals, and a questionnaire (See Chapter 3).

1.4 Thesis Structure

The thesis is organised into six chapters as follows:

Chapter 2 presents the theoretical framework for L2 writing theories that underpin this research. It is followed by a literature review that supports the current research study wherein the approaches to teaching L2 writing, theories of L2 feedback, and L2 engagement are outlined. The chapter then clearly states the study's position, explaining how I consolidate the gaps that influenced it.

Chapter 3 examines the research framework, including its epistemology, theoretical perspectives, and methodology approaches. It then introduces the mixed-methods research design and discusses the research context and participants. Next, it delves into the data collection instruments, providing an in-depth exploration of each one, including its application and justification for selection. The chapter continues by explaining the data collection and data analysis processes. After that, it concludes with three sections that involve a presentation of my personal perspective as a researcher and teacher, representing a significant milestone in my professional journey, followed by the reliability and validity, and finally, the ethical consideration sections.

Chapter 4 presents the data findings in a comprehensive manner. In this chapter, I have organized the results according to the aims of this research, as well as the triangulation of the results. In this vein, the chapter is divided into three main sections: First, it shows the changes in learners' writing

performance over time. Next, it outlines the roles of each APT source and demonstrates their individual and collaborative work processes. Finally, the findings present the dynamic nature of the learners' engagement in terms of their behavioural, cognitive, and affective aspects over time.

Chapter 5 provides an in-depth discussion of the findings, which are explained in relation to the theories and previous studies covered in Chapter 2. In this chapter, I took the perspective that engagement represents the transitional phases from the current to potential level, with APT sources serving as scaffolds bridging the gap between these two zones. Accordingly, I discussed the findings on the APT roles individually and jointly within the broader and specific scopes of the study. Then, I discussed the findings on the dynamic nature of the L2 learners' engagement, along with relevant theories and studies. Finally, in relation to the presented theories and studies, I discussed the L2 writing change's findings.

Chapter 6 concludes the entire thesis wherein it begins with a summary of the key findings, considering their significance to both research and practice. Following that, the contributions of this study are indicated within the existing literature to highlight its uniqueness and strengths. The final section of this chapter presents the limitations and recommendations in methodological and pedagogical subsections. This facilitates a discussion about reducing and mitigating the limitations of this study, taking into account the suggestions and implications provided for researchers and teachers.

Chapter 2 The Literature Review

This chapter presents the theoretical grounds and the scope of the study, involving the theories related to L2 writing, teaching approaches for L2 writing, engagement with L2 writing, and L2 feedback. Engagement and feedback theories particularly highlight the gaps found in the literature. At the end of this section, I position the present study scope within the field, establishing its relevance and contribution to it.

2.1 An Investigation into Writing Theories

The cognitive process theory and the sociocultural theory are presented in this section with an emphasis on definitions, constructs, and limitations which at the end of this section will lead to combining them aiming to achieve this research aims.

2.1.1 Understanding How We Write: The Process Cognitive Theory (PCT)

Investigating the relationship between thinking and writing production to make meaning through the cognitive process and their complex relationship in learning writing was an inspiration for researchers for decades. One of the first composition theories used to clarify this relationship is the cognitive process theory of Flower and Hayes (1981). This theory emerged in response to the need for explaining the mental activities of the writer producing writing instead of theories considering only the growth of the written product itself in learning writing. Flower and Hayes (1981) “introduce a theory of cognitive process involved in composing to lay the groundwork for more detailed study of thinking processes in writing” (p. 366). They described it as "a set of distinctive thinking processes which writers orchestrate or organize during the act of composing, and these processes have a hierarchical, highly embedded organization" (Flower & Hayes, 1981, p. 366). In this sense, the cognitive process behaviour that the individual writers perform is key to learning L2 writing which could then mirror their L2 writing improvement.

This was not limited to Flower and Hayes (1981), but Swain (1985) also proposed that learners’ exertions to produce meaningful output in writing composition might prompt them to use cognitive processes integral to their L2 learning. Similarly, Cumming (1998) stated that learning writing is “the acts of thinking, composing, and encoding language into such text” (p. 61). More recently, Rahmat (2020) asserted that researchers perceive the writing process as a problem-solving task. In other words, writers are likely to use their existing knowledge to gather relevant content for their writings and to enhance their skills in information analysis and synthesis (Rahmat, 2020). Likewise, Hodge

(2017) mentioned that the cognitive process theory supports the idea of writing being a method for writers to think through ideas, where the focus is more on ideas and thinking abilities than text.

From these perspectives, the writing acts that every individual performs are not text-oriented accuracy, but an opportunity to introduce the writer's thoughts and representation through a well-composed task. So, it asserts the association between the language production and meaning-making relationship which makes this theory acknowledged widely in L2 composition research. This association in return enables writers to appreciate their writing and ideas (Troia et al., 2013) before they think of texts alone. In light of that, the theory of cognitive process asserts that there are four key constructs for composition– distinctive thinking processes, a higher-order system of organisation, and composing being goal-oriented so that the writer has a set of macro and micro goals (Flower & Hayes, 1981).

2.1.1.1 Elements of Writing: Exploring Process Cognitive Theory Constructs

The distinctive thinking activities construct could inform and guide research in the field of L2 writing to understand the value of creativity and understanding in the writer's mind. To elaborate, Flower and Hayes (1981) mentioned that the cognitive process theory represents the withdrawal of the linear nature of writing traditional completing stages into the notion of a set of unique thinking processes. In other words, the stages that the writer moves within are not separated from each other but work together through the whole process of composition. For instance, when writers plan to generate ideas before their writing, their ideas do not remain fixed; Zabihi (2018) asserted that in order to write in L2, learners are in need to arrange and rearrange their ideas while writing a specific task. In other words, these ideas would be rethought or changed through writing or even reviewing stages. Likewise, the reviewing stage does not stand alone and is an opportunity for writers to check the way of delivering their ideas as per their intention and goal, enabling the addition or deletion of some ideas for the flow of their writing. It is therefore a process of problem-solving as a response to the task, and the writer builds the solution through composition, instead of finding it (Flower & Hayes, 1981). Hence, the process of composition is not performed through unique stages that occur once in a rigid order, but through stages that the writer goes through back and forth more than once. Emig (1971) terms these composition processes as "recursive" in a way that mental activities interact together towards a goal. Likewise, Hyland (2019) advocates the view that writing does not always proceed in a neat and linear fashion, but rather is a process of recursive planning, drafting, revising, and editing, where learners create their meanings interactively and simultaneously through these processes. This comprehensive could alter the misconception that novice learners hold, particularly in Arabic contexts, about L2 writing which entails that L2 writing is mainly a product-oriented task.

The cognitive process is also a hierarchal organisation system (Flower & Hayes, 1981). In this sense, they (1981) declared that writing is an activity that involves all levels of thinking, in terms of local

planning or global planning related to local pieces of text or the whole composition in general. Zabihi (2018) explained this as an act that learners perform in a writing task, where they typically have time to plan and reflect on various issues prior to the actual writing task. More specifically, through some planning processes, the writers construct ideas they intend to convey in the real task (Zabihi, 2018). For instance, this theory claims that the writer has pre-knowledge or ideas about the topic, audience, and writing plan, retrieved from the long-term memory. Although these ideas are retrieved from the writer's long memory, they are subject to be changed and new ones could be added. In other words, the writer planning the composition is a high order system, where it is assumed that embedding is key to the local plan, the sentences in particular, or global plan, for the whole text in general, to fulfil the writing goals. The purpose of writing indeed inspires planning for both global and local aspects of text production (Perl, 1979). In this sense, the hierarchal order system of organisation in the composition process is the vehicle that carries the writer to the goal through the high-level thinking system. These goals established by writers during composition are found to be closely linked to the quality of writing (Kantz, 1989).

Moreover, research suggests a close relationship between the goals set by writers during composition and the resulting quality of their work (Kantz, 1989). In this vein, the writers' goals during composition are set as sub-goals and general goals. These goals are established to lead the writers to meaningful writing and a representation of their thoughts and intentions. In other words, the writers might set sub-goals formed as a network of working with composing sentences and pieces of the text. Moreover, it is a network of working that represents the whole writing as one piece in the general goal. In this sense, the writer may seek "going back to the sense of one's meaning to go forward and discover more of what one has to say" (Perl, 1979, p. 331) through their work and rethink ideas and texts directed by their goals. Thus, composing itself is a goal-oriented act. This orientation can be a process goal or content goal during composition. In light of this, while writers compose their work, they give themselves some process instructions such as "I will come to that later" or "I should write this here". Content goals are things the writer wants to say to the readers in the text, such as "let me put this idea here and move this there" or "this should be explained more" (Flower & Hayes, 1981, p. 372). Therefore, setting these goals is crucial and without considering them, the writer cannot fulfil the meaning of writing and there would be no flow of the writing pieces. This way, the writers deliver not an abstract and meaningless text to the reader, but a representation of meaningful and coherent content of their ideas.

However, an issue might arise: if experts could compose well in light of these four constructs individually, how could inexperienced writers compose at the same level to develop from inexperienced to skilled writers? This could bring a potential limitation to the surface and hence require further investigation.

2.1.1.2 Exploring Limits in Process Cognitive Theories in L2 Writing Processes

The cognitive process theory suggests effective perceptions for examining the impact of writing interventions on learners' knowledge and writing proficiency. However, relying only on this theory may not be helpful in providing equal opportunities for both lower- and higher-level writers in the same class. This doubt stems from the cognitive process theory's primary focus on the individual act, as opposed to the interactive act, which takes into account the varying levels of writers in the classroom. Writing in an additional language in nature is one of the most challenging tasks for L2 users, and it is a complex process that necessitates the skilful use of a variety of cognitive processes and resources, as well as problem solving (Kormos, 2023). Sevgi (2016), in his study, confirmed that Flower and Hayes' (1981) cognitive process model did not consider the difference between the novice and the skilled writers.

In more detail, the process cognitive theory (Flower & Hayes, 1981) is considered one of the early first language L1 writing models, which is particularly relevant for the analysis of writing processes describing L1 only (Kormos, 2023). In their framework, Flower and Hayes (1981) proposed that when L1 writers plan their text, they retrieve relevant information from their long-term memory and use information from the task environment to establish writing goals and design a writing plan. L1 writers evaluate their texts by determining the extent to which they have met their writing goals, recognized language- and content-related issues, and implemented stylistic adjustments to improve the overall quality of their work (Kormos, 2023). However, writers at a lower level of writing proficiency might require guidance and communication from those at a higher level of writing to be able to effectively retrieve their working memories, incorporate their knowledge into their writing, identify which ideas require revision, and know what weaknesses they may have to deliver their meaning effectively. This is particularly crucial and problematic if the novice writers are writing in a different language than their mother tongue. Indeed, Kormos (2012) contended that "individuals with varying cognitive abilities can expect to execute and orchestrate these processes with varying degrees of efficiency and differ in how they learn to write in another language" (p. 390).

Kormos (2012) examined the influence of individual differences on various cognitive processes involved in L2 students gaining new knowledge through writing. Cognitive processes encompass the acts of knowledge construction, L2-related problem solving, and the integration of L2 knowledge via writing. In other words, Kormos (2023) illustrated that L2 writers with lower working memory and writing proficiency levels may face multiple disadvantages, as they may not possess the necessary L1 foundational skills and may possess fewer L2 skills and knowledge to effectively express their ideas in L2 writing (e.g., Kim et al., 2021; Peng et al., 2021). Kormos (2012) clarified that the stages of writing where high-skill learners could potentially excel are mostly the translation and reviewing phases, rather than the content generation and organisational decision-making stages. In this sense, L2

learners with high L2 writing competency will translate ideas in a more efficient way than writers with lower levels (Kormos, 2012).

To discuss this issue in more depth within L2 writing frameworks, Kormos (2012; 2023) referred to Kellogg's (1996) process model describing writing in L2, which serves as the foundation for studies examining the role of working memory in L2 writing and provides a detailed account of how working memory and language levels indeed influence various stages of writing. This is due to the significant role that working memory plays in cognitive processes like comprehension, reasoning, and learning within the L2 context (Kormos, 2012). Kellogg's (1996) model assumes that writing involves four interactive and recursive processes: planning, translating, execution, and monitoring. The translation process includes the conceptual planning of the text and the linguistics of that plan, involving lexical retrieval, syntactic structures, and the expression of cohesive links. The execution phase encompasses the physical actions, whether handwriting or typing, that convert the linguistic plan into written form. Revision and editing, which comprise monitoring, ensure that the composed text aligns with the writer's plans and goals. In this regard, it could be questionable how L2 writers with very low proficiency in L2 writing can identify that the text aligns with their goals and intents. This is since that L2 writers, to fulfil the cognitive needs of L2 writing, rely on their working memory and writing proficiency to access knowledge and experiences from long-term memory, and concurrently process information relevant to the L2 writing activity (Li et al., 2024).

Having said that, L1 writing models, especially those of Hayes and Flower (1981), have influenced L2 writing research. That is, these models view writing as a tool for problem-solving, suggesting that writing in a second language (L2) employs comparable mental processes and knowledge-based resources to writing in a first language (L1). Indeed, Roca de Larios et al. (2016) found that L2 writers engage in cyclically recursive phases of planning, translating, reviewing, and monitoring their output, similar to L1 writers. However, the former question still remains: "How can low-level writers enhance their writing skills to transition from novice to skilled writers, given that skilled writers may already excel at L2 writing independently?" When writers use a second or first language, their thinking processes may be slower and need more focus and they may struggle with language skills and word retrieval, leading to more mistakes and breakdowns (Roca de Larios et al., 2016; Kormos, 2023).

Empirical research has demonstrated that, in essence, translating ideas into linguistic form in L2 writing takes longer than in L1 writing (Manchón & Roca de Larios, 2008). In a similar vein, Graham (2018) indicated that the composition skills involve cognitive processes writers must master to deliver ideas at a satisfactory level on paper. Therefore, we should not prevent L2 writers at all levels from utilizing the opportunity toward their cognitive growth and knowledge-building in L2 writing contexts. Manchón (2011) and Williams (2012) indicated that L2 writing may be advantageous to second language development because it helps learners notice and internalize new linguistic

knowledge, provide output opportunities, and thereby promote knowledge consolidation. In this sense, Manchón and Roca de Larios (2011) demonstrated that L2 learners' goal-setting behaviour with regard to the writing task, the aspects of the writing task they attend to, and the depth of problem-solving behaviour they engage in influence the potential benefits of L2 writing learning. In other words, when learners learn writing, they have already developed literacy skills in their L1 and need to acquire the necessary L2 linguistic knowledge that complements their existing L1 knowledge (Manchón & Roca de Larios, 2011) which may require interaction. Related skills to L2 writing such as working memory and the ability to learn a second language are the most important cognitive skills that determine different outcomes and affect L2 processing and development (Kormos, 2023). These skills significantly influence L2 writing processes and the quality of written output (Kormos, 2012).

Therefore, this may only occur if L2 writers are positioned in an appropriate and suitable learning environment. As a result, it is crucial to explore how L2 writing pedagogy can accommodate students with diverse cognitive abilities, enabling those who may face disadvantage due to their limited language proficiency to achieve the necessary level of L2 writing proficiency on par with their peers. Zamel (1983) found that the cognitive process offers writers the awareness of the recursive nature of writing and the ability to assess their writing in terms of discovering and reformulating ideas that helps them keep track of their composition. However, in Zamel's findings, the L2 writers had advanced level English writing; thus, the possibility of facilitating these cognitive processes for them through composition did not exist and the issue remains unresolved. Despite the influence of the cognitive process view, Hodge (2017) limited its influence on L2 writing, as it concerns one individual's thinking acts alone. It neglects the social influences in terms of the assistance and support to the novice writers, which cannot be neglected and can reduce the negative effect of the cognitive process approach.

Hence, one of the recommendations of Graham (2018) for resolving the limitations of cognitive processes is to create an environment where L2 writers' cognitive process at all levels can flourish. He (2018) elaborated that this environment is where skilled writers are to scaffold or support novice writers in multiple ways. For instance, the cognitive process view alone was found frustrating to novice writers, when they find themselves overwhelmed and have difficulty in changing or adding ideas and linking them to the previous ideas in coherent sentences, due to the high-level cognitive demands required. This makes them leave many things unfinished or ignore solving the problem (Flower & Hayes, 1981). Thus, their mental processes need to be mediated by strategies and social support which could be provided by members in the same settings. As the writing activity in the cognitive process view calls for meaningful writing that reflects the understanding of the audience, purposes, and own goals (Hodge, 2017), the members of the settings that the novice derives support from could themselves represent the audience. Manchón (2011) aimed to deepen our understanding of L2 writing theories. She (2011) delved into two primary dimensions of L2 writing research: firstly,

the process by which second or foreign language users learn to express themselves in writing, referred to as "the learning-to-write" dimension, and secondly, the engagement of L2 users with tasks and activities that foster growth in domains beyond writing itself, referred to as "the writing-to-learn", “writing-to-learn content”, or “writing-to-learn knowledge” dimension. Hyland (2011) delved into the theories surrounding the learn-to-write dimension, which is more relevant to the current study, positing that learners acquire writing through its multifaceted nature, central to their personal and social identities. In this regard, Hyland (2011) emphasized the importance of more knowledgeable roles in facilitating the process of L2 writing. This process may involve teachers' assistance, group discussions, and peer responses, all of which can guide writers in defining problems, framing solutions, shaping the text, and discovering their own meanings. Processing L2 writing involves a complex combination of elements, of which the cognitive process is just one. Leaving students alone to shape and form their meaningful texts may not necessarily provide them with a clear guideline. He (2011) indicated that learning-to-write is a modern conception that sees writing as a social, an interactional, and a purposeful practice. According to this view that involves readers, texts, and writers themselves in the L2 writing processes, learn-to-write concepts considers that the novice L2 writers can collaboratively understand the audience's perception, which could improve their mental activities toward the written composition before making the written production.

As a result, there is a need for resorting to the sociocultural theory to understand how the cognitive processes of all L2 writers can progress in a social and interactive environment. Hodges (2017) mentioned that the cognitive process theory explains what occurs in the writer’s mind during the process of writing but overlooks the external forces such as social influences. Both common sense and research tell us that writing is “a complex social participatory performance” (Bazerman, 2016, p.18). Writers are social beings and tend not to be isolated from the social context to find new ways of thinking behaviour about themselves. Hence, Davidson (2010) and Graham (2018) recommended the integration of the sociocultural and cognitive process theories for its possibility and desirability in educational practice to balance the learning opportunities for all learners. Through this lens, the sociocultural theory can complement the half-cycle for understanding the complex nature of learning writing, as it encompasses another ignored aspect in the cognitive process theory, viz., the environment that affects the cognitive processes.

2.1.2 Writing in Society: The Sociocultural Perspective (SCT)

The sociocultural theory was proposed by Vygotsky in 1978, and developed by his followers (Lantolf, 2000; Swain et al., 2015) to be employed in the development of adults in L2 settings. The primary averment of this approach is that cognitive development does not occur for individual learners unless initiated by social contact in a social activity. Vygotsky's sociocultural theory (SCT) emphasized the

need for significant human interaction in learning, especially in second-language learning environments (Alkhudiry, 2022). In this sense, Vygotsky (1981) posited that cognitive development arises on two planes: the inner psychological plane (the social plane) first, then on the intra-psychological plane (the individual plane):

> Any function in the child's cultural development appears twice, or in two planes: first, it appears on the social plane, and then on the psychological plane; first it appears between people as an inter-psychological category, and then within the child as an intra-psychological category. This is equally true for voluntary attention and the formation of concepts and the development of volition (Vygotsky, 1981, p. 163).

In other words, understanding the individual's mental processes for the task and goals of the writing during the process would not be provoked and retrieved by itself; some tools and activities should mediate these cognitive processes within a social relationship level first. That is, Implementing the sociocultural theory in practice is an effective approach to creating a comprehensive framework that enhances L2 learners' engagement in various collaborative learning activities for learning a language (Alkhudiry, 2022).

As the sociocultural theory argues that mental activity is a *mediated* process, *mediation* is considered its central notion (Lantolf, 2000; Lantolf & Thorne, 2007; Ratner, 2002). Kozulin (2018) clarified that higher mental processes develop from an external stage to an internal stage through *mediation*. In this social relationship, the interactions tend to occur between different agents, such as peer feedback among learners (Hu & Lam, 2010), teacher feedback between teacher and learners (Benson & DeKeyser, 2019), and even automated feedback between learners and automated evaluation programs (Stevenson & Phakiti, 2014). The individuals here are agents who could use the feedback from sources: automated, peers, or teachers in interactive sociocultural contexts as mediators (Han & Hyland, 2015), to improve their cognitive process acts while composing. For instance, the writer's long-term memory knowledge in PCT could not be retrieved by itself, and interacting with the mediators could help gain new ideas and prompt rethinking of current ideas which bring new knowledge. The writer alone could not gain this knowledge, which would take a long time and lead to frustration unless mediation occurs to enable understanding and fulfilment of the task.

2.1.2.1 Cultural Foundations of Writing: Sociocultural Constructs

As discussed earlier, In the sociocultural theory, the process of the new knowledge establishment in social settings could help the learners' mental process improvement towards L2 writing and could enable cognitive improvement on the social level before the individual level. This process of learning writing occurs within two main constructs of the sociocultural theory which are the Zone of Proximal Development (ZPD) and Scaffolding.

2.1.2.1.1 Navigating the Learning Threshold: ZPD

The Zone of Proximal Development (ZPD) helps to perceive how learners process their learning and it attracts enormous attention in L2 learning research recently (e.g., Alshahrani, 2020; Baker et al., 2020; Irshad et al., 2021). According to Vygotsky (1978), it is the distance between a child's low point and a high point of development. He puts it as, “the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in cooperation with more capable peers” (p. 86).

In the L2 learning environment, it is often referred to as “the gap between the learner’s current stage and the next point on some development scale the learner is capable of reaching” (Cook, 2013, p. 27). In other words, in the L2 writing classroom, when the novice writer cooperates with more knowledgeable others, they could gain more ideas and more knowledge due to the ongoing discussion and interaction in the process of writing. The more knowledgeable others could be the teacher or the students who are more proficient at L2 writing. So, the discussion and interaction would be student-student or student-teacher (Lantofl, 2000). Novice and expert writers would benefit from the ZPD. Students at a higher level of proficiency in L2 writing would benefit from those low-level writers in two ways, by gaining new ideas they might never think of, and by extending their knowledge towards their writing. Such a collaborative environment could allow novice writers to gain new knowledge, observe new techniques, learn new ideas, and understand their own goals, and eventually, they would learn how to manage their tasks more efficiently and see themselves transforming to a higher level and becoming more knowledgeable.

Vygotsky (1978) saw that schooling, or the formal instruction environment has a strong impact on learners’ cognitive and language development. Hence, instructors should know that the ZPD is not a process of development, but a conceptual tool that guides instructors to understand the different aspects of learners’ evolving capacities in the early stages of development (Lantolf et al., 2014). This is to identify learners’ potential developmental skills to create the appropriate tasks and learning conditions that align with these selected skills later. It also helps to identify the assistance needed for every individual to help them operate at their potential level of development. This assistance is called scaffolding.

2.1.2.1.2 Building Bridges to Understanding: Scaffolding

This concept is not named by Vygotsky but later it is explored by his student Bruner (1978). It is the bridge that can fill distance of the present and potential level of learners’ development. Scaffolding is always observed to be greatly related to the concept ZPD (Li, 2011; Puntambekar, 2022) where the expert are the ones who offer the assistance to novice learners, hence empowers them move from

their current level of knowledge to a higher level of knowledge through interaction. Wood et al. (1976) described it as a process "that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts" (p. 90) through student-student or student-teacher interaction (Lantofl, 2000). On the other hand, online tools can be used to scaffold learners, as per Wallace (2010): "many of these tools have been developed to address knowledge building by scaffolding interactions in ways that make student thinking visible or focus students on metacognitive awareness" (p. 272). For instance, English writing classrooms have recently used Grammarly application as a scaffolding tool to enhance the learning experience through providing automated feedback to L2 writing (Cavaleri & Dianati, 2016; Ebadi et al., 2023; Fahmi & Cohyono, 2021; Ghufron & Rosyida, 2018). That is to say, Grammarly, as an online scaffolder, can be a powerful tool to facilitate the act of learning functioning in an preferable way to the students (Ghufron & Rosyida, 2018), which in turn can enhance their knowledge growth and supplement the assistance of the teacher and peers (See 2.4.2.1). In this situation, the learners during assistance could be able to combine their past knowledge with new dimensions of knowledge that would solve a provoked problem (Lantolf & Thorne, 2007; Mitchell et al., 2013) within multiple interactions of three sources that would activate their cognitive processes while composing. Thus, automated, peer, and teacher work are essential scaffolders in this study, as per the sociocultural approach (Tian & Zhou, 2020; Birjandi & Tamjid, 2012) which can facilitate the technology-learner, learner-learner, or teacher-learner interaction and communicating to fulfil the goal of this research study. Later, the scaffolding can be reduced if the learners could internalise the learning process, enabling them to transform the external adjustment into self-adjustment and become an agent of their learning (Eshkal, 2019). In this way, the learners can raise the current inner cognitive level to higher cognitive process acts under the effect of scaffolding in the end.

Further, in line with this study, scaffolding could work to interest writers in the task (e.g., they observe, think, ask questions that require active linguistic and cognitive abilities), simplify the task (e.g., technology tool, peers, and teacher providing clues to help the student proceed), and maintain direction towards the targets of the task "e.g., the teacher helps the students by explaining how something must be done and why" (Wood et al., 1976, p. 98; Van de Pol et al., 2010, p. 277). Considering these functions, this concept seems to deal reasonably with the complex nature of learning L2 writing and improving it by providing learners with assistance in the writing composition. In short, the sociocultural theory builds a platform for a potentially effective learning environment through ZPD and scaffolding and could enhance the effect of the cognitive acts in learning writing that the writer performs as per the cognitive process theory.

2.1.3 Bringing It Together: Integrating Process Cognitive Theory and Sociocultural Theory in Writing

From a cognitive process perspective, composing seems a problem-solving task that asserts the complex, recursive, and individual nature of the writing process, in isolation from social interaction influence. As de Larios et al. (2001) aptly remarked, the cognitive process theory sees the language and minds as vessels that the writer fills with meaning to be uncovered thereafter by readers. From this perspective, writers are at risk of being mere passive mediators, rather than the real agents of the writing process (Pittard, 1999).

However, the sociocultural perspective does not perceive composition as an invisible cognitive process that happens in the writer's mind alone and considers writing as a process that happens within social interaction with people who are reliable on interactional activities and tools. Language and multiple scaffolders offer these activities and tools that could provide learners with writing knowledge and assistance to solve problems confronted during the L2 composition task. Accordingly, the cognitive and social elements of writing should have equal standing in writing research (Kramsch, 2000; Pittard, 1999) to give equal status for understanding the complexity of L2 writers' context nature, their texts, and their relationship.

The two perspectives alone are thought incommensurable and their contents and theoretical terms conceptually unequal; so, comparing them is impossible. Therefore, researchers (Cumming, 1998; de Larios et al., 2001; Hodges, 2017) found that despite considerable research concerning the written texts, composing processes, and the social contexts where L2 writing happens, there are just a few attempts to combine these two theories into a comprehensible framework for the entire process of learning and teaching L2 writing complexity acts. The next section delves deeper into approaches to teaching L2 writing.

2.2 Understanding The Approaches to Teaching L2 Writing

The literature pertaining to teaching L2 writing reveals several contrasting approaches, which makes a lack of a conclusive theory (Ferris et al., 2013). In this sense, L2 writing teachers should have sufficient knowledge of how to facilitate the process of learning it and the appropriate approach that suits the classroom situation and the language proficiency difference among students. In this section, therefore, the product, process, and genre-based approaches to teaching L2 writing are presented. A synthesis of the three approaches will be discussed and used thereafter for this research.

2.2.1 Exploring Product-Based Writing Approach

This approach was considered decades ago an effective approach to teaching L2 writing. It attracted much research attention during the 1960s (Silva, 1990) and was called the product-oriented approach (Kroll, 2001), or the "traditional paradigm" for teaching English writing by US researchers (Bloom et al., 1997). This approach is traditionally about teaching grammar rules and then reflecting the wide knowledge of these rules in the writer's good production of accurate linguistic, vocabulary, and cohesive devices in the text. That is, product-oriented approach considers learning to write is an exercise that sheds light on form inside the classroom namely sentence structures and grammar (El Ouidani & El Baghdadi, 2022). This is found as a consensus among scientists in the L2 teaching writing field (Badger & White, 2000; Hyland, 2003). It is taught to students to help them through familiarisation, controlled writing, guided writing, and freewriting stages.

2.2.1.1 Steppingstones: Moving Through Product-Based Writing Phases

In product-based writing approach, which is teacher-centred, the teacher's role is to teach students how to increase their knowledge of accurate L2 writing production. In the first stage, L2 students are familiarised with the required aspects of the text such as "there are kinds of Y", "Y consists of", or "A, B, C are kinds of" (Hamp-Lyons & Heasley, 1987, p. 23) can make them familiar with the expected language items used in the compositions. So, students can observe what language items required and how to use them in sentences. In the next stage, the students' attention is controlled and taken to employ these acquired language patterns by using other substitutions to examine their knowledge of practising the current items and their new possibilities in their compositions. After that, in the guided writing stage, a model text having the language items essential for the task under the instructor's guidance is a good way of instruction, e.g., a model of the writing of an essay, report, biography, etc. Lastly, the patterns of the language items that the students have already developed in previous stages is used in their compositions. Researchers described these stages as a sequential strategy, moving smoothly from controlled to the free strategy of learning to write accurately (Raimes, 1983).

2.2.1.2 Identifying Challenges in the Product-Based Writing Approach

Although it allows all L2 learners to increase knowledge about their writing accuracy, the product-based approach is considered merely a direct response to the teacher's input (Badger & White, 2000) which does not consider the writer's meaning and goal. Ferris et al. (2013) observed that this approach does not consider the students' awareness toward thinking, process, and creativity skills in writing tasks. Hence, they find a challenge of comprehensibility of the written work due to the lack of learning strategies that could be provided through brainstorming, drafting, and reviewing process. Perceiving the recursiveness of the writing composition could address what the product approach

misses which is the learners' cognitive awareness of their L2 writing performance. Mere knowledge of grammar rules, vocabulary, and cohesive devices is not enough. More importantly, the product approach could make the learner uninformed about what is a good composition, since their writing, instead of being guided for content and ideas, is guided for grammatical accuracy alone (Hyland, 2003). That does not mean that L2 writing accuracy is not crucial, but it is crucial and equal in its importance with the content aspects of L2 writing. Only if AWE facilitates the accuracy aspects can teachers successfully handle the content aspects of L2 writing, which significantly impact students' cognitive progress. Doing so frees peers and teachers to focus more on meanings and ideas. Thus, another approach to covering these ignored aspects is crucial for effective teaching. This approach, known as the process approach, will be covered in the next subsection.

2.2.2 Exploring Process-Based Writing Approach

The process approach in L2 writing teaching responds to the limitations found in the product approach. In the 1970s and 1980s, researchers started investigating the cognitive processes involved in writing, particularly in L2 instruction (Matsuda, 2003). They focused more on creativity than imitation (Tribble, 1996) and devised strategies to involve individuals with low-level English proficiency in the writing process, thereby facilitating their composition improvement (Alkhatib, 2015; Zamel, 1976). El Ouidani and El Baghdadi (2022) stated that "the term "process" is used to mean the writing process itself, which implies that writing involves a variety of other mini-processes and stages" (p. 527). Thus, the process-based approach has devoted much effort towards presenting models of the L2 writing as a process that teachers can follow in their L2 classrooms.

2.2.2.1 Finding The Way Through the Process-Based Writing Frameworks

Based on the theoretical perspectives that guide this research, the goal is to improve an individual's cognitive process through interaction and collaboration among participants. This is achieved by meditating scaffolders that encourage the concept of writing as a process to teach it. Based on these theoretical perspectives, there exist a few widely discussed models for teaching L2 writing as a process. Some of these models are the ones proposed by Hedge (2005) and Coffin et al. (2005). They influenced the teaching of L2 writing by encouraging learners to shift their focus towards the writing skills and strategies necessary for successful composition, including pre-writing, idea generation, planning, drafting, editing, and revising stages (Goldstien & Carr, 1996; Hedge, 2005; Meriwether, 1998), peer collaboration (Hyland, 2003), and teacher guidance (Coffin et al., 2005; Kostelnick, 1989).

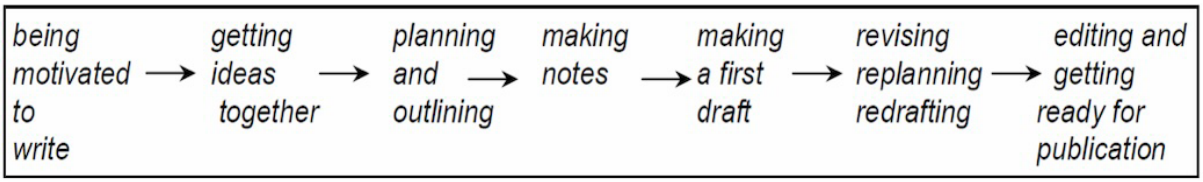


Figure 1. Hedge's Framework of the Process-Based Writing Approach (p.51)

In Figure 1, Hedge's (2005) writing process model outlines the stages of L2 writing, beginning with emotional motivation and generating ideas collaboratively. This is the key to engaging learners in the process by discussing their ideas and knowledge of content with peers and teachers. Freeman and Freeman (2004) found that the process approach enables learners' creativity and empowers them to deliver their ideas through their writing meaningfully. After deriving motivation through mutual discussion, they could proceed to the end of the cycle being cognitively able to plan, draft and edit or replan, redraft, and revise again. In this sense, this process is rather recursive, not linear, based on the views of Flower and Hayes (1981) and Emig (1971). Yet, in this process, students who are not usually exposed to this approach might feel discouraged due to the several drafts they may have to produce (Corpuz & Rebello, 2011). In this, a collaboration of learners with peers and teacher is needed to sustain their engagement not only at the beginning of the process but throughout it, as suggested by Coffin et al. (2005).

Coffin et al. (2005) suggests that such communication could better be placed as a recursive stage with equal importance to other stages in the process of writing, especially since learners need to discuss their goals and meaning when they replan, redraft, and revise their composition. Freeman and Freeman (2004) found that the process approach supports the nature of peer collaboration and the teacher facilitating and guiding. According to this idea, Coffin et al., (2005) proposed their model showing that the nature of recursiveness in writing with peer/tutor communication occurs within the writing process (See Figure 2).

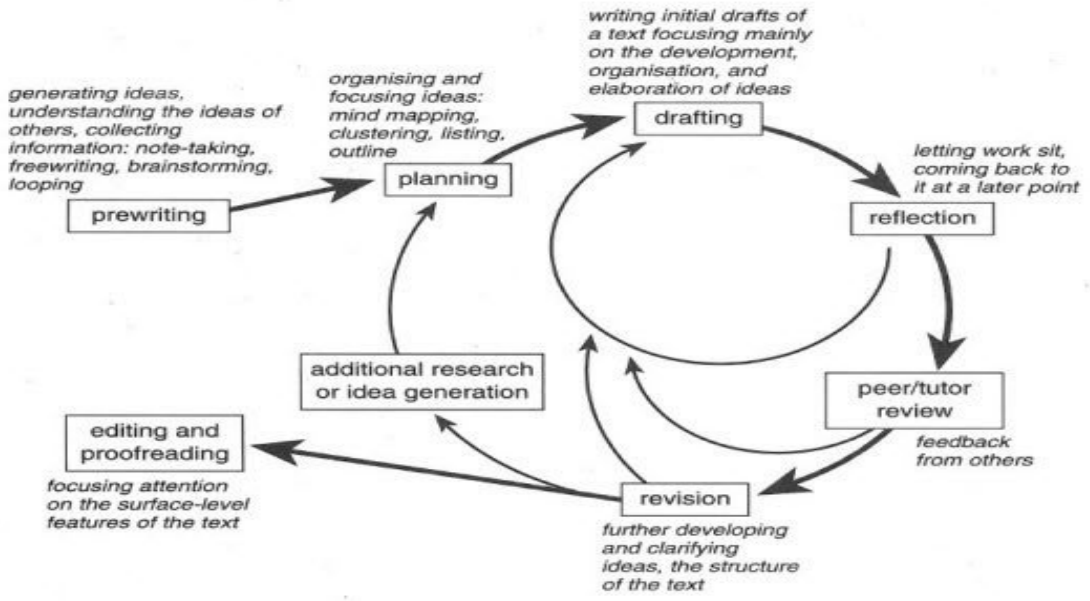


Figure 2. Coffin et al.'s Framework of the Process-Based Writing Approach (p.34)

Figure 2 indicates that writers can move through all stages of cognitive processes back and forth more than once in an overlapping nature. Student-students and teacher-student interaction are major stages that learners move through during this model. Several works agreed with the notion that the writing process stages are all recursive, as in the illustration of Coffin et al. (2005) (e.g., Emig, 1971; Flower & Hayes, 1981; Mubarak, 2013; Stein, 1986). In this sense, Coffin et al.'s model could bridge the gap in other models by acknowledging the influence of social communication and discussion with peers and instructors as a recursive stage throughout the composition process. The cognitive process development for skilled and unskilled writers, therefore, lies unconsciously, in the writer's mind due to the practice (Badger & White, 2000).

2.2.2.2 Identifying Challenges the Process-Based Writing Approach in Saudi Context

The aforementioned advantages of the process-oriented approach shed light on the reasons behind the Saudi English learner's weakness in L2 writing. One of the reasons for L2 writing challenges is that English classes are mostly teacher-oriented, where the learners are passive (Mubarak, 2013). In the best cases, teachers encourage students to brainstorm ideas and write their compositions in collaboration with each other, following a linear process rather than a recursive one for L2 writing, and in group but in an independent L2 writing practice. For instance, students generate ideas, make their first draft together, and then submit their revised papers to the teacher which may or might be returned to them. In this case, although the teachers attempt to employ the writing process approach, it ends up with them correcting grammar and vocabulary alone (Alhaysony, 2008; Al-Hazmi & Scholfield, 2007). That is besides that the teacher does not intervene as a guide or facilitator

while the students compose during the process of writing. The students themselves are rarely involved and rarely share the responsibility of feedback provision with the teacher. As a result, they do not always perform their cognitive process and writing production as individual writers. That is, L2 writing classrooms in Saudi contexts lack a socially engaging environment that could enable the teacher and peers to intervene in writing for development. These drawbacks in teaching L2 writing hinder students' understanding and knowledge of what L2 writing truly is, which in turn negatively impacts their awareness of their own weaknesses as individual writers since they are not required to redraft.

Additionally, adopting the process-based writing approach in Saudi classrooms requires careful consideration and responsibility. Corpuz and Rebello (2011) observed that this approach dedicates much time, especially in large class sizes, which is very common in Saudi universities. Indeed, given the time this approach consumes, it needs significant effort for marking. Students who are not usually exposed to such an approach may feel discouraged and sensitive to self-exposure (Hyland, 2003) due to the several drafts they may need to make. Therefore, an appropriate L2 writing intervention that could reduce the effect of these challenges is advised. Having said that, relying on the process-based approach to teaching L2 writing alone is still insufficient as it neglects the knowledge required for producing the essay genre. Hence, a genre-based approach is discussed next to address the limitation of the process-based approach.

2.2.3 Exploring Genre-Based Writing Approach

The genre approach is similar to the product approach (Badger & White, 2000), which also focuses on the form knowledge required for text production. Its application has been increasingly dominant and functional throughout diverse educational levels, from primary to higher institutions (Shum et al., 2018; Shum et al., 2015; Whitney et al., 2011). However, the genre approach is slightly different because it is a social and contextual approach that considers writing multidimensional. In this sense, it provides meaning and purpose to the writing task, with good consideration of the subject and the reader (Hyland, 2007) which aligns with the CPT writers' goals construct (See 2.1.1). The genre-based approach classifies writing into different categories such as persuasive, comparison/contrast, report, etc. (Paltridge, 1996; Watcharapunyawong & Usaha, 2013). So, its research field consists of three different schools: The ESP School, the Sydney School, and the New Rhetoric School.

2.2.3.1 The ESP Genre-Based School

This school is named the Swalesian approach and is widely used in English writing classrooms. According to Swales (1990), the genre is "a class of communicative events, the members of which share some set of communicative purposes" (p. 58). Swales found a notable relationship between the social purpose and the text features. Hyland (2007) echoed Swales, finding that genre is an

"abstract, socially recognized way of using language" (p. 149). So, the ESP genre school is perceived as a functional convention approach established according to particular linguistic aims.

The ESP genre is also found useful for non-native speakers of English. Swales (1990) and Bhatia (1993) posited that it gave students the knowledge of linguistics and function conventions that are required later in their careers. Furthermore, researchers (e.g., Gosden, 1992; Love, 1991) provided an example of scientific genre analysis found helpful for the organisation and modes of text. In this sense, the ESP genre teaches students the type of written texts they need in their potential work environment, by teaching them different types of texts. For instance, there is a notable difference between the formal and informal letters students may compose. A formal letter requires a very formal statement (e.g., Dear Smith) while an informal one can begin with a friendly statement such as when addressing a friend or relative (Mubarak, 2013). Hence, ESP is a view that suits studies focusing on disciplinary academic writing contexts.

2.2.3.2 The Sydney Genre-Based School

This school is also called the Australian tradition, initiated by Michael Halliday, in association with the Systemic Functional Linguistics theory. “SFL is a social theory of language that sees language as a network of systems, from which the speaker/writer makes choices appropriate to the context” (Abdel-Malek, 2020, p. 2). Halliday opines that SFL correlates the function and form, producing three contextual features: field, tenor, and mode (Flowerdew, 2011). The field is the nature of the activity to produce the text and the subject. Tenor is the relationship between the text and the writer. Mode is the discourse function and rhetorical means (Flowerdew, 2011). In other words, SFL means the work indicated by language in a particular context in a structured way to deliver meaning. It highlights the effective connection among the form, context, and purpose aspects.

Hyon (1996) showed that the text in this tradition relies on the precise characteristics of the language in language classrooms. For example, Hammond et al. (1992) found it structured so as to involve the sender’s and the receiver’s addresses, salutation (e.g., Dear Sir/Madam), and an identification of the complaint (p. 57). From a different perspective, Paltridge (1996) pinpointed how different the personal letter is from the complaint letter. The former could omit the receiver’s address unlike the latter, where the receiver’s address is necessary. Overall, this school asserts the notable association between language and its purpose in a particular social setting.

2.2.3.3 The New Rhetoric Genre-Based School

This school criticizes the two previous schools of the genre for being similar to each other, focusing on the relationship between linguistic forms and their communicative purposes, ignoring the

different functions of the genre reader and writer (John, 2003), overstressing the linguistic form aspect, and undervaluing the learner's creativity in genre writing (Flowerdew, 2011).

Advocates of this school consider the participatory nature of the writing activity involves the attitude and beliefs that the writer gathers from the situated context. Schryer (1993) explored the attitudinal action in written letters produced by clinicians, rather than the text itself. In a similar vein, Casanave (1992) examined the case of a sociology participant whose required writing texts differed from those of her peers, resulting in her social isolation. Consequently, new rhetoric proponents consider such a tradition as having a reflexive nature (i.e., a structure generated by society and *vice versa*); an analysis of this genre tradition requires its society and the generic structures themselves (Flowerdew, 2011).

2.2.3.4 Identifying Challenges in the Genre-Based Writing Approach

I find the three different genre views helpful when applying them to L2 writing classrooms. The genre approach provides students with an example of written work to follow with a clear purpose. Due to its social nature, it raises the students' awareness of the communicative style required for the writing task or context (Kim, 2006). According to Hyland (2004), in the English language community, a genre is considered the driving force that enable students to initiate meanings and discourse texts. Besides, it is the tool that students are provided with to understand, and challenge valued discourses. It is a consciousness-raising approach where the teachers' awareness of texts gives them more confidence in advising their students (Hyland, 2004).

Yet, the genre approach is still found to be a limited strategy to use in classrooms. First, it could neglect the fact that students are already equipped with the required knowledge for the writing task (Byram, 2004). Second, it over stresses the language forms and conventions. In addition, it supports the dominance of the discourse where students are obliged to reproduce an existing disciplinary discourse, which in turn suppresses the students' creativity, rendering them unable to freely express their ideas (Benesch, 2001; Coe, Lingard & Teslenko, 2002). In this case, Kay, and Dudley-Evans (1998) surveyed teachers from different cultures and found that the genre approach stole the teachers' independence in writing, by waiting for instructions. These drawbacks, thus, call for an inclusive approach that potentially influences L2 writers' performance better through combining the three approaches of L2 writing teaching: product-, process-, and genre-based approaches.

2.2.4 Merging Paths: Synthesizing Approaches to Teaching L2 Writing

The product-orientated approach proposes a framework for writing and encourages practice through repetition while the process-orientated approach to teaching writing involves guiding students through each step of the process (El Ouidani & El Baghdadi, 2022). In other words, the product approach to teaching L2 writing ignores the writing process (Gee, 1997); the process approach disregards the importance of good linguistic knowledge in text production; and the genre approach suppresses students' knowledge by viewing them as mere recipients of instruction (Badger & White, 2000). That is to say, Cumming (2010) indicated that “no single theory might ever explain such complex phenomena as second language writing, which necessarily involves the full range of psychological, cultural, linguistic, political, and educational variables in which humans engage” (p. 19). Thus, this research study creates a middle-range approach that emphasises the L2 writers, writing, and context to fulfil its aims.

A reason for a synthesis of these approaches is to suit the nature of the feedback used for this study. In this sense, feedback practice is of equal importance to L2 writing teaching practice towards learning. Nicole and Macfarlane-Dick (2006), for instance, considered it a core component of the learning process. If the teacher made efforts to teach writing and left the feedback until the end of the composition, students would receive her feedback, probably leave it, and forget about it. Similarly, if feedback is given on writing products alone, this could end up with the students writing for the teacher only, disengaging in their writing processes, and being passive learners with the teacher wielding the main authority in class. Therefore, if feedback practice is to enhance learning, we must move beyond a view of feedback as knowledge transmission (Nicol et al., 2014) and consider it as an integrative component of teaching L2 writing.

In this study, different sources of feedback are incorporated in line with the three approaches to teaching L2 writing to enhance the learning experience. Firstly, the process-based writing approach is regarded as the core and basis of the L2 writing class, where the entire feedback and teaching processes occur. The product- and genre-based writing approaches are linked to the roles of Grammarly and human feedback. For instance, during L2 writing process, students are prepared for writing tasks by gaining an understanding of the purpose and linguistic conventions of different genres. They also brainstorm ideas and create outlines together with their peers, and the teacher who acts as a guide and facilitator.

After that, within the writing process, Grammarly focuses on writing accuracy, specifically grammar rules, punctuation, and vocabulary (referred to as surface-level feedback). This approach emphasizes the final product of writing and aligns with a product-based writing approach that lacks original content and ideas (Hyland, 2003). Furthermore, the genre-based writing approach is considered in

this research study involving human feedback from peers and teachers. In this sense, it considers the contextual perspective, imbuing writing tasks with meaning and purpose. Also, it takes into consideration the writer's intended meanings, goals, and different types of writing such as persuasive, comparison/contrast, and report writing (Paltridge, 1996; Watcharapunyawong & Usaha, 2013) considering both the subject and the reader (Hyland, 2007). This leads to the perception that the automated writing evaluation tool only addresses surface issues in writing, whereas the process-based writing approach emphasizes the critical role of feedback on meaning-level issues like content, ideas, and organization. As a result, such an inclusive approach effectively reinforces the idea of integrating sociocultural theory and cognitive process theory in this research.

In summary, by integrating three teaching approaches to L2 writing with three sources of feedback, students would have a well-rounded and comprehensive learning experience as it addresses various writing needs, and each source of feedback plays a unique role in improving L2 writers. Equally important to this middle range approach is the students' engagement with the feedback through responding, scrutinizing, discussing, and reconstructing meaning (Nicol, 2006; Price et al., 2011; Smeke, 1984) as it is key to reflect active participation. Hence, next, theoretical and empirical discussions on engagement, followed by a discussion of feedback practices in the L2 writing context will be presented.

2.3 The Framework of Engagement with Feedback

Considerable research has explored engagement in teaching and learning from various perspectives (Biggs, 1987; Kearsley & Shneiderman, 1998; Marton & Säljö, 1976). Marton and Säljö (1976), for instance, examine engagement through cognitive issues, while Bigg (1987) focuses on affective issues and their impact on knowledge acquisition. In a similar vein, Kearsley and Shneiderman (1998) investigate engagement within a framework related to technology use. Yet, Svalberg (2009) identifies broader view including three aspects of engagement in language learning classrooms: cognitive, affective, and behavioural.

To elaborate, Svalberg (2009) defines engagement as a state wherein learners become cognitively, affectively, and behaviourally involved with the learning task, representing themselves while language serves as both the object and the tool of contact. Indeed, learning engagement could not be fully examined until we involve its cognitive, affective, and behavioural domains in learning. However, Svalberg (2009) refers to how the learners can individually build their knowledge regardless of their interaction with others because it is an engagement with language which empowers them to interact, develop, and reconstruct their knowledge of learning skills. This is not always the case; there is a need for a pedagogical approach that could facilitate learning engagement, which could inform how learners have engaged through it to reach learning outcomes.

From this perspective, interest in students' engagement with feedback has grown greatly in the literature (Ellis, 2010; Han, 2017; Han & Xu, 2021; Hiver et al., 2020; Zhang, 2018). This is because facilitating learning outcomes through feedback in L2 writing classrooms is indispensable for fostering student engagement. Such instruction could uncover learners' perceptions toward interventions (Perie et al., 2005) when implementing it as a mediating approach for L2 writing improvement. In this sense, Ellis (2010) conceptualised students' engagement with feedback, asserting the constructs of Svalberg (2009) that engagement has three domains to be acknowledged.

Ellis' framework (2010) presents three lenses through which to view student engagement with feedback in the classroom: behavioural, cognitive, and affective. These domains intersect and influence each other during writing tasks, shaping how students react, respond, and commit to feedback. Importantly, this interaction does not occur in isolation; rather, individual and contextual factors play crucial roles in facilitating learning engagement and activities, consequently impacting learning outcomes (Ellis, 2010).

These individual factors could relate to the learners' different language levels, different goals of learning, language anxiety, and different beliefs. In addition, the contextual factors may involve macro and micro factors wherein the former may refer to the L2 learning contexts, and the latter could relate to the activity nature and the relationships among peers. These different factors in turn may intersect and interact together mediating the APT feedback and the learners' engagement with it shaping L2 writing performance. More examples of these factors will be presented in the following sub-sections (See 2.3.1, 2.3.2, and 2.3.3).

Moreover, Ellis (2010) noted that studies examining these factors with no consideration of learner's engagement will not provide a full insight into the field of feedback in L2 writing. Rather, exploring the two factors and the nature of engagement could be fruitful for feedback field which impacts learning outcomes. The great majority of feedback research has overlooked them, and instead focused only on the link and effect of specific feedback strategies on learning outcomes. Therefore, although these three lenses fall within a holistic framework as interconnected and overlapping constructs, I will investigate each dimension separately. Doing this is advantageous because, as suggested by Svalberg (2009), separating barriers and facilitators based on the three distinct dimensions of engagement findings enables a richer investigation.

2.3.1 Actions Speak Louder: Behavioural Engagement with Feedback

The term "behavioural" pertains to how students respond to, use, or modify feedback in their L2 writing tasks (Ellis, 2010). This engagement extends beyond error correction, influencing how students utilize feedback provided on their written works. For instance, Han (2017) describes it as observable actions to generate revisions, such as consulting others and online resources. In this vein,

students may feel more inclined to approach peers for feedback, considering them valuable sources of knowledge, while viewing teacher as the primary reviewer and grader (Han, 2017). In active engagement, learners delve beyond grades or overall feedback, focusing on ideas and meanings that prompt them to develop strategies for deeper understanding, such as asking questions (Handley et al., 2011). Additionally, non-verbal cues like body language during inquiries, such as leaning towards someone to ask, are also considered an indicator of behavioural engagement (Hiver et al., 2020; 2024).

Additionally, learners' proactivity in L2 contexts (Svalberg, 2009) or their commitment to completing and submitting all tasks are significant indicators of their behavioural engagement (Hiver et al., 2024). In this regard, their commitment to tasks is not arbitrary; rather, they perceive tasks as purposeful, thus encouraging their engagement (Svalberg, 2018). In doing so, commitment is closely linked to learners' willingness to invest efforts and energy in given tasks (Handley et al., 2011) wherein motivation plays a pivotal role in influencing their commitment to L2 tasks (Ellis, 2010; Hiver et al., 2024; Zhang, 2018). For instance, low engagement may arise from a lack of motivation caused by external pressures from other module responsibilities and commitments. On the contrary, highly engaged learners actively participate in their learning process, demonstrating commitment to activities (Hyland, 2003). Examining the relationship between engagement and motivation, Martin et al. (2017) emphasized the crucial role of motivation in the long run, wherein it precedes and drives engagement, with both concepts working together over time. Moreover, commitment not only reflects learners' dedication to learning goals but also underscores the importance of their academic achievement (Mercer & Dörnyei, 2020). In this context, learners value the feedback they receive, which serves as a motivating factor for improving L2 writing. Without consistent practice and improvement, learning and progress would stagnate (Hyland, 2003). Therefore, Ellis (2010) and Svalberg (2009) affirm that emotions, as signs of affective engagement, are intertwined with and influence behavioural engagement.

The use of feedback in eliciting learners' uptake is another significant aspect of behavioural engagement. In this sense, the dynamicity of learners' uptake could serve as a strong indicator of their reaction to feedback in L2 writing (Carless & Boud, 2018; Dressler et al., 2019; Han, 2017; Villamil & Guerrero, 1996). Moreover, cognitive engagement also plays a crucial role in shaping learners’ uptake, since it mirrors their understanding of feedback prior to accepting or rejecting it (Zhang, 2018). Subsequently, their uptake of feedback reflects their accountability for the feedback received, allowing them to question and acquire knowledge of how to judge that feedback (Carless and Boud, 2018), thereby improving their cognitive and evaluative skills.

In this sense, despite learners’ uptake showcases their active behavioural engagement, it may vary depending on the source of feedback. For instance, Dressler et al. (2019) observed that students tend

to utilize teacher feedback more than peer feedback, despite no difference in quantity or quality between the two sources. They (2019) discussed that students' preference can arise from their conception that the teacher is an expert, and she has the sole authority to review and grade their written works (Dressler et al., 2019), making it prioritized over other feedback sources (Lee, 2008; Saito, 1994). Furthermore, the students' selectivity to the AWE feedback also reflects their evolving behavioural engagement with it. Bai and Hu (2017) noted that although AWE provides feedback for many types of errors, students demonstrate independence, understanding, and selectivity when using it, changing their uptake accordingly. This proficiency develops through practice and guidance within a SCT environment, highlighting the intertwining of cognitive development with the behavioural engagement construct (Ellis, 2010; Svalberg, 2009).

Additionally, according to Hiver et al. (2020; 2024) and Svalberg (2009), behavioural engagement is closely tied to learners' interactions and initiatives, such as their willingness to engage and support each other. For instance, integrating peer feedback in L2 writing contexts involves essential activities beyond reading and writing, including discussing their work, listening to peers, sharing ideas, and building knowledge collaboratively (Svalberg, 2009; Villamil & Guerrero, 1996). This collaborative process is further facilitated by the use of learners' native language (L1) to maximize L2 writing improvement (Swain & Watanabe, 2013; Villamil & Guerrero, 1996). Consequently, even without explicit directives to collaborate, learners often perceive collaborative work as a valuable opportunity for L2 learning (Storch, 2002), as observed in this study examining how the use of APT shaped their behavioural engagement. Grounded in the SCT, interaction occurs among learners of varying proficiency levels, allowing them to jointly solve problems, comprehend issues, and achieve goals beyond individual efforts (Aljaafreh & Lantolf, 1994; Lantolf, 2000).

However, the initiatives and mutual scaffolding among learners may vary depending on the relationships among them, which may lead to anxiety, and depending on their different language proficiency levels, which may result in varied language goals (Ellis, 2010). For example, learners may feel uncomfortable when working with a new partner outside their friendship circle, leading to discomfort and anxiety. Some learners may experience intimidation within groups, resulting in limited engagement and heightened worry when collaborating with others (Micari & Drane, 2011). Added to that, differences in language proficiency levels can lead to disparities in learning goals, causing disappointment, and hindering effective collaboration in pair work. Indeed, learners' subjective attitudes and perceptions toward language-related tasks are crucial factors in behavioural engagement (Henry & Thorsen, 2020; Dao, 2021), warranting further investigation and consideration.

2.3.2 Thinking Through Feedback: Cognitive Engagement with Feedback

Engagement in language learning signifies a stage where learners are not only behaviourally but also mentally involved in completing tasks. Cognitive engagement, defined as "the mental efforts/activity in the process of learning" (Hiver et al., 2020, p. 4), goes beyond error correction, facilitating deeper engagement through mental processes (Ellis, 2010). This deeper engagement allows learners to retain errors committed in their working memory while revising (Ellis, 2010). Like behavioural engagement, cognitive engagement is discussed as a measurable verbal and non-verbal dimension in this research.

Non-verbal communication, as observed by researchers during classroom sessions, reflects how students actively think (Hiver et al., 2020). Immersion in the natural teaching environment uncovers reflective aspects that might otherwise be overlooked (Han & Xu, 2021). According to Han and Xu (2021), examples of this dimension include private speech and exploratory talk, which are forms of learner discourse used to make sense of learning. Vygotsky's (1978) theory posits that private speech is a cognitive process wherein learners talk to themselves while engaged in a task. Similarly, Swain and Watanabe (2013) considered this intrapersonal dialogue as a form of languaging that aids in meaning-making and knowledge-shaping. Furthermore, the use of the learners' native language (L1) during challenging mental tasks facilitates and supports this inner speech (Antón & DiCamilla, 1998; Swain & Watanabe, 2013). Consequently, self-talk was a helpful technique for low-level learners to solve cognitive complex problems, mediating L2 learning and development. Private speech enables learners to take responsibility for their learning until they can accomplish tasks independently, serving as an outward manifestation of cognitive processes indicating learners' focus on task completion (Frawley, 1997; Frawley & Lantolf, 1985), as language serves as the primary symbolic system connecting thoughts (Antón & DiCamilla, 1998). This approach suggests that feedback, rather than simply correcting errors, fosters deeper engagement through thoughtful processing (Ferris, 2006; Ellis, 2010). Additionally, body language such as maintaining eye contact with the screen and refraining from side-talk illustrates this dimension (Fredricks & McColskey, 2012; Hiver et al., 2024).

Verbal cognitive engagement involves how learners attend to the feedback they receive (Ellis, 2010). When learners exhibit deliberate and sustained attention towards a given task, they are cognitively engaged (Reeve, 2012; Svalberg, 2009), which enhances the development of evaluation and monitoring skills (Zhang, 2018). This deliberate attention leads to self-monitoring, where learners must focus on tasks and connections between language form and meaning in use (Svalberg, 2009), as language and thoughts are strongly interconnected during tasks (Vygotsky, 1978).

Besides the intrapersonal level, languaging on the interpersonal level among learners fosters cognitive engagement, as they interact to mediate their own and others' thinking in scaffolded mutual support for problem-solving and knowledge building (Swain and Watanabe, 2013). Such

attention to weaknesses is facilitated within a SCT environment, where the dialectical relationship between learners and the feedback environment catalyzes new cognitive development (Mao & Lee, 2022). Also, cognitive engagement can involve learners collaborating with each other as part of learning activities (Hiver et al., 2020). In this sense, feedback, being a social and cognitive event, should be studied in real-time, considering the individuals involved, their goals, and motivations (Ellis, 2010). The significance and appropriateness of feedback can enhance learners' recognition and cognitive engagement which occurs due to the use of learners' native language (L1) (Anton and DiCamilla, 1998). Therefore, verbalizations, whether on intra-personal or inter-personal levels, reflect cognitive engagement with tasks, contributing to the achievement of learning objectives (Svalberg, 2009).

Lastly, cognitive verbal engagement also signifies learners' understanding and knowledge of language (Ellis, 2010; Hiver et al., 2020; Svalberg, 2007). Through their active cognitive engagement with tasks over time, learners' levels of knowledge and understanding can evolve and grow. In this context, the integration of SCT enriches the CPT, viewing knowledge of L2 writing as an outcome of collaborative efforts between both theories (See 2.1.3). In other words, knowledge is not solely transmitted by teachers or created individually but is constructed through social interaction between knowledgeable individuals and their counterparts (Murphy, 2000). Lantolf and Thorne (2006) affirmed that cognitive processes are influenced by the support structures provided by L2 development mediators and learners' engagement with them. Drawing on CPT, learners' understanding of L2 writing signifies their engagement with tasks, where they become aware of the interconnected stages of writing, operating in tandem throughout the writing process (Hodges, 2017). Furthermore, this cognitive knowledge aids learners in discovering their personalities and voices in L2 writing wherein the L2 writing process serves as a means for individuals to clarify thoughts and identities (Hodges, 2017).

2.3.3 Affective Echoes: Affective Engagement with Feedback

According to previous studies, affective engagement encompasses expressions of separate positive and negative emotions. Positive emotions such as confidence and autonomy contrast with negative emotions like anxiety, boredom, frustration, and anger, indicating emotional disengagement or disaffection (Mercer, 2019). However, initial emotions, whether positive or negative, may evolve as learners receive, process, and apply feedback (Han & Hyland, 2015). Ellis (2010) noted that initial attitudes toward certain types of feedback could influence emotional responses, given the overlap of this construct with other engagement dimensions wherein students become cognitively or behaviourally engaged (Henry & Thorsen, 2020). Identifying appropriate L2 feedback strategies/models significantly impacts this evolution, transitioning learners from negative to positive emotions or vice versa. This is wherein both negative and positive emotions should be given equal attention as they progress in tasks (Niculescu et al., 2016). Due to the complexity of emotions and

their interaction with other engagement constructs, predicting learners' emotional responses to feedback remains challenging and needs investigation (Liu & Storch, 2023).

To illustrate, learners may lack affective engagement with feedback at the beginning of a task if they are not cognitively involved. In other words, their emotional reactions to the task are linked to their limited cognitive engagement, as they may be unfamiliar with feedback strategies or items, influencing their understanding of the activity and leading to feelings of anxiety, boredom, or frustration (Mahfoodh, 2017). Hashwani's study (2008) found that learners' anxiety levels are greatly influenced by their motivations and exposure to teaching strategies. While some students view anxiety as a motivating factor to work harder and improve, others do not. Hashwani (2008) then underscored the importance of teachers understanding what motivates learners to create a communicative environment where they feel encouraged to discuss language problems and experiences. In doing so, SCT offers insight into how learners' affective engagement evolves and its impact on their self-efficacy. Through scaffolding, ZPD, and mediation, learners can become more engaged and develop proactive, purposeful, and self-directed language skills, leading to increased confidence (self-efficacy) (Bandura, 1977) and autonomy (Svalberg, 2009). In this vein, autonomy and self-efficacy are positive emotional outcomes associated with high levels of cognitive and behavioural engagement in language learning activities (Bandura, 1977; Ellis, 2010; Hiver et al., 2024).

Bandura (1977) describes self-efficacy as individuals' perceptions of their abilities to think, feel, and act, which are influenced by cognitive and affective processes. Moreover, Bandura (1977) suggests that learners can develop the skill of recognising failures that result from insufficient mental efforts (i.e., cognitive engagement) to quickly regain a sense of capability after setbacks. As learners feel anxious at the beginning of a task, this feeling may diminish, and their improved beliefs about themselves make achieving their potential possible with confidence, known as self-efficacy (Bandura, 1977).

This, in turn, leads to learners gaining autonomy, defined as the "ability to take charge of [their] own learning (Holec, 1981, as cited in Little, 2007, p. 15) later on. Little (2007) asserts that learner autonomy is developed gradually by the teacher, empowering learners with more control over how and what they learn. Learners with high self-efficacy tend to approach different tasks later with confidence, anticipating favourable outcomes (Bandura, 1977). In this sense, their motivation to achieve their goals after realising their writing weaknesses through the multiple sources of feedback and improving them, as mentioned earlier in behavioural engagement, is highly influenced by their high self-efficacy. Consequently, learners need to perceive the importance of their tasks through a well-designed mediation and appropriate assistance; otherwise, without a well-designed intervention and suitable guidance, they are less likely to stay engaged (Mercer, 2019). For example,

if a learner believes in their confidence to work on and achieve a task, they are more likely to excel over time compared to others (Adams et al., 2020; Pajares, 1996). In this regard, learners' anticipated capability to achieve their future goals highlights their self-appreciation, maintaining their self-efficacy (Svalberg, 2012). Indeed, there exists a strong positive correlation between students' self-efficacy, motivation, and their overall language achievements (Adams et al., 2020; Cai & Xing, 2023; Celik, 2022; Schunk & Mullen, 2012).

2.3.4 Understanding the Gap in Engagement with Feedback within Literature

In this section, it is crucial to explore studies that have investigated student engagement through three feedback sources separately: teacher feedback, automated feedback, and peer feedback. This sets the scene for the present study and emphasizes the need for further exploration of how L2 feedback could influence engagement over time.

First, there are many different studies explored the influence of the automated writing evaluation (AWE) tools on the students' engagement within L2 writing contexts. These different studies have reached inconsistent findings (Ranalli, 2021; Zhang, 2020). For instance, Zhang (2020) examined Chinese EFL student' behavioural, cognitive, and affective engagement with the AWE tools. The results uncovered that the AWE has facilitated a positive engagement with L2 writing. likewise, Ranalli (2021) noted that the direct and explicit feedback AWE offered to students played an important role in the students' positive affective engagement wherein they indicated an interest in using AWE feedback. However, Zhang's (2020) study found that students' cognitive disengagement was due to a lack of specific contextual factors related to content feedback and human interactions, suggesting that the AWE tools may occasionally be ambiguous and unhelpful.

Peer feedback, a longstanding communicative practice (Min, 2005), has been the subject of interest among researchers, leading to varied findings (Fan & Xu, 2020; Lai, 2010; McConlogue, 2015; Shokrpour et al., 2013). For example, Lai (2010) discovered that peer feedback enhances cognitive engagement by fostering creativity through mutual discussions and increasing awareness of strengths and weaknesses in L2 writing. Similarly, Shokrpour et al. (2013) demonstrated that peer feedback contributes to affective engagement by fostering a joyful classroom environment and enhancing students' confidence (Hyland, 2000). However, Fan and Xu (2020) found variability in participants' engagement with peer feedback, with higher affective, behavioural, and cognitive engagement observed with form-focused feedback compared to content-focused feedback. This finding aligns with McConlogue's (2015) results that students' engagement levels vary, influenced by their uncertain beliefs about the quality of peer feedback. In this sense, some participants perceived their peers' comments as basic feedback, leading to disengagement as they viewed the teacher's feedback more authoritative.

Finally, due to its prominence in research on students' engagement with feedback, researchers have extensively explored the impact of teacher feedback practices on engagement (Boud & Molloy, 2013; Dikli & Bleyle, 2014; Han & Hyland, 2015; Zheng & Yu, 2018). For example, Han and Hyland (2015) found that students demonstrated cognitive engagement by utilizing metacognitive functions such as planning and evaluating to regulate their efforts in processing teacher feedback and correcting errors. Their revision processes also involved cognitive functions like recalling past knowledge and memorization, while behaviourally, students engaged in revision operations and utilized additional resources. Emotionally, they displayed motivation to address identified errors. Similarly, Dikli and Bleyle (2014) observed that teacher feedback positively influenced students' affective engagement, as they perceived it as valuable and informative for their work. However, according to Zheng and Yu (2018), lower-proficiency learners was found to compromise their cognitive and behavioural engagement with teacher feedback. In a related vein, Boud and Molloy (2013) noted that students expressed dissatisfaction with the feedback they received due to difficulties in interpreting and processing it, caused by the insufficient detail that students need to have to effectively respond (Boud & Molloy, 2013). This highlights their need to understand the reasons behind errors (Hartshorn et al., 2010).

As discussed, there are many factors that can influence to what extent the students engage with feedback in L2 writing process since the three engagement dimensions are intertwined and reciprocally influencing each other. As a result, a common factor across these studies can be the use of a single source of feedback (Lunt & Curran, 2010), which sets challenges and could diminish learners' engagement with the L2 writing. Thus, the existing understanding appears to be theoretical and somewhat limited, with only a few recent studies exploring strategic approaches to foster student engagement with feedback for optimal learning outcomes while mitigating the negative impact of individual and contextual factors. This new approach, therefore, emerged to address previous engagement challenges, involves integrating three multiple feedback sources (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022) to actively enhance their engagement—a topic deserving further investigation. Hence, to shed light on the importance of integrating three multiple feedback sources, the subsequent section will delve deeper into why the quality and type of a single feedback source remains problematic for yielding positive outcomes in L2 writing.

2.4 L2 Writing Feedback Practices: Beyond the Red Pen

The effectiveness of feedback in L2 writing classrooms has been a topic of debate among researchers, with some, like Zamel (1985), expressing scepticism about its value, considering it discouraging and unhelpful. Teachers often find themselves grappling with various writing issues,

ranging from accuracy-related to content-related problems, and students, in turn, may feel frustrated if their concerns are not addressed (Hyland & Hyland, 2006). The efficacy of teacher feedback is influenced by the types of errors addressed and the instructional strategies used to deliver it (Ferris, 1997; Guénette, 2007; Hedgcock & Lefkowitz, 1994; Lee, 2005; Marzban & Arabhamdi, 2013).

In this sense, Grabe and Kaplan (1996) highlighted the problematic nature of current feedback practices, suggesting a need for improvement. To improve feedback practises and quality, therefore, teachers need to adopt a nuanced approach that enables students to understand, learn from, and correct errors while composing, drawing on SCT, which views writing not only as a cognitive but also as a social activity (Vygotsky, 1978). This necessitates a shift away from sole reliance on teachers for feedback provision, as overloading them can lead to reduced quality of feedback and cognitive overload for students as well (Knoblauch & Brannon, 1981; Liao, 2016).

Following Zamel's (1983) suggestion, a more effective feedback strategy might involve teachers being part of the feedback process rather than the only providers. As Griffin (1982) noted, a key question in developing a theory of responding to student writing is where to focus attention and how to provide feedback effectively. This underscores the importance of refining feedback strategies to enhance both teacher effectiveness and student learning outcomes. To address this question, researchers emphasize the critical role of feedback in L2 learning and teaching, advocating for multiple sources—including teachers, peers, and automated programs—to provide learners with diverse feedback during the writing process (Evans & Ferris, 2019). Grounded in PCT (See 2.1.1), feedback is viewed as a problem-solving process wherein L2 writers construct solutions throughout the composing process rather than seeking them immediately.

In light of this perspective, an effective feedback strategy to enhance learners' cognitive processes within a social context involves leveraging multiple sources to help students address various types of errors and engage in active redrafting to improve L2 writing (Zhang & Hyland, 2022). For instance, automated systems and peer feedback can target a wide range of surface weaknesses in students' work initially, while teachers after that can be freed to offer comprehensive meaning feedback in subsequent steps on different writing aspects. In this step, teachers play multifaceted roles as readers, writing guides, and language experts (Ismail et al., 2008). Hence, this would distribute the cognitive workload more evenly and efficiently throughout the writing task on both the teacher and the students.

By doing this, both the accuracy and content of feedback are crucial for students' writing progress and contribute to positive rewriting and editing processes and skills (Fathman & Whalley, 1990). These aspects, as mentioned earlier, are categorized in this study as surface-level and meaning-level areas, respectively. Consequently, the subsequent discussion will explore the challenges of relying

solely on one feedback source to effectively cover both areas, highlighting the potential benefits in specific areas and drawbacks in others, thereby underscoring the need for integration of different feedback sources which this study aims to.

2.4.1 Rethinking the Value of Teacher Feedback

Teacher feedback has gained significant attention in the literature, with teachers traditionally assumed to possess the primary authority and serve as the principal source of accurate and reliable feedback. Ferris (1997) investigated the efficacy of several types of comments in aiding L2 students with revision. The results indicated that marginal comments, requests for clarification, and comments on grammatical errors facilitated the most effective revisions. Straub (1997) reported that students sought comments on both global aspects (i.e., contents, organisation, and purpose) and local aspects (i.e., sentence structure, word choice, and grammar). In this sense, the students expressed a preference for feedback that contains guidance and seeks explanations. Consequently, when providing feedback on student problems, writing teachers should also offer comments on content and many suggestions for enhancing their writing (Srichanyachon, 2012).

Yet research in this field uncovered inconsistent findings related to the effectiveness of teacher feedback in L2 writing. In this sense, early studies highlighted some challenges that may arise if the teacher attempted to handle all types of errors in L2 writing alone. In turn, this approach would not result in a holistic writing performance improvement.

For instance, Amrhein and Nassaji's (2010) study revealed a discrepancy between teacher feedback practices and what the students prefer. Students showed an interest in more comprehensive feedback on their work when the teacher addressed specific feedback either on content or accuracy. Such disconnection entails that the teacher feedback alone may influence students' improvement in L2 writing as long as it may ignore important issues for writing performance (Amrhein & Nassaji, 2010).

Furthermore, the challenge of providing adequate feedback is compounded in large class settings, where individual attention becomes scarce (Yang et al., 2006). Yang et al.'s (2006) study found that the students value their peer feedback despite their accountability on their teacher feedback. In this sense, peer feedback, besides that it could successfully complement teacher feedback, it has an important role in creating an interactive learning environment in L2 writing class. Therefore, while teacher feedback is instrumental in guiding students' revisions based on specific errors, it may fall short in promoting active engagement within the classroom (Yang et al., 2006). As such, Yang et al. (2006) advocate for a balanced approach wherein students take on more responsibility in the feedback process, thereby fostering independence and enriching the learning experience.

In a different study conducted by Marzban and Arabahmadi (2013), teacher feedback was found as an informative source that fosters the students' subsequent revisions. Nevertheless, although teacher feedback is an efficient source for some writing aspects, its impact seemed to be not on other aspects. In this sense, they (2013) observed that teacher feedback is not an effective source on fluency and complexity while it is more effective on accuracy and grammar. So, to address the challenge of insufficient and sometimes uninformative feedback, they (2013) propose a strategic shift in feedback provision rather than attempting to resolve all writing weaknesses simultaneously. This refers to focused feedback on specific types of mistakes wherein teachers can help students concentrate their efforts on some areas of weaknesses, thereby facilitating more effective learning over time.

Other studies, in contrast to the earlier ones, suggest that teacher feedback is most effective when it concentrates solely on content and meaning aspects (e.g., Diab, 2005; Kepner, 1991). For example, Diab (2005) argued that the style and ideas in students' work were given comprehensive consideration by teachers. Despite this, students often express more concern for accuracy and grammatical issues, preferring their teachers to correct all errors. Similarly, Kepner (1991) emphasized the importance of evaluating not only grammatical issues but also the meaning and ideas in students' writing. In his research, Kepner (1991) observed that when teachers prioritize content, the students' writing becomes richer and more idea-driven. The emphasis here lies not only in counting errors but in empowering students to employ language effectively in their writing (Kepner, 1991).

Nevertheless, adopting such a narrow perspective may not yield the comprehensive improvement in writing that this research aims to achieve. By focusing solely on one aspect of writing weaknesses, there is a risk of overlooking others that are crucial in L2 writing. As a result, students may improve their accuracy while the content lacks depth, or they may refine their ideas while failing to produce accuracy in their language. This is not to mention that, based on SCT, the role of the teacher in L2 writing extends beyond correction; it involves an understanding of the learners' evolving capacities. This understanding in turn enables teachers to modify tasks and learning conditions to match students' needs effectively (Lantolf & Thorne, 2014; Poulos & Mahony, 2008). Therefore, the efficacy of teacher feedback centres on various factors, including the class size, the writing approaches (product or process) (Marzban & Arabahmadi, 2013), the nature of errors, and the individual student needs, goals, and proficiency levels (Guentte, 2007; Poulos & Mahony, 2008). Overlooking these factors can significantly influence the efficacy of teacher feedback, leading to a negative emotional response among students which ultimately have the potential to hinder learning progress (Semke, 1984).

As seen in the previous studies, relying solely on teacher comprehensive feedback resulted in conflicted findings and hence conflicted in its efficacy (Amrhein & Nassaji; 2010; Diab, 2005; Kepner, 1991; Marzban & Arabahmadi, 2013; Yang et al., 2006). Hence, a question that may arise in regard to its reliability in L2 writing classroom. In this regard, loaded teaching responsibility and time restrictions can be factors that cause the variabilities in findings and hinder the effectiveness of teacher feedback (Ruegg, 2015). It is important to note that addressing multiple L2 writing weaknesses simultaneously during the feedback process can lead to a lack of novelty and clarity in the teacher's feedback, which can limit students' comprehension (Knoblauch & Brannon, 1981). Indeed, as highlighted by Sheen (2007), using feedback comprehensively may overwhelm the students' attention and knowledge, which could extend to cause some negative psychological effects like frustration and demotivation due to the many red marked areas (Harmer, 1991). Besides, the time that the teacher consumed in evaluating L2 writing may not always lead to the desired improvements in L2 writing performance (Lee, 2009).

In other words, the studies grounded in SCT emphasize the need for a well-designed feedback model that considers the influencing factors mentioned earlier. Hence, teachers must carefully plan both the quantity and quality of feedback to maximise its benefits. This, in turn, prompted many of them to seek ways to refine their feedback practices, with the aim of enhancing their feedback's effectiveness (Tian & Zhou, 2020; Zhang & Hyland, 2022). In this sense, teachers deem the integration of AWE tools and peer feedback, alongside teacher feedback, a viable approach for achieving a better holistic performance towards L2 writing improvement (Tian & Zhou, 2020; Zhang & Hyland, 2022).

2.4.2 Redefining the Worth of Automated Written Feedback (AWF)

Automated Written Feedback (AWF), as defined by Shadiev and Feng (2024) “is feedback provided by a system on texts written by language learners” (p. 2538). Its assumption has initiated considerable interest in L2 writing classes as a tool for enhancing writing proficiency. However, research examining the absolute use of AWF in process writing has yielded diverse findings, revealing both its potential benefits and limitations in specific areas (Huang & Renandya, 2020; Hu, 2017; Liao, 2016; Li et al., 2015; Ranalli, 2018; Wang et al., 2013).

For instance, in a study conducted by Liao (2016), it was observed that the use of Criterion, a common AWF tool in Asian English-writing classroom, positively impacted L2 writing accuracy, particularly in grammar. In this sense, the AWF was able to offer immediate feedback on grammar issues such as run-on sentences, fragments, ill-formed verbs, and subject-verb disagreement. In a similar context, Li et al. (2015) showed that the same tool (Criterion) was able to develop the accuracy in the students' writing through providing prompt correction and encouraging more

revisions. Nonetheless, L2 students usually are in need to be involved within a social context wherein they can interact with more skilled writers who can scaffold their peers/classmates in managing AWE feedback (Huang & Renandya, 2020). Therefore, despite its features and usefulness for some areas in L2 writing, students were not highly satisfied with the feedback quality (Li et al., 2015). This is because the cognitive development toward the usefulness of AWF feedback most likely depends on the more knowledgeable individuals' scaffolding within L2 writing contexts (Li et al., 2015).

Similarly, Wang et al. (2013) supported the notion that AWF can successfully boost the accuracy of L2 language accuracy which is delivered through an instant form-based correction. CorrectEnglish, the automated writing evaluation tool used in their study, could allow students to improve areas of their writing such as grammar, word choice, and spelling aspects. Also, the ease of understanding feature that AWF has can encourage students to take responsibility for their writing, hence raising their confidence. Despite that, L2 students in their study still tended toward the humanized type over AWF feedback (Wang et al., 2013).

Indeed, even though the AWF tools play an important role in improving accuracy in writing and confidence at the students, the reliance on its function for holistic L2 writing improvement could be problematic. In this vein, a study by Hu (2017) showed that Pigai tool may not be adequate for L2 writing improvement because it sometimes provides misleading corrections and lacks meaningful feedback on content such as coherence or structure. Also, Wang et al. (2013) encouraged the integration of humanized feedback to complement AWF, since it may hold limitations pertaining to the writers' intentions and contexts, which is also observed in other similar studies (e.g., Huang & Renandya, 2020; Lai, 2010; Li et al., 2015; Mohsen & Alsharani, 2019). Ranalli (2018) found that while Criterion offers specific feedback, it lacks successful general feedback level, leaving students to tackle many weaknesses alone. Subsequently, L2 students apply additional mental effort to ensure clarity, added to their unfamiliarity with AWF terms and concepts (Ranalli, 2018). This emphasizes the need for scaffolding from peers and teachers to effectively develop the use of AWF tools (Li et al., 2015).

2.4.2.1 Grammarly Software

Grammarly software was selected for the context of this study due to its widespread use and accessibility in teaching practices. It was launched by Max Lytvyn and Alex Shevchenko in 2009 possessing over four million registered users. According to Cavaleri and Dianati (2016), this tool is designed to handle different English writing areas up to ten times more errors than other AWE tools, with a range of over 250 grammar and spell checker.

This study, therefore, applied the premium version of Grammarly costing $1650 per year for its participants who consisted of 33 L2 learners. In doing so, it could provide learners an easy access to an ample writing aspect. That is, the premium version offers 150 grammar points, plagiarism

detection, vocabulary enhancement suggestions, and a spelling tool. It also offers detailed explanations for each feedback item, sorting its corrections into different colours: correctness, clarity, engagement, and delivery: red, blue, green, and purple, respectively. Thus, the writers have the option to accept or ignore feedback and can also select from various writing domains such as academic, business, general, email, casual, and creative writing. This is besides that they can identify the formality of their writing and who are their target audience.

Given these features, numerous studies have emerged, exploring the implementation of Grammarly to assess its effectiveness in L2 writing (Cavaleri & Dianati, 2016; Ebadi et al., 2023; Fahmi & Cohyono, 2021; Ghufron & Rosyida, 2018). Similar to other AWE tools, the findings regarding Grammarly's use in L2 writing may prove advantageous in certain areas while lacking efficacy in others, highlighting the importance of multiple feedback source integration.

For instance, in studies conducted by Ghufron and Rosyida (2018), Fahmi and Cohyono (2021), and Ebadi et al. (2023), students revealed proficiency in various aspects of writing such as vocabulary, grammar, spelling, punctuation, conciseness, and wordiness due to Grammarly use as it could provide clear explanations alongside its feedback (Ebadi et al., 2023). Additionally, students found Grammarly helpful in identifying mistakes quickly and directly, contrasting with the speed and directness of teacher feedback (Ghufron & Rosyida, 2018). Similarly, it emerged as a practical and beneficial tool for enhancing students' writing confidence by deepening their understanding of grammatical issues (Fahmi & Cohyono, 2021; Cavaleri & Dianati, 2016). Having said that, Grammarly may empower learners to be more confident and self-directed in improving their L2 writing. To increase the possibility of its effectiveness, Fahmi and Cohyono (2021) introduced peer collaboration for Grammarly use, enabling each other to manage software challenges from the beginning, minimising the need for assistance from teacher. As a result, only a minority of students (11%) required technical assistance with Grammarly, while the majority (89%) could operate it independently.

However, Grammarly's function is constrained by its limitations in addressing specific features, particularly content and organization (Ghufron & Rosyida, 2018). This is because it lacks the ability to assess the content of students' work as it aligns with their intention and context as well as the coherence (Cavaleri & Dianati, 2016; Ebadi et al., 2023; Ghufron & Rosyida, 2018). Instead, these aspects are better managed by teacher feedback. Additionally, Fahmi and Cohyono (2021) discovered that Grammarly sometimes provided misleading feedback, leading learners to express dissatisfaction with its inaccuracies. Rather, teacher feedback helped students repair those mistakes overlooked by Grammarly. Therefore, the students in their study acknowledged the need for Grammarly and teacher feedback together to enhance their writing skills and confidence (Fahmi & Cohyono, 2021). In doing so, teachers might consider incorporating Grammarly into their writing

classes as an additional teaching tool, recognizing its insufficiency in improving L2 writing alone (Fahmi & Cahyono, 2021). Along the way, teachers are also advised to intervene and assist students in understanding some of Grammarly's feedback and suggestions (Cavaleri & Dianati, 2016).

In short, the inconsistent findings in previous studies raise three claims that need further research. Firstly, AWE demonstrates proficiency in providing students with effective feedback on surface-level errors such as grammar, punctuation, spelling, and vocabulary. Students prefer its easy-to-use, direct, and immediate features, which boost their self-confidence in L2 writing (Fahmi & Cohyono, 2021; Cavaleri & Dianati, 2016). Secondly, however, relying solely on automated feedback may fall short in enhancing students' L2 writing in other aspects, such as contextual understanding, meaning, and idea development. Learners with low English proficiency and poor lexical levels may struggle with organizing and expressing complex ideas (Lai, 2010), making it challenging to identify and edit their weaknesses (Bitchener & Ferris, 2012). Thirdly, the limited feedback on writing accuracy and the absence of meaning-level feedback, including idea development, necessitate the integration of human intervention to improve L2 writing holistically. Van Beuningen (2010) argues that focusing solely on accuracy is artificial, advocating for comprehensive feedback in real writing contexts. As such, researchers recommend using automated feedback as a supplement, not a replacement, for expert feedback (Lai, 2010; Zhang, 2020). The involvement of more knowledgeable individuals, such as teachers and peers, is crucial not only to complement AWE feedback but also to scaffold and provide clear and accurate feedback throughout the writing process.

2.4.3 Unlocking Potential: Peer Feedback as Ally, Not Replaceable

Peer feedback is defined as the:

> use of learners as sources of information and interactants for each other... that learners assume roles and responsibilities that enable them to comment on and critiquing each other's drafts in both written and oral formats in the process of writing (Hansen and Liu, 2005, p. 31).

Despite the extensive research on peer feedback and its impact on L2 students' writing improvement, studies in this area showed inconsistent findings (Chen, 2021; Fan & Xu, 2020; Hanjani & Li, 2014; Irwin, 2017; Kusumaningrum et al., 2019; Wang, 2014; Zhu & Carless, 2018).

Fan and Xu (2020) investigated how peers contribute to L2 student writing, finding that they often focus more on form-related aspects like grammar and vocabulary rather than content and ideas. Similarly, Hanjani and Li (2014) observed the collaborative writing activities of L2 learners, discovering that while peer feedback positively impacted surface-level aspects, such as grammar and

vocabulary, it had limited influence on content. This emphasis on form over content was attributed to various factors, including the nature of errors, writing techniques, and students' knowledge levels.

Confirming these findings, Wang (2014) noted that peers tend to focus on grammar and vocabulary accuracy. Also, Chen (2021) shed further light on this and found that while peers excel at evaluating ideas, they find it easier to address smaller language units like spelling and grammar compared to the other aspects such as text structure and content. Similarly, Irwin (2017) highlighted the novice nature of peer feedback providers, stating that they primarily correct simpler errors before essays go further for teacher feedback.

On the contrary, some researchers highlight peer feedback as a catalyst for shaping meaning and generating ideas in L2 writing. For example, Kusumaningrum et al. (2019) showed that peer feedback facilitated idea generation and led to enhanced writing performance, with the students rethinking their sentences based on their peer feedback. They (2019) emphasized that peer feedback, as an alternative writing activity, reduces the burden on teachers without affecting writing quality. This is albeit without indicating improvement in surface-level areas. Likewise, Zhu and Carless (2018) discovered that peers can engage in discussions and provide feedback on content and ideas, while also addressing surface-level aspects. This collaborative environment, in turn, not only encourage higher-order level writing but also provide valuable social support for learners to interact with more skilled writers and seek guidance from them (Bruffee, 1984).

Indeed, in recent studies, peer feedback emerges as a unique source for fostering interactive and collaborative learning environments among learners. As demonstrated by Chen (2021) and Fan and Xu (2020), engaging in face-to-face dialogue with peers facilitates the negotiation of meaning, exchange of ideas, and development of behavioural strategies to enhance L2 writing. This interaction among learners not only encourages discussions and inquiries but also promotes seeking assistance from knowledgeable peers. Peer feedback's value lies in the collaborative activity it produces, which plays a pivotal role in fostering long-term L2 writing improvement (Tsui & Ng, 2000). Furthermore, peer feedback encourages reviewers to take ownership of their comments, leading to self-evaluation on their own work and critical reflection on that of others (Ballantyne et al., 2002; Carless & Boud, 2018). Consequently, involving students as peers and active participants in the writing feedback process enhances ideas and meanings and empowers learners to take an active role in their own learning journey.

However, peer feedback, as the case with other feedback sources, can be influenced by various factors, including peer relationships, goals, and inconsistent language levels. Wang (2014) highlighted the significance of peer relationships in feedback efficacy, noting that maintaining the same pair throughout the semester could lead to students’ boredom and impact learning goals. In his study, Wang (2014) suggested that rotating pairs regularly may secure further investigation to enhance the

effectiveness of peer feedback. Moreover, Fan and Xu (2020) noted that peer relationships could result in inconsistent emotional reactions, such as embarrassment, anxiety, or feelings of disappointment during peer feedback sessions. Thus, this inspired the design of the current study wherein in order to minimise the effect of boredom of working with the same peer each class, and in order to maximise the benefits of new ideas and experience, the students work with different peers in each task/week (See 3.4.3).

Added to that, some negative emotions among peers may still arise from their lack of ability to provide effective feedback due to either a lack of knowledge or lack of caution (Fan & Xu, 2020). Additionally, such feelings can be attributed to the varying language levels among learners (Dressler et al., 2019; Fan & Xu, 2020). Wang (2014) emphasized that learners with higher English proficiency may find their peers' feedback unhelpful, while those who are more experienced in providing feedback tend to offer more significant feedback (Lai, 2010). Allen and Mills (2016) investigated the impact of differing language levels on the quality of peer feedback and found that the proficiency of reviewers indeed influences feedback quality, particularly evident when higher proficiency learners are paired with lower proficiency ones. Drawn on the SCT, reviewers may shape their feedback based on their ZPD, which in turn may not always align with the writer's/receiver's ZPD. Consequently, if there is a significant gap between the ZPDs of both peers, the writer may not obtain significant benefits from the peer feedback (Allen & Mills, 2016).

Moreover, students' beliefs regarding peer feedback significantly influence its effectiveness, especially in Asian educational settings where authority is traditionally given to teachers rather than peers (Chen, 2021). Allei and Connor (1990), examining the cultural interactions and collaborations among students, found learners doubt the credibility of their peer feedback. These doubts may be caused by peers being learners themselves, their limited understanding of the subject matter (Carless & Boud, 2018; Wang, 2014), or their lack of fluency in English (Tsui & Ng, 2000).

Therefore, collectively, findings from Chen (2021), Fan and Xu (2020), Irwin (2017), Wang (2014), and Zhu and Carless (2018) suggest that integrating peer feedback with teacher feedback serves to enhance the feedback process. In this sense, Ghani and Asgher (2012) cautioned that relying solely on peer feedback may negatively impact learners' emotions, emphasizing the complementary role of teacher feedback. Moreover, the combined use of peer and teacher feedback not only eases the teacher's workload, allowing more focus on content, but peer feedback role, as mentioned before, extends to fostering an interactive learning environment where learners are motivated to engage in writing activities, encouraged to be active participants for a team building and empowerment (Irwin, 2017). Indeed, implementing peer feedback in L2 writing classes promotes reflective knowledge production, allowing learners to develop critical thinking skills as they provide and receive feedback on L2 writing (Van Popta et al., 2017).

The inconsistent findings from the discussed studies highlight the need for further investigation into three key claims. Firstly, relying solely on peer feedback may not be sufficient to comprehensively improve students' L2 writing across both surface-level and meaning-level aspects. Studies suggest that students tend to address issues based on their own knowledge, indicating potential gaps in feedback effectiveness (Shi, 2021; Tian & Zhou, 2020). Secondly, while peer feedback fosters an interactive learning environment that promotes initiative, critical thinking, and reflection among learners, its effectiveness may be hindered when considered in isolation. Factors such as varying language levels, relationship dynamics among learners, limited knowledge/understanding, and negative beliefs regarding peer feedback can all negatively impact learners' emotions (Jacobs et al., 1998). Thus, the presence of a teacher as a facilitator and feedback checker becomes essential to complement this source. That is, peer feedback should be integrated as part of a comprehensive feedback approach, with the teacher's guidance and observer to its effectiveness (Yang et al.,2006).

Lastly, it is crucial to address learners' novice abilities in providing feedback and tackle the difference in feedback provision across different areas of L2 writing (Jacobs et al., 1998). Implementing a well-designed training program for peers can mitigate these challenges by equipping them with the skills to address various writing weaknesses consistently. This approach not only enhances learning outcomes but also lessens the teacher's burden of reviewing L2 writing (Xu & Fan, 2020; Wang, 2014). Peer feedback guidelines can offer writers with diverse capabilities and an opportunity to contribute effectively (Min, 2005). By clarifying expectations and providing guidance, such training can empower them to offer meaningful feedback on content, coherence, and other aspects of writing (Min, 2005). Consequently, learners become more familiar to previously overlooked weaknesses and can address them more effectively during later tasks (Berg, 1999). Therefore, effective peer feedback training/checklists emerges as a pivotal factor in integrating it with other sources calling for more research into its potential contributions.

2.5 Navigating New Perspective: The Position of This Study

The preceding discussion on the single application of feedback sources—automated (e.g., Cavaleri and Dianat, 2016; Ebadi et al., 2023; Fahmi & Cohyono, 2021; Ghufron & Rosyida, 2018; Huang & Renandya, 2020; Hu, 2017; Liao, 2016; Li et al., 2015; Mohsen & Alshahrani, 2019; Ranalli, 2018; 2021; Wang et al., 2013; Zhang, 2020), peer feedback (e.g., Allei & Connor, 1990; Allen & Mills, 2016; Ballantyne et al., 2002; Carless & Boud, 2018; Chen, 2021; Dressler et al., 2019; Fan & Xu, 2020; Ghani & Asgher, 2012; Hanjani & Li, 2014; Irwin, 2017; Lai, 2010; Shokrpour et al., 2013; Kusumaningrum et al., 2019; McConlogue, 2015; Min, 2005; Wang, 2014; Zhu & Carless, 2018), and teacher feedback (e.g., Amerhein & Nassaji, 2010; Boud & Molley, 2013; Diab, 2005; Dikli & Bleyle, 2014; Han & Hyalnd, 2015; Marzaban & Arabahmadi, 2013; Yang et al., 2006; Zhang & Yu, 2018)—

points toward an integrative model, referred in this study as APT model. This model suggests that getting the benefits of all three sources collaboratively can mitigate the limitations associated with relying solely on one, thereby enhancing student engagement, and possibly leading to positive outcomes in L2 writing. Therefore, this study has several contributions as discussed in the following paragraphs.

Upon an extensive review of the literature, it appears that only four studies have researched the significance of integrating the automated, peer, and teacher feedback model. In this sense, the concepts of engagement and L2 writing performance share a dynamic relationship with feedback, influenced by both individual and contextual factors. However, these studies primarily analysed students' engagement concept independently, overlooking the complex relationship between both concepts (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022). They defined engagement as a pivotal concept linked to learners' uptake of feedforward benefits in their written drafts (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022).

For instance, in studies conducted by Shi (2021), Tian and Zhou (2020), Xu and Zhang (2023), and Zhang and Hyland (2022), a naturalistic case study approach was employed, focusing on Chinese participants at the university level. The duration of these studies varied, with Tian and Zhou (2020), Shi (2021), and Zhang and Hyland (2022) across 17-16 weeks semesters, while Xu and Zhang (2023) conducted their study over a 4-week period. Furthermore, the participants' English proficiency levels ranged from low intermediate to high intermediate in Tian and Zhou's (2020) and Shi's (2021) studies, similar to the current study. However, participants in Zhang and Hyland's (2022) study were at an advanced academic English level, and those in Xu and Zhang's (2023) study were postgraduate researchers.

In contrast to the current research study, which adds a unique dimension to the APT literature, most of the aforementioned studies were conducted within online writing contexts (e.g., Shi, 2021; Tian & Zhou, 2020; Zhang & Hyland, 2022), positioning the researchers as external observers detached from the authentic social and teaching environments. That is to say that an active involvement within the context could have provided deeper insights into the real impact of the model by immersing researchers within face-to-face classrooms and closely observing students' engagement. In addition, stimulated recall interviews were employed to explore students' perspectives (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022). Silva and Matsuda (2001) emphasized that understanding the significance of writing practices necessitates dedicated time to hear from students themselves, allowing their voices to significantly contribute to the intervention. However, the researchers' absences within the contexts still introduces limitations. That is, the lack of direct presence in the contexts may obscure a comprehensive understanding of the phenomenon, as researchers could have better positioned themselves within the environments and offered first-hand

observations and reflections. As such, this study adds to the knowledge through not only relying on the voices of students, but it informs the voice and observation of the researcher herself about the students' reactions in the classroom during the APT steps which in turn enriches the students' voices in the focus groups and reflective journals.

Furthermore, Zhang and Hyland (2022) and Xu and Zhang (2023) chose to implement the APT by employing the three feedback sources across different weeks, rather than integrating them into a single session. Their focus primarily revolves around examining learners' engagement with each source independently. In contrast, this study diverges from this approach, drawing inspiration from Shi (2021) and Tian and Zhou (2020), who underscore the significance of incorporating the feedback process steps within a single session. Consequently, the current research proposes a single task involving the three steps of feedback revisions—AWE, peer, and teacher feedback—as a means to enhance students' essays and their English writing proficiency.

Moreover, in the four aforementioned studies, peer feedback primarily involved peers providing broad feedback on recipients' work, focusing on strengths and weaknesses as reflective forms of writing, mainly benefiting the recipients. This approach suited learners beyond their second year, majoring in Academic English (e.g., Tian & Zhou, 2020; Zhang & Hyland, 2022), or postgraduate researchers (e.g., Xu & Zhang, 2022) with an earlier experience to academic writing. However, this study differs in three key aspects. First, in terms of research design, equal importance is given to both surface-level and meaning-level criteria instead of giving general feedback. Students are trained/guided to provide feedback using adapted checklists (Min, 2005) and engage in oral discussions in their L1 to enhance their understanding of writing weaknesses. Second, the participant demographics differ, focusing on multilevel writers encountering Academic English writing for the first time in their preparatory year, which is mandatory for academic progression. This shift in focus may produce different outcomes compared to previous research, contributing to the field's understanding of APT application in similar contexts. Third, peer feedback in this research study does not aim to mainly benefit the recipients only, but the reviewers as well. Xu and Zhang (2023) affirmed that peer feedback benefits both recipients and reviewers by identifying overlooked weaknesses. Exploring how peer feedback influences both parties within the APT model underscores the reciprocal advantages experienced by both reviewers and recipients. Nevertheless, while Shi (2021), Tian & Zhou (2020), and Zhang & Hyland (2022) highlighted peers' roles as social agents within the APT framework, there has been a notable lack of emphasis on collaborative dynamics in authentic settings, primarily due to conducting peer feedback step via online platforms. This limitation therefore is addressed in this study to explore the potential for mutual benefits among learners.

Methodologically, in terms of assessing the impact of the APT on learner engagement, the research methodologies of previous studies differ from the approach taken in this study. Previous studies examined engagement with each feedback source separately using methods such as stimulated recall interviews, diaries, peers' written comments, and written drafts (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022). Focusing solely on engagement with individual feedback sources would not provide a complete understanding of the integration's effectiveness on engagement. In contrast, this study investigates learner engagement with the APT as a whole through classroom observation, reflective journals before and after the intervention, and focus groups at different stages. This comprehensive approach allows for exploring L2 learner engagement by observing how AWE, peer, and teacher feedback collectively facilitate cognitive, behavioural, and affective engagement in L2 writing context.

This study not only scrutinises learners' engagement but also takes into account their writing improvement to bridge the gap in existing literature, as previously stated. In this vein, for the students' writing draft analysis, Shi (2021) and Tian and Zhou (2020) used feedback quantities provided by each source and their uptake rates, a dimension largely overlooked in studies by Xu and Zhang (2023) and Zhang and Hyland (2022). While this approach served as inspiration for the current study, the integrational dynamics of APT and its impact on L2 writing performance through this data source were still scarce. Therefore, this study stands out by analysing the students' writing drafts for three main purposes: exploring L2 writing performance changes over time, the role of each feedback source, and the students' uptake of the feedback offered, thus addressing the key research questions respectively (See 1.3Chapter 4).

2.5.1 Research Gaps and Research Questions

After a thorough discussion of the gaps existed in the extant literature, this final section aims to synthesize those gaps with the aims and research questions of this study. This is in order to provide a clear picture of where the aims are coming from and how they are driving the research to move forward in the next chapters.

2.5.1.1 Theoretical gaps

Firstly, this study aims to explore the impact of using AWE, peer, and teacher feedback equally on both L2 learners' engagement and writing performance over time. These aims were influenced by a gap in understanding how engaged learners can utilize feedback strategies to enhance their learning outcomes, in which what goes beyond engagement (the writing outcomes) has largely been overlooked (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2021) (See 2.5). In this sense, the first aim of this research is to investigate how the APT (AWF, peer, and teacher feedback) affects students' writing performance over time, while the second aim is to examine its impact on

their engagement behaviourally, cognitively, and affectively. These two aims therefore have set the first and third questions for the current study (See Table 2).

Secondly, in their studies, Xu and Zhang (2023) and Zhang and Hyland (2022) chose to implement the APT by applying one feedback source in each session, rather than integrating them into a single session. Similarly, the peer feedback was limited to benefiting the recipients' work (e.g., Tian & Zhou, 2020; Xu & Zhang, 2022; Zhang & Hyland, 2022), rather than exploring its role on both reviewers and recipients (See 2.5). To address these gaps, this study outlines its third aim, which is to investigate how the APT sources, including collaboratively (AWF, peer, and teacher revisions), perform uniquely in a single session or task and whether they overlap or complement each other. This aim, in turn, establishes the second research question for the current study (See Table 2).

2.5.1.2 Methodological gaps

There are several methodological gaps that this research study will address and accordingly help design its methodology innovatively. First, in regard to examining the L2 students' engagement with the APT, previous studies have examined engagement with each feedback source separately using methods such as stimulated recall interviews, diaries, peers' written comments, and written drafts (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022). However, these studies only focused on engagement with individual feedback sources through students' voices, which does not provide a complete understanding of the effectiveness of integration on engagement. Second, previous studies positioned the researchers as external observers detached from the authentic social and teaching environments. Therefore, this study recognizes the importance of the researcher positioning themselves within the environments and offering first-hand observations and reflections (See 2.5).

In order to address the methodological gaps in examining learners' engagement with the APT, this study takes a unique approach by collecting data from both student voices and the researcher herself, using triangulated qualitative tools (i.e., Focus Groups, Reflective Journals, and observation notes) regarding the students' engagement in a face-to-face classroom during the APT steps. Moreover, since these studies only focused on specific individual cases through the use of case study design, the broader perspectives from a wider sample were overlooked. This study then aims to fill this gap by quantitatively examining how the entire group perceives the impact of APT on their engagement behaviourally, cognitively, and affectively through a questionnaire tool.

Moreover, building on the previous studies that focused on Chinese participants at the university level, Zhang and Hyland's (2022) study examined participants with advanced academic English proficiency levels, while Xu and Zhang's (2023) study involved postgraduate researchers. Consequently, the design and delivery of peer feedback in these studies were designed to match

their proficiency levels and online context. However, participants in different contexts, such as Saudi Arabia, were multilevel writers encountering Academic English writing for the first time during their university-level years. Therefore, this study draws inspiration from such context by adapting checklists (Min, 2005) for peer feedback, emphasizing both surface and meaning-level aspects instead of providing general feedback which would be challenging for the specific context of this study.

In addition, this study builds upon methodological gaps in utilising the students' essay writing drafts as main data source. In this vein, Tian and Zhou (2020) and Shi (2021) used students' written drafts to evaluate feedback items provided by each source and their uptake rates only, while the same was largely overlooked in the studies conducted by Zhang and Hyland (2022) and Xu and Zhang (2023). Thus, in this study, the analysis of the same data sources is utilized to add to the body of knowledge to achieve three main objectives. These objectives include investigating the changes in writing performance over time, understanding the unique role of each feedback source in providing feedback, and examining the students' behavioural decision making to the feedback (See 1.2).

2.6 Chapter Summary

In this chapter, I have discussed and consolidated the theories related to my research study. To begin, I discussed the foundational theories that help understand the nature of L2 writing and how it can be learned. L2 writing is a process that includes different recursive stages, such as brainstorming, drafting, and reviewing. These stages are more effective in a social context, where scaffolding and mediation can help learners progress from their current levels to potential levels within their ZPDs.

Next, I discussed the approaches to teaching L2 writing, which are also important for achieving effective outcomes. Specifically, I focused on the product, process, and genre-oriented approaches. In this context, I highlighted the significance of the integration of these approaches to facilitate effective teaching of L2 writing. By doing this, teachers can address the challenges associated with each approach and cover the different aspects that L2 learners need.

Afterwards, I turned to the main components of this research: the nature of L2 writing feedback and engagement during learning and teaching L2 writing. It is important to consider that relying on one source of feedback can be problematic for improving the quality of L2 writing. This is particularly since each source can perform uniquely and complement the other. Tools like Grammarly can help address surface-level issues, allowing peers and teachers to focus on more nuanced writing issues such as content and ideas. Within this process, engagement is also key to ensuring the effectiveness of feedback provision on L2 writing. When learners are engaged behaviourally, cognitively, and affectively, they are better able to identify and address their weaknesses in L2 writing. They can also

be aware and selective of the feedback items that are relevant to their specific writing context, ultimately leading to improvement in their writing performance over time.

This chapter is concluded through the position of this study where a new perspective to investigate the APT model is discussed and theoretical and methodological gaps are clarified. Following this, in the next chapter, I will present the research design and methodology, discussing its paradigms and data instruments that were used, as well as explaining how they were collected and analysed within a reliable, valid, and ethical manner.

Chapter 3 The Research Design and Methodology

The aims of this research study are to examine the nature of AWE, peer, and teacher feedback as three sources within one model, and how this model could affect the writing performance and engagement of L2 learners over a period of time. The decision to utilize a mixed-methods approach in this research study was not primarily driven by the research aims, but rather by its appropriateness and distinctive characteristics in addressing the research questions and framework (Creswell & Clark, 2017).

Table 2 Research Questions, Aims, Data Instruments, and Methodology Approaches

Research Questions	Aims
How does the APT model impact L2 learners' writing performance over time?	This question aims to examine how APT contributes to reducing weaknesses in students' written work over time. By doing this, it aims to explore and justify whether APT improves their writing performance across different tasks. The findings of this question present the students' writing changes alongside the pre- and post-test results.
How does the feedback provided by APT sources complement or duplicate each other?	This question aims to explore the nature of the APT sources' work. It aims to explore the role of each source, the specific feedback provided by each source, and whether the feedback given by each source is unique and complementary to one another, or if there is a duplication in improving the student's writing over time.
How does the APT model impact L2 learners' engagement cognitively, behaviourally, and affectively over time? What are the contextual and individual factors that affect their engagement?	This question aims to explain how students are engaged cognitively, behaviourally, and affectively throughout their writing process, both inside and outside the classroom. The discussion also provides an explanation of the individual and contextual factors that influence their engagement or disengagement with the model.

In Table 2, to answer the research questions, I adopted a mixed-methods approach. This approach is widely used in social research as it offers the advantage of broadening the scope of the study to encompass important areas that necessitate in-depth analysis and emphasis (Greene, 2007).

Hence, this chapter first discusses the research paradigm encompassing its philosophy followed by a discussion of the research design. Next, it discusses the participants and context of this study. This is followed by an explanation of the teaching procedures. A section is then dedicated to discussing the data collection instruments, including pre- and post-tests, post-study engagement questionnaire, focus groups (FGs), reflective journals (RJs), and classroom observation. For each instrument, I provided a thorough discussion of its significance and justification for its choice.

Next, I presented the data collection and the data analysis procedures. I took the opportunity, then, to reflect on my role as a researcher and teacher, highlighting how this dual role enabled me to

complete this study. This chapter concludes with a presentation of the study's validity, reliability, and ethical considerations.

3.1 The Research Paradigm

In every research project, there are two essential research philosophy assumptions to examine, which are the ontology and epistemology. Creswell and Poth (2016) define ontology as the nature of reality, whereas epistemology is concerned with how reality is known and what is considered knowledge. They (2016) indicated that these philosophical assumptions are frequently applied through various interpretative frameworks known as research paradigms, which are described as a collection of concepts that guide the conduct of any research. These conceptions frequently are not limited in their influence on the choice of specific theories and methods, but they also inform what has to be examined and accomplished, and how results may be assessed (Bryman, 2006).

In light of this, the ontology and epistemology of this study are grounded in a combination of theories, specifically the process cognitive and sociocultural theories (Flower & Hayes, 1981; Vygotsky, 1978). These theories are used to understand how three sources of feedback (APT) can be investigated in the context of L2 writing. This combination, in turn, guides the research from a pragmatic theoretical perspective, incorporating a blend of realities and measurement tools to effectively study the phenomenon. Such research approach is referred to as "mixed-methods" (Creswell, 2021).

Adopting a pragmatic perspective and a mixed-methods approach was a decision made for several reasons. First, using the positivist perspective alone, which relies solely on quantitative design, would not be able to provide strong and comprehensive answers to the research questions. The effects of the APT model on students' engagement and writing performance cannot be objectively measured using this approach, nor can it reveal learners' perceptions and opinions about the experience (Carey, 2013; Crotty, 1998; Lin, 1998; Phillips et al., 2012; Tashakkori et al., 1998). Second, the interpretivist perspective, which supports the qualitative approach alone, would not accurately measure the variables used in this study. Not to mention that the positivist perspective in this study is a main contribution within the scope of the APT research (See 2.5). The interpretivist perspective therefore would only provide details about the experiences of specific participants, neglecting particular contexts with large class sizes like Saudi Arabia, where using this approach to convey the impact on every individual is challenging.

Therefore, the pragmatist perspective aligns with the complex nature of this study as it aims to seek truth while acknowledging the importance of the natural and social worlds (Keeble-Allen & Armitage, 2007; Robson, 2011; Teddlie & Tashakkori, 2003). It drives the mixed-methods approach, combining

various realities of facts, numbers, experiences, and perceptions to address the research questions. By utilizing a combination of these approaches, the study's design will be strengthened. Moreover, the advantages of a single approach can be maximized while mitigating any disadvantages or insufficiencies through integration with another approach (Riazi & Candlin, 2014). Consequently, the use of focus groups (FGs), reflective journals (RJs), observations, pre- and post-tests, and post-study questionnaires as data sources will facilitate a more in-depth discussion and provide a comprehensive understanding of the APT nature and its impact on engagement and changes in L2 writing performance.

3.1.1 The Mixed-Methods Design

Using a mixed-methods quasi experimental research design, this study adopted convergent parallel design. The convergent parallel design discusses that quantitative and qualitative data sets are collected and analysed simultaneously. Then, the results are compared and merged confirming a shared understanding of the findings and discussions (Creswell, 2021).

This design was adopted in the current study for several reasons. First, by combining both approaches and integrating their findings, I could obtain comprehensive and adequate data to address all research questions regarding the impact of APT. Second, I emphasised the importance of identifying the purpose of each instrument and the expected contribution of their respective data to the research. Third, research procedures were followed carefully throughout the entire research process, from the initial stage of designing to data collection and analysis, until the interpretation stage to ensure the accuracy of the data. It is important to recognise that the mixed-methods approach is not limited to the collection of different quantitative and qualitative data forms or types. It also involves the analysis and integration of both throughout the entire research process (Creswell, 2021). Considering these reasons, it indicates that the inclusion of a control group was not necessary in this research.

While many researchers have criticized the mixed-methods research design, arguing that positivism and interpretivism are incompatible and cannot be combined (Lincoln & Guba, 1985; Smith & Heshusius, 1986), other researchers have recently suggested combining them as a distinct approach (Creswell & Clark, 2017; Creswell, 2021; Teddlie & Tashakkori, 2003). Moreover, the mixed-methods approach allows for the recognition of complementary strengths and weaknesses (Johnson & Turner, 2003; Jensen & Neuman, 2013; Patton, 1990), hence giving meaning to the resulting data (Marshall & Rossman, 1995). By doing so, the researcher can both analyse the findings and provide detailed interpretation by integrating them.

In addition to that, by adopting this design, I demonstrate the added value of the current study by making a methodological contribution to the implementation of APT feedback in the L2 writing

context (See 2.5.1.2). This means that while previous studies have provided insights into the impact of APT in their respective contexts (e.g., Tian & Zhou, 2020; Xu & Zhang, 2022; Zhang & Hyland, 2022), there are still unexplored aspects that require further investigation. For instance, they have primarily focused on generating knowledge by adopting an interpretive approach and examining only a few individuals through case study designs. However, these designs have limitations in terms of providing a comprehensive understanding of learner engagement and writing development. They also fail to yield accurate results from a larger sample, which would strengthen the findings derived from individual experiences and provide valuable additional data (See 2.5).

Hence, in this study, I investigated broader aspects of engagement: behavioural, cognitive, and affective engagement both inside and outside the classroom. I further sought to understand how these different forms of engagement affected students' writing performance over time. To accomplish this, I contributed to knowledge using both quantitative and qualitative methods to measure their writing progress and gain a deeper understanding of their engagement. Later, I was able to integrate the findings and generate comprehensive data in consistency with the design selected for this study.

3.2 The Research Context

To provide a more detailed explanation of this study's context, this section covers the policies and prior procedures used to teach at the English Language Institute (ELI) at Princess Noura University (PNU). It then discusses the procedures and steps taken to implement my intervention and achieve the aims of this research.

Before implementing my intervention, I decided in cooperation with the university coordinator to assign a shared teacher to the same group. This teacher was responsible for teaching speaking and listening skills, allowing me to focus solely on teaching reading and writing. I chose to concentrate on these skills because the reading and writing sections were taught using the same book and covering the same chapter topics. To meet the needs and objectives of teaching, PNU/ELI adopted the Leap 3: Reading and Writing textbook, published by Pearson in 2021 for high-intermediate-level learners.

Based on the ELI course pacing plan and the semester period, relevant four chapters (Chapters 1, 2, 5, and 6) were selected for teaching Reading/Writing. This means that the students were expected to complete four writing tasks throughout the semester. To further fulfil the teaching objectives, the ELI also developed additional materials and PowerPoint slides addressing these writing topics.

Moreover, based on the ELI course design (See 0), teaching is extended to be carried out through a blended learning mode. This means that a total of 10 hours of blended learning is dedicated to teaching Academic English weekly, with eight hours designated for traditional face-to-face classes

and two hours for virtual learning. In this regard, I was assigned four hours to teach face to face writing and reading classes, while the main teacher had four hours for listening and speaking face to face classes. Then, the remaining two hours of virtual learning mode allowed us to assign further tasks or quizzes for students to complete at home using the PNU Blackboard platform at the end of each week.

Table 3 : A sample of weekly plan for Teaching English at the ELI-PNU (Health track groups).

Weeks/Sessions	**Mode of Learning**	**The Content**
Week1/Session 1	Face to Face	Reading task + Introduction to the writing task
Week1/Session 2	Face to Face	APT steps
Week3/Session 1	Face to Face	Reading task + Introduction to the writing task
Week3/Session 2	Face to Face	APT steps
Week3/Session 3	Virtual learning on the blackboard	1st RJ task

To elaborate, as shown in Table 3, I dedicated equal attention, effort, and time to teaching both reading and writing skills to fulfil my commitment to both teaching and research. For example, in week 1, I allocated two full hours to both reading and writing skills. In doing so, on the first day of the week, I taught the reading task which covered the same content as the writing task. After that, I introduced the writing task by conducting a quick quiz on an interactive website like Kahoot, which served as a recap and review of the previously covered Reading content. Thus, during APT class, more time was given for the writing additional materials developed by the ELI, including a model essay to aid the students in internalizing the essay structure and discourse. This was done with the assistance of the teacher who guided and answered the students' questions. More details about the teaching procedures on the second day are discussed later (See 3.2.2).

At the end of each week, the virtual learning sessions were conducted. The main teacher and I took turns managing these sessions interchangeably. In other words, because the intervention took four weeks, there were four virtual learning sessions. I was able to run two of these sessions every other week to do the RJ tasks.

3.2.1 The Research Participants

The sampling method chosen for this study is convenience sampling. This type of sampling is a non-random technique in which participants from the target population are selected based on factors such as geographical proximity, availability, and ease of accessibility (Dörnyei, 2007). Having said

that, the decision to select this specific group of participants was based on their accessibility and availability. In the context of this study, the participants are preparatory-year university students studying the Academic English module at the ELI at PNU in Saudi Arabia. Due to the segregation policy in Saudi universities, the participants are exclusively female students.

Additionally, all participants in the sample are approximately the same age, between 18 and 21 years old, and have the same L1 background. When they commenced their studies at PNU, they had not taken L2 writing placement tests. However, they are positioned in a class of upper-intermediate English level at the ELI. I investigated their language levels using the pre-test results. I then found that there was no big difference in their L2 writing levels among each other as their level of L2 writing varied between beginners, intermediate, and upper-intermediate. In this sense, their backgrounds about their L2 writing varied wherein some of these learners had a stronger educational background than others, having graduated from international high schools; others came from public schools that do not prioritize writing English as much as international schools. In doing so, I observed that the former students possessed better foundations in L2 writing, such as paragraph structures, vocabulary, and grammar, classifying them as higher achievers. Conversely, those with less knowledge were classified as lower achievers. In addition, before they join PNU, these latter participants had not sufficiently practiced L2 writing in schools. Rather, according to the data obtained in this study, they acquired their initial L2 writing capability through self-learning or online resources.

Also, the sample belongs to the Health Science and Medicine track, which consisted of 33 students. The health track is one of several tracks taught by the ELI across PNU. It includes various majors such as health science, nursing, medical physics, and infection control diploma. These majors are illustrated in Figure 3 below, taken from the ELI-PNU page.

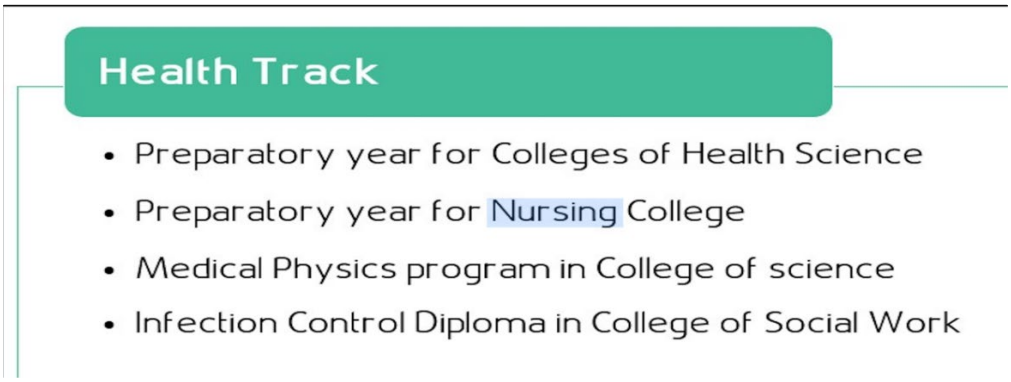


Figure 3. The Health Track Majors at The University.

Therefore, this research study sample represents those who are in their preparatory year, majored in health science and nursing.

3.2.2 The Teaching Procedure

Consistent with the theoretical backgrounds underpinning this research to fulfil its aims (See Chapter 2), the teaching procedure for L2 writing involved a combination of three approaches, namely the product, process, and genre-based writing approaches. In doing so, a middle-range approach was followed with the guidelines of the previous researchers (Badger & White, 2000; Coffin et al., 2005; Flower & Hayes, 1981; Ferris et al.,2013; Kroll, 2001; Raimes, 1983; Vygotsky, 1978) considering the course design and requirements of the ELI at PNU.

To elaborate, at the beginning of each writing session, the students were informed that what they write in each session does not represent their final writing product from the beginning. Nonetheless, their writing should be done within a process and hence should be constantly revised and improved. In addition, to describe the L2 writing teaching procedures used for this research, I followed several steps. First, on day 1, as previously explained (See 3.2), I began the session with a recap exercise on the content covered in the Reading task in previous class. Since both skills shared the same language conventions, grammar, and vocabulary, this exercise served as a good introduction to the task of writing wherein I was able to use the materials developed by the ELI for the students.

Second, one of the activities used was presenting a model essay that identified the essential elements needed in an essay. For instance, if the writing task focused on persuasive writing, the model essay defined the thesis statement, topic sentence, concluding sentence, and supporting details. Each element was highlighted in different colours on the PowerPoint slides. Additionally, it outlined the structure of the introduction, body, and conclusion paragraphs. Therefore, by presenting this model, I provided the students with a practical example of how to effectively employ the essay structure and discourse they had learned. This also helped them gain a solid understanding of how to clearly organize their content in a manner consistent with the genre requirements.

Third, I always encouraged the students to draw upon their own knowledge and ideas that aligned with the context, rather than solely relying on the textbook and ELI instructions. My aim in doing so was to stimulate their creativity and foster engagement with the writing process, leveraging their knowledge as writers and contributors to others, in line with the goals of this study and my own beliefs as a researcher. This way I ended the first class of the week with teaching reading and making an introduction to the writing task.

Fourth, in day 2, I continued the writing task which was allocated fully for the APT task (See Table 3). I commence the class with the groups' distribution as I assigned the students to peer groups of 2-3, with average of 13 peer groups in total. This arrangement was based on class capacity and to facilitate easy observation (see Appendix B). When distributing the peers, I ensured that each group

had members with different levels of proficiency. I did this by evaluating the students' pre-test performance, which indicated varying levels of writing proficiency. This helped me ensure a fair distribution of peers, pairing higher-achieving writers with lower-achieving writers. The aim of this was to reduce the impact of having students at the same level and to promote informative discussions and a better exchange of ideas. That is, lower-level writers could benefit from being with higher level writers and learn from them, while the latter could expand their ideas, knowledge, and evaluative skills through interaction with the former.

After the students were distributed into different peer groups, I allocated some time for them to outline their essays. During this stage, they worked together in brainstorming their thoughts but individually in practice. They were also allowed to ask questions and seek help from me or their peers within the group. It is important to mention that this was a new model and a new L2 writing practice for the students. Therefore, my presence, guidance, and facilitation were my top priorities during each class.

After completing their outlines, the students handed in their papers to me for checking. Doing so was critical to help the students understand the importance of outlining their ideas prior to essay writing to achieve smooth, coherent, and clear work. Over time, I observed that the students were able to improve their abilities at making outlines, which gradually enhanced the coherency, clarity, and organization of their essays. Subsequently, the students began to draft their essays and completed the APT steps. The APT procedure is explained later (See 3.4.3), which specifically addresses the collection of the students' drafts for this research.

3.3 The Data Collection Instruments

In line with the convergent parallel design, data were collected from various sources simultaneously (See Table 4). These sources/instruments are presented in this section in the following order: pre-post-tests, post-study questionnaire, focus groups, reflective journals, and finally the classroom observation. In the discussion of each one, I present an explanation of its significance and suitability to the current research. I also consider the potential limitations of employing each one and the steps taken to avoid them.

3.3.1 Pre-Test and Post-Test

Tests method is one of the quantitative sources used in mixed-methods research designs. In this research, pre- and post-tests are designed to cover specific aspects of L2 writing. They contained questions that cover the surface-level and meaning-level areas intended to be improved in L2 writing (See Appendix F). Similarly, previous researchers have used specific features for tests in their

academic work and enhanced the comparison of the students' writing performance before and after treatments (Bitchener, 2008; Boggs, 2019). Such target aspects of writing helped the researcher limit the measurement of certain variables and eliminate other potential changes in the learners' performances.

Moreover, the pre- and post-tests were similar in their genre. As the site of data collection did not provide placement tests for L2 writing levels, I intended to design them to serve the goals of this research. For instance, the pre-test comprised one section which required the learners to write about *unforgettable memory with their families* while in the post-test, the learners were required to write about *their dream jobs*. In this sense, the topics differed in the pre- and post-tests whereas they contain the same genre of L2 writing. Gebril (2009) indicated that "if students are assigned a topic without sufficient background knowledge, this variable could affect students' performance on the test. Consequently, construct-irrelevant variance may confound test scores" (p. 509). Previous studies indeed employed such autobiography as their primary genre for their research test instrument (e.g., Chandler, 2003). That is, this genre of writing was chosen to encourage students to express themselves and write freely, as they also were not limited with specific words count. This way, researchers can ensure that all participants have the same opportunity when conveying their knowledge about the topic.

Tests were chosen for this research because they have distinct and significant characteristics. The pre-test identifies the learners' specific language challenges, investigates their needs, and identifies their English proficiency levels for peer distribution. Therefore, in the current study, the pre-test classified the learners' levels as beginners, intermediate, and upper-intermediate, also known as low achievers and high achievers. This information is crucial for providing targeted assistance during feedback and teaching processes. Hattie and Timperley (2007) suggested that "providing feedback may not be effective without initial learning or surface information" (p. 104). Additionally, the pre-test allows researchers to monitor changes in writing performance later. Bitchener (2008) emphasized the importance of documenting learners' baselines for tracking changes during and after the research study, making it easier and more reliable to track their progress and demonstrate their capabilities (Barrette, 2004; Bitchener and Knoch, 2009a).

Although test methods have their merits in research, their design is not without challenges. One challenge is that tests are unable to measure the quality of learners' engagement with feedback (Sato & Ballinger, 2016; Sato & Lyster, 2012). In addition, the section on L2 writing in tests is usually minimal and inadequate for comprehensive measurement of students' writing performance change. As a result, in this research, the pre- and post-tests were employed with caution. In this context, they were integrated with the essay writing drafts to validate the results and hence investigate the progress of L2 writing. This was done specifically because the research study found no need for a

control group consistent with many experimental studies that did not include control groups in their research designs (e.g., Kepner, 1991; Chandler, 2003). This is because the study aims to demonstrate how the English writing performance of L2 learners evolves over time, without any intention of comparing it to that of others. In particular, the current study measures the writing of L2 learners across various tasks throughout the semester, encompassing several steps. Researchers like Kepner (1991) and Chandler (2003) have confirmed that control groups are not necessary to measure improvements. Therefore, pre- and post-tests with other data sources could provide a better understanding of the learners' progress (Carey, 2013; Matthews & Ross, 2010; Pring, 2004; Scott & Usher, 2010).

3.3.2 Post-Study Engagement Questionnaire

The questionnaire data tool is defined as "any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting them among existing answers" (Mackey & Gass, 2005, p. 6). In applied linguistics research, questionnaires are widely used to investigate beliefs and facts of an issue wherein they allow for the collection of a large amount of data within a reasonable amount of time through a simple process. Mackey and Gass (2005) stated “the survey, typically in the form of a questionnaire, is one of the most common methods of collecting data on attitudes and opinions … it has been used to investigate a wide variety of questions in second language research" (p. 92) “providing structured, often numerical data, being able to be administered without the researcher's presence, and often being comparatively straightforward to analyse" (Wilson & McLean, 1994, as cited in Cohen et al., 2011). In the current study, the questionnaire administered to L2 students aims to explore their beliefs and perceptions rather than their actual performance.

To achieve this, a Likert format questionnaire is utilized. This format allows learners to choose from five response options for each question or statement: a) strongly agree, b) agree, c) neutral, d) disagree, e) strongly disagree. Using structured data with limited response options was suitable for a mixed-methods approach, as it allowed for the triangulation of quantitative findings with qualitative findings. In other words, the aim was to gather the necessary quantitative data for investigation, which could later be supplemented by in-depth discussion and interpretation using qualitative findings (4.3). Thus, by using this structured approach, I could collect the specific data required to fulfil the research aims effectively and efficiently.

Also, in line with the aims of this research, the questionnaire consisted of a total of 44 questions that focused on the impact of the APT on student engagement (See 4.3.1; Appendix RAppendix S). For example, the section on behavioural engagement included 15 items that It covered students' perceptions of their ability to listen carefully to the teacher and their peers, as well as their

willingness to ask for help and support one another. It also covered their selective response to feedback and their honesty about it, their efforts to improve their writing skills, their participation and discussions in the APT class, and their ability to find strategies to correct their errors.

In terms of cognitive engagement, it covered 16 items that assessed various areas. These areas included the participants' comprehension of their writing weaknesses, the improvement of their critical reflection and self-inquiry skills related to those weaknesses, their enhanced knowledge about the recursive stages of the writing process, their understanding of other aspects of L2 writing beyond grammar or mechanics, their comprehension of the inclusiveness and preciseness of the APT, their awareness of what to accept and reject from it, and their recognition of the uniqueness and limitations of each source.

Finally, the affective engagement at the end of the questionnaire consisted of 13 items. These items included aspects such as participants' feelings of joy, confidence, sense of responsibility towards their writing, and the social support they experienced within the APT classes.

As such, to avoid some limitations in the design of the questionnaire, first, the questions of the questionnaire were inspired by previous studies on L2 writing feedback (Cheng, 2017; Dikli & Bleyle, 2014; Fan & Xu, 2020; Huang, 2014; Jahin, 2012; Tian & Li, 2018; Wang et al., 2013). Further, some questions were modified, and others were added to address missing issues and align with the goals of this study. For instance, some of the questionnaire items in the current study related to the affective engagement were inspired by items in Fan and Xu's (2020) study, such as: "I was willing to let peers read my composition" and "I felt embarrassed when receiving the feedback from my peers." (p.4). I adapted these items as follows: "I was willing to let peers read and discuss my writing deficiencies" and "I felt embarrassed after receiving feedback from my peer on my writing." I adapted these items to align with the current study's focus on the potential impact of peer feedback on the affective engagement of L2 learners within the proposed model. Also, other items in the cognitive engagement of the questionnaire were modified from Dikli and Bleyle (2014), such as "I find the Criterion feedback on grammar helpful (e.g., run-on, agreement, pronoun errors)"; "I find the Criterion feedback on usage helpful (e.g., article, word form, preposition error)"; "I find the Criterion feedback on mechanics helpful (e.g., spelling, capitalisation, punctuation)"; "I find the Criterion feedback on style helpful (e.g., repetition, passive, sentence length)"; "I find the Criterion feedback on organisation & development helpful (e.g., thesis, ideas, conclusion)" (p. 14). Therefore, as these items addressed the use of automated writing feedback only, they inspired the current study to investigate how the three sources (APT) collectively addressed the aforementioned different areas of weaknesses, which is "APT emphasised different stages of revisions encompassing aspects such as mechanics, grammar, vocabulary, and content" (See Appendix S).

Second, to enhance the validity of the questionnaire, the items were piloted by sending them to two colleagues in Applied Linguistics schools. This was done to confirm the appropriateness of the tool in relation to the research questions and aims. Then, based on the feedback received, the questions were rephrased, refined, and some irrelevant or unfocused statements were removed.

Added to that, I included different numbers of items in each section, which was appropriate given the varied nature of the engagement dimensions being investigated. In this sense, each dimension required a different number of items to fully capture its insights. It was therefore important to be cautious when designing and implementing the questionnaire, as not doing so could lead to unreliable results. If the questionnaire strictly adhered to a specific number of items in each section, without considering the unique nature of each dimension, certain areas of engagement could be overlooked. Previous studies in the L2 feedback field indeed did not provide a clear guideline on the number of items in each section of their questionnaire tools (e.g., Cheng, 2017; Dikli & Bleyle, 2014; Tian & Li, 2018).

Furthermore, the cautions of conducting a questionnaire tool could not be only associated with its design, but with its respondents and the data obtained from them. Neglecting the considerations of respondents and the data could result sometimes in artificial or superficial results (Rubin & Babbie, 2010). For instance, the respondents may be misled due to a misunderstanding of questions or instructions, which then results in faulty responses influencing the findings. Another consideration could be that the respondents may be unmotivated to respond to it, and may provide insufficient answers to the questions, or randomly select answers. Similarly, the respondents may feel unmotivated to fill out a long questionnaire. Consequently, in some situations, the data collected can be a threat to the reliability of the results (Dörnyei & Taguchi, 2010; Rubin & Babbie, 2010). Having said that, I attempted to reduce those limitations by carefully following some steps to ensure that they would inform effective representation and reliable data.

First, the questions were initially written in English and then translated into Arabic. This was done because I believe that using the respondents' L1 would enable them to better understand and honestly respond to the questions. Second, a copy of the translated questionnaire was reviewed by a PhD colleague who is an expert in translation within the field of Applied Linguistics. This step was taken to ensure the accuracy and clarity of the translated version. Based on the feedback received, problematic issues such as grammatical mistakes, vague statements, and typos were resolved. Finally, during the data collection process, the students were closely observed and monitored. Any questions they had regarding unclear or difficult items were addressed (See 3.5.4). By considering those four steps, I could reduce potential limitations of the questionnaire.

3.3.3 Focus Groups (FGs)

Using the focus group method for research studies is very popular in the field of L2 research (Cohen et al., 2011). Barbour (2013) defined a focus group as "a group convened for research purposes that relies on the discussion generated between participants for data" (p. 156). Lichtman (2006) provided a more detailed definition, referring to the collection of informative data through group interaction and discussion of a particular issue in a shorter amount of time. To further clarify, Hennink et al. (2010) mentioned that the focus group encourages lively and dynamic discussions among participants, rather than conducting one-on-one interviews. In doing so, the researcher acts as a moderator, allowing the participants to express their thoughts and engage in discussion wherein they sit at one table, eliciting ideas from each other. Selecting this method therefore is not about reaching a consensus (Krueger & Casey, 2000, p. 6), but about promoting multiple viewpoints and ideas to obtain richer data (Fontana & Prokos, 2007).

In light of this, the purpose of this instrument is to shed light on various aspects of the study (See Appendix G and Appendix H). Firstly, it helps to understand how the three sources worked together to enhance the students' learning experience. Secondly, it provides a deeper understanding of how the students engaged cognitively, behaviourally, and effectively, as well as the individual and contextual factors that influenced their engagement. By adopting a focus group instrument, multiple perspectives and rich data can be obtained in a shorter amount of time. This is important especially when it is employed in a context where the participants are not familiar with group discussions with the teachers. In this vein, focus groups can encourage participants to break the ice when they find themselves triggered by opinions and motivated to share experiences. Added to that, this approach enhances the understanding and analysis of other data obtained from different sources when used in a mixed-methods approach. This way, the unique characteristics of the focus groups allow for collective ideas and perceptions that may not be possible or sufficient with other tools (Cumming et al., 2002; Dörnyei, 2007; Gibbs, 1997), thus enriching the discussion of findings in this research.

Moreover, I was aware of some potential risks of focus groups, so I took some considerations into account to avoid them. For example, the participants were chosen on a voluntary basis, based on their desire and interest to participate. Krueger and Casey (2000) suggested that researchers should contact individuals who have the potential to provide rich information on the topic. This is important because if participants are forced to speak, they may show disinterest or consider the questions irrelevant, resulting in insufficient or unreliable data for addressing essential issues (Krueger & Casey, 2000). Furthermore, the questions were designed to be open-ended and included sub-questions that were inspired by previous research on L2 feedback (e.g., Fan & Xu, 2020; Li et al., 2015; Zhang, 2020). A piloting session was then conducted with two colleagues in the field of Applied Linguistics from different universities. These piloting sessions were necessary to validate the suitability and relevance

of the questions for the research aims. As a result of the feedback received, some questions were rephrased and refined due to being restricted, while others were added due to their significance in providing the research with important data. For instance, based on the feedback received from colleagues, I was notified that one of the questions in the FG2, "Did you feel excited to redraft your writing after each feedback?" is going to provide a very limited response. Therefore, I rephrased the question as: "Can you describe your feelings when you read the input from the three sources?". For the same reason, I changed another question from "Was the feedback simple to understand and apply?" to "Do you think the feedback was useful in helping you improve your writing? Was it simple to understand and apply? Give me examples.". The purpose of these questions is to elicit more detailed information from the participants. I laso added additional questions to the FG2, including "How has your knowledge of the writing task changed?", "Did you find writing as a recursive process more beneficial for your improvement and knowledge?", and "What insights did you gain from this perspective? Based on the feedback obtained from my colleagues, it was recommended to incorporate these questions into the FG2, as they could offer valuable insights into the participants' cognitive engagement, aligning with the principles of process cognitive theory (See Appendix G).

Finally, conducting the discussions as being the researcher and the teacher simultaneously offered certain advantages. In other words, I gradually become familiar with the participants' names and personalities, which allowed me to be mindful of their individual differences, their lack of familiarity with these discussions, and their nervousness. Lunt and Curran (2010) state that students appreciate teachers who genuinely care about them. In summary, these considerations made me aware during the design and collection of FGs data, and consequently, they helped me reduce the limitations that may arise from an inappropriate application of the instrument.

3.3.4 Reflective Journals (RJs)

Reflection is a commonly employed practice that can take on different forms such as journals, portfolios, or reports (Helyer, 2015; Helyer & Kay, 2015). These various forms of reflection can play two important roles in research and learning, benefiting both learners and researchers. For learners, reflective journals provide them with the opportunity to revisit what they have learned, facilitating deeper growth, and understanding. Often, learners do tasks without taking the time to reflect on their learning. By utilizing reflective journals, however, learners can become more skilled at recognizing their own ongoing learning and development (Helyer, 2015). For researchers, reflection is an effective method, especially in mixed-methods research where other qualitative methods may not offer sufficient insight into learners' experiences. Dewey (1933) defines reflective journals as a way for researchers to examine individuals’ beliefs and knowledge actively and thoughtfully in relation to evidence and potential outcomes. This definition expands the concept of reflection from a

passing thought to a deliberate process of contemplating ideas and evaluating the consequences of associated actions.

Having said that, learners' contemplation and deep thoughts can be effectively represented through the use of journals, which are both suitable and important for this research in transmitting their voices. Lee (2008) identifies four types of journals, one of which is the response journal. In this type, students express their own reactions to their learning experiences, particularly using an open-ended format that this research adopts, allowing them to respond freely (Creme, 2005). This provided valuable insights into the investigation of students' engagement with the APT intervention. This is as they reflect thoughtfully on their experiences (Bean & Stevens, 2002; Maloney & Campbell-Evans, 2002) providing researchers with a greater understanding of learners' perspectives and help them make informed decisions regarding the phenomenon being investigated. Additionally, it helps minimize impulsive decision-making that could arise from relying solely on a single data source. Instead, integrating various sources, as consistent with mixed-methods design, leads to honest and accurate findings (See 4.2 and 4.3.2).

Yet it is important to note that the use of reflective journals in research may have limitations similar to other qualitative tools. Therefore, sufficient data may not be provided if caution is not exercised and the participants are not familiar with this practice, particularly in the context of this study. For example, Grant (2001) reported that university students may reflect differently from one another, and their reflections may vary based on their understanding. Similarly, Maloney and Campbell-Evans (2002) found differences in how students described events and analysed situations, as well as differences in their ability to reframe their beliefs and ideas. Consequently, I was aware of the importance of my assistance in helping students understand how to provide insightful reflections on their experiences. A more detailed discussion regarding this aspect and how the reflective journals were collected is presented later in this chapter (See 3.4.5).

3.3.5 Classroom Observation

The observation tool is considered a valuable source of data in research because it allows researchers to investigate real-world learning phenomena and obtain explicit answers to their research questions about interventions. Researchers agree that the observation instrument is significant for obtaining in-depth insights in natural settings, which cannot be achieved with other instruments (Dörnyei, 2007; Mackey & Gass, 2005). In this study, observation is chosen to examine the impact of the APT on learners' engagement. By gathering data during classroom observations, researchers can track the interactions that occur (Foster, 1996), particularly, focus on what students do while presenting in the field, as their actions often provide more genuine insights than what they say.

Furthermore, observation is a tool that can be employed in various applications, depending on the research aim (Dörnyei, 2007). In this study, the specific observation approach used is defined as non-ethnographic (Polio, 1996). This means that the researcher focuses on observing specific aspects of the classroom, as opposed to the ethnographic type which involves a comprehensive observation of the environment. Based on this approach, classroom observations can be physically carried out, with the investigator present in the classroom.

Also, the observation was chosen in this research for two reasons. First, on intrapersonal and interpersonal levels, observation helps understand how the learner could identify gaps in her L2 writing, revise the subsequent draft based on the feedback received, and evaluate errors from different sources. Second, the observation in this research also aims to capture other important markers that can help investigate the learners' engagement with the model, such as body language, facial expressions, and hand movements. In this sense, non-verbal communication can provide valuable information to enrich the understanding of engagement practices. Some researchers have suggested that non-verbal cues can determine whether the actions align with or differ from the intended practices (Martin et al., 2010). For example, when learners lean forward to listen to peer's comments, it indicates behavioural engagement with peers or teacher. When they refrain from participating in inside conversations and focus on reading their drafts on their iPads, their body position can indicate cognitive engagement. Therefore, non-verbal cues are essential in this study to comprehend the cognitive, behavioural, and affective aspects of engagement.

Despite its merits, the observation could not be done without facing challenges. For example, in the context of my study, I had to juggle two roles in the classroom: being both the teacher and the observer at the same time. This insider position was quite overwhelming because I had to facilitate and support the learning process for the entire class while observing. The reason behind this challenge is that video recordings were not allowed in the female section at Saudi Arabian universities due to cultural norms and educational policies. Consequently, using observation in research raises questions about its validity, as it requires a significant amount of effort from the investigator. Wragg (1999) states, "Classrooms are exceptionally busy places, so observers need to be on their toes" (p. 2). Therefore, during class, I was committed to fulfilling my responsibilities as both a teacher and a researcher, while managing the challenges that came with both roles. That is to say, I attempted to facilitate my observation task by revisiting the observation sheets and adding a new section that involved reflective observations as a researcher. The discussion in this regard is further expanded in later section (See 3.4.4).

Moreover, Foster (1996) suggests that there may be practical issues that could undermine the data findings. Specifically, researchers have questioned whether participants may behave differently when they know they are being observed. Dörnyei (2007) argues that learners' behaviour changes when

they are aware of being observed. However, I managed to address this issue by taking advantage of opportunities to discreetly observe the participants while they interacted with their classmates during my assistance to them. Additionally, having more than one observant was beneficial in reducing the risk of insufficient data observation. Previous research has indeed shown that multiple observations can yield valid data while minimizing the impact of observer bias (Cohen et al., 2002).

3.4 Data collection Procedures

Before I go into more detail about the data collection procedures, there may be some questions regarding the difference between the duration of the data collection procedures and the duration of the intervention itself.

Table 4: The Timeline for the University Semester and The Data Collection procedures

Weeks	Start Date	Activities	Data Collected
Week 1	December 4	-	Pre-test FG1
Week 2	December 11	Chapter 1 Reading/Writing	Essay writing drafts Observation
Week 3	December 18	Chapter 2 Reading/Writing	Essay writing drafts Observation
Week 4	December 25	Mid-term 1	1st RJ
Week 5	January 1	Chapter 5 Reading/Writing	Essay writing drafts Observation
Week 6	January 8	Revision week	FG2
Week 7	January 15	Mid-term 2 exams Public holiday	-
Week 8	January 22	Chapter 6 Reading/Writing	Essay writing drafts Observation 2nd RJs
Week 9	January 29	Revision week	-
Week 10	February 5	Final exams	Post-test FG3 post-study Questionnaire
Week 11	February 12	End of semester	-

As shown in Table 4, the APT intervention lasted four weeks (weeks 2, 3, 5, and 8), during which four L2 writing tasks were conducted. However, the data collection procedures spanned eleven weeks, which is the same duration of the semester at the university. Therefore, the timeline for both is provided in detail, taking into account other events such as mid-term exams and national public holidays.

In the following paragraphs, I will present the collection procedures of the tests, the focus groups, the students' essay writing drafts, the classroom observation, the reflective journals, and finally, the post-study engagement questionnaire data.

3.4.1 Pre-Tests and Post-Tests

The pre-test was conducted in week 1 (See Table 4). Prior to that, I introduced myself to the students and gave them the opportunity to introduce themselves to me and to each other. Following that, I introduced the research topic and explained the ethical procedures to the students, among other ethical considerations. I will present a more in-depth discussion about this later (See 3.8).

The post-test was conducted in week 10. The procedure of collecting both tests was the same. That is, the students were informed that they were not allowed to use dictionaries or request external assistance. They were given a few moments to read the questions and ask for help if needed before they began writing. They were then given 30-45 minutes to write their paragraphs.

Once the allocated time had passed, the learners were asked to place their papers on my desk and return to their seats quietly. This marked the beginning of the second data collection procedure, which was the first focus group as discussed next.

3.4.2 Focus Groups (FGs)

After all the students submitted their tests, I asked for volunteers to participate in the focus groups. Prior to that, the students were informed that these discussions would not affect their class performance or grades. Instead, they would be conducted solely for research purposes (See 3.8). Some questions were raised about the language used in these discussions. Once I informed them that their native language would be used, I observed a great deal of interest from many students who wanted to join. The first six students who showed interest were chosen, and I asked them to take seats around one table.

Each focus group session lasted 30-45 minutes. It should be noted that not all six participants were present in every session. For example, in the first session, one of the participants was unwell and could not attend. However, she joined the next session, where another participant was unavailable,

and so on. Despite these absences, each session had a total of five participants who provided sufficient data for the research.

Furthermore, during the first general FG, I noticed that the participants were not familiar with this type of discussion with teachers, which led to some challenges. For example, they responded to the questions with very short sentences, and some of them were hesitant to share their experiences. To address their concerns, I decided to start the discussion by briefly sharing my own experience as a second language learner wherein I made it clear that I was not trying to impose my knowledge on them. I talked about the challenges I faced in L2 writing classrooms during my bachelor's study. Fortunately, this approach seemed to put them at ease and encouraged them to open up about their own difficulties, concerns, and fears.

In regard to the questions included in the FG session, they were designed to fulfil different purposes. For instance, FG1 was designed to obtain background and general information about the participants' previous experiences of L2 writing. In this sense, the participants were asked about the difficulties encountered in previous English writing classes, how they experienced approaches to teaching and feedback on L2 writing, and the learning techniques they used to improve their writing. The data obtained from FG1 greatly informed my knowledge as a teacher about their unfamiliarity with the new model, which, if not considered, may negatively affect their learning experience and my role as a teacher. Krueger and Casey (2002) stressed that an initial focus group can indeed help researchers to know participants' current levels and their needs. By conducting a general focus group initially, I was able to provide need-based assistance and activities for the students during the intervention.

FG2 and 3 took place in weeks 6 and 10 (See Table 4). These sessions aimed to gather the students' perceptions and opinions about the APT intervention and how they could engage with it. After completing FG2 and preparing for FG3, I noticed that the categorization of my questions could hinder the smooth flow of discussion and ideas, potentially leading to insufficient data. As a result, before conducting FG3, I reviewed the data from the previous FGs, as well as the participants' essay writing drafts and observation notes. Doing so allowed me to identify certain issues that required further investigation.

For example, in FG3, I did not adhere to the same category of items as I did in FG2. In this sense, I made an effort to ensure a coherent flow of ideas in my questions, such as the question, "To what extent was the feedback sufficient to improve writing skills from each source? How clear were they to uptake? Examples?" was placed under the cognitive engagement section. Along with that question, the discussion flow necessitates the exploration of the participants' affective engagement, particularly their motivation to uptake the feedback they received from each source. Therefore, I opted to present the questions in a more fluid manner, rather than breaking it down into subsections

for each dimension of engagement. To do so, I followed up the former question with the question, "Did the discussion with your classmates motivate you to uptake or reject feedback?" Why?". In addition, after observing the students in the classroom using Grammarly frequently and reaching out to the teacher several times online, I felt the need to introduce a new question in FG3, which is "For example, what strategies or techniques did you use to implement feedback in your writing?". This question has the potential to hold significant value, providing valuable data on the students' behavioural engagement with the process. Consequently, the organization of questions for FG3 was revised and improved to ensure a better flow of ideas and to elicit richer discussion that fulfils the goals of my research: APT joint work and student engagement with it (See Appendix G).

3.4.3 Essay Writing Drafts and APT Feedback

The data collection of both the students' essay drafts and the three feedback inputs lasted four weeks (2, 3, 5, and 8) (See Table 4). To explain this process, prior to the intervention, I aimed to prepare the students emotionally for this new L2 writing practice. In doing so, the students were informed and made aware about the continuous nature of English writing that involves drafting, redrafting, and reviewing. This was necessary because the students in my context were more familiar with a different approach. They used to complete their L2 writing tasks with the belief that they would immediately write and submit their work to the teacher. Raising awareness of the new approach was key so that the students would not panic or feel discouraged when undertaking these processes. This was also made to emphasize the importance of receiving feedback throughout the writing process from different sources which in turn require a process of regular reviewing. Furthermore, I aimed to encourage a sense of learning instead of spoon-feeding, where they are expected to be active participants in the process. My role then is to provide guidance and support to scaffold and assist them.

After that, the actual collection of the students' essay drafts began. According to Figure 4, during the APT steps, four drafts were collected in each task from every student. This means that throughout the semester, a total of 16 drafts were collected from each student.

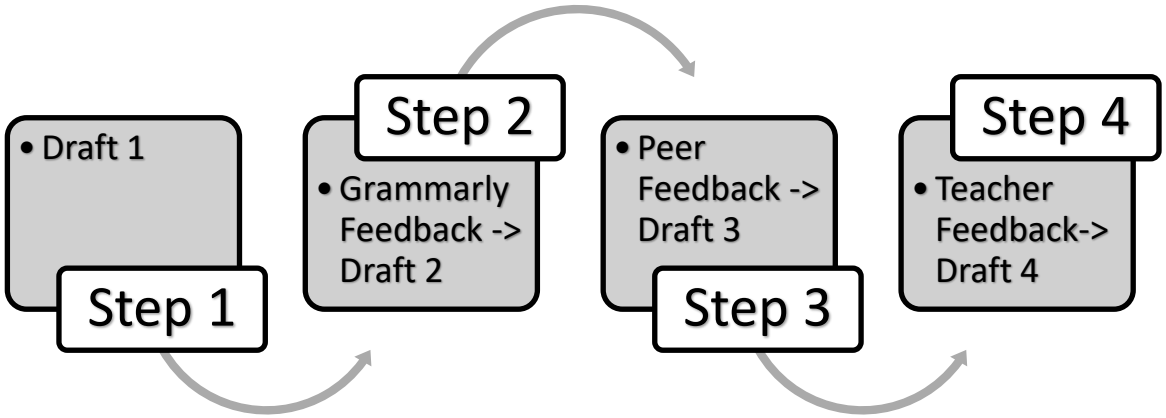


Figure 4. The Steps followed to revise and complete drafts in each task.

As shown, the students first wrote their essays. They then sent their original draft numbered as Draft 1, without any improvements, to my email for the purpose of data collection. Accordingly, in the second step, Draft 1 is submitted to Grammarly, and this step is clarified next.

3.4.3.1 Grammarly reports

In this research, the advanced paid version of Grammarly software was used for this research. Thus, Grammarly reports were gathered to explore the feedback that students received on their work. Grammarly reports served two purposes. The first purpose was to review the feedback provided to the students on their essay drafts. Secondly, these reports were necessary to determine which feedback the students accepted or rejected from the tool. To facilitate this, after the students made their decisions about Grammarly feedback, they emailed their revised draft (Draft 2) to my email for data collection. Along with that, they were required to attach Grammarly reports which involved the feedback items on their essays (See 4.2.1 for more details). This assisted in the students' essay writing analysis and helped compare between the quantities of feedback items offered and those items the students accepted in their subsequent drafts.

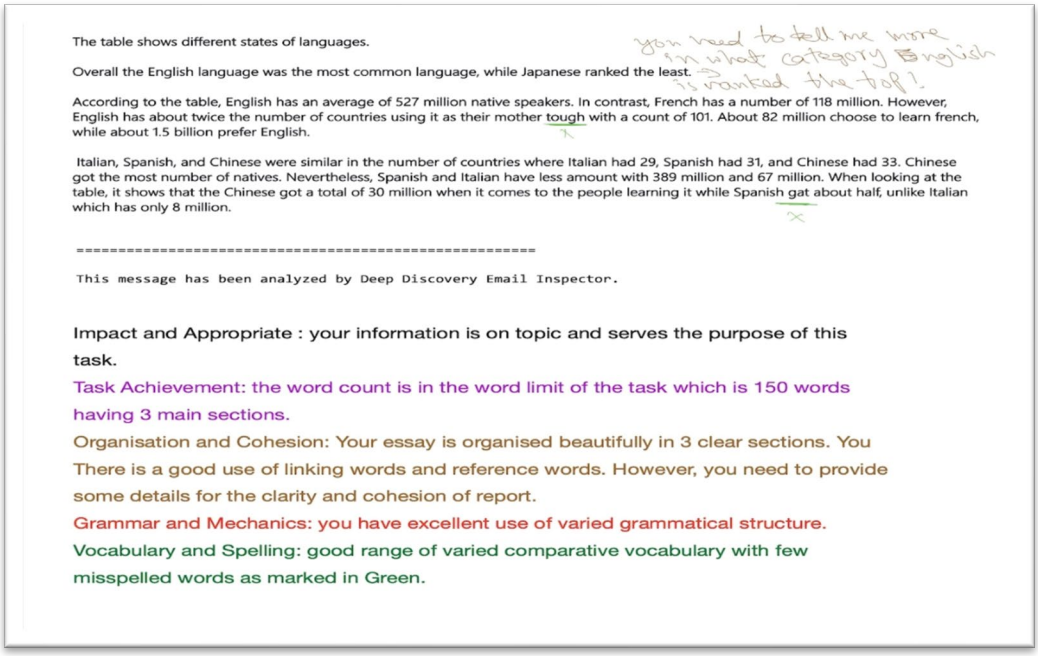
3.4.3.2 Peer Feedback Checklists

Following step 2, the students were already grouped properly from the beginning of the class (See 3.2.2), which prepared them for peer work step. To do this, the students received peer feedback checklists (See Appendix D) to evaluate various aspects of L2 writing in the receivers' works. These checklists were adapted from Min (2008) and Jahin (2012) (See Appendix C). Each week, these checklists were reviewed and updated to align with the specific requirements of the various writing genre in each chapter. Throughout this step, the students exchanged their work for peer evaluation, with me assisting and guiding the process. The reviewers then write their comments about their

receivers' work. After that, these comments were gathered as the data that represent the feedback items offered by peers when analysing the students' essays writing. Afterward, when the writers made their decisions about their peers' feedback, they emailed their Draft 3 to me. The step of the teacher feedback then is followed, and explained next.

3.4.3.3 Teacher Feedback

After step 3, later at home, I provided the students with comprehensive written feedback. In this step, I followed two marking schemes in line with my teaching and research commitments. The first represents the L2 writing rubric developed by the ELI inspired from the IELTS scoring rubric (See Appendix E), while the second represents the research coding scheme adapted from Tian and Zhou (2020), which provides feedback on aspects of surface and meaning levels (See Figure 6). Therefore, I attempted to strike a balance in my feedback provision between both schemes. In this sense, I followed my research scheme through providing feedback on the surface and meaning levels within the written paragraphs, while I followed the ELI scheme through providing general comments at the end of the essay (See Figure 5).


The table shows different states of languages.

you need to tell me more in what category English is ranked the top?

Overall the English language was the most common language, while Japanese ranked the least.

According to the table, English has an average of 527 million native speakers. In contrast, French has a number of 118 million. However, English has about twice the number of countries using it as their mother tough with a count of 101. About 82 million choose to learn french, while about 1.5 billion prefer English.

Italian, Spanish, and Chinese were similar in the number of countries where Italian had 29, Spanish had 31, and Chinese had 33. Chinese got the most number of natives. Nevertheless, Spanish and Italian have less amount with 389 million and 67 million. When looking at the table, it shows that the Chinese got a total of 30 million when it comes to the people learning it while Spanish gat about half, unlike Italian which has only 8 million.

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This message has been analyzed by Deep Discovery Email Inspector.

Impact and Appropriate : your information is on topic and serves the purpose of this task.

Task Achievement: the word count is in the word limit of the task which is 150 words having 3 main sections.

Organisation and Cohesion: Your essay is organised beautifully in 3 clear sections. You There is a good use of linking words and reference words. However, you need to provide some details for the clarity and cohesion of report.

Grammar and Mechanics: you have excellent use of varied grammatical structure.

Vocabulary and Spelling: good range of varied comparative vocabulary with few misspelled words as marked in Green.

Figure 5. A screenshot of the teacher feedback following two schemes for marking.

To achieve this, Figure 5 shows that I used different colours to highlight the scheme of the surface and meaning levels. The same colours were also used to provide the criteria of the ELI scheme. This approach allowed me to merge both schemes without negatively affecting the readability and understanding of the feedback on the students' work. Instead, it facilitated better navigation of their weaknesses while aligning with my responsibilities.

Moreover, I used the "Notability" application to provide feedback, allowing me to make flexible corrections on various types of documents the students used (such as pictures, notes, word documents, etc.). During my feedback provision, I did not intend to be selective about some errors and dismiss the others. However, for each essay, I made an effort to address as many surface-level and meaning-level errors that Grammarly and peers were unable to identify. Nevertheless, because of the large number of students and the large number of drafts I correct each week, I found that not all the errors were covered, and I unintentionally did not locate some. Therefore, in the current study's examples, I overlooked some mistakes due to my inability to pay close attention (See Figure 5 and Figure 25). After completing the feedback within the same week, I sent the final feedback to the students' emails, giving them the freedom to make their own decisions regarding the final corrections. After that, the students had the remaining week to send their final drafts (Draft 4) to my email. Doing so, the teacher feedback and the students' decisions about it were gathered as data source when analysing the students' essays writing.

3.4.4 Classroom Observation

The observation data collection procedures took place concurrently with the APT tasks. During this time, I was able to observe four learners throughout the APT four-week period: Rania, Jumana, Lenah, and Dina. To clarify, the observations occurred in weeks 2, 3, 5, and 8 (See Table 4).

I performed the observation by being physically present in the classroom. In this vein, I looked for the learners' reactions to the feedback they received from Grammarly and their peers, as these steps were conducted in class. To ensure that the observation method contributes to answering the target question, I allocated time for discussion among the students after each APT step. This allowed me sufficient time to observe their reactions including what they opine and say about the feedback.

In more detail, prior to the start of step 2 (Grammarly feedback), I placed the observation sheet on the desk in front of me. Taking a few moments, I observed the initial interactions for the entire class, paying particular attention to the interaction of a single learner, without being distracted by observing multiple learners, and in each task, I focused on a different learner. To do this, I positioned myself far behind the observer's table, which allowed me to see and hear her reactions and questions to peers or teacher from time to time. Afterwards, I returned to my desk and ensured that I noted down all the observed details of that learner on the sheet, in terms of her reactions with Grammarly feedback.

In step 3, while the students were working on peer feedback, I returned to the same learner to observe her reaction, taking into account the discussion time she had after peer feedback. As I did during Grammarly step, I ensured that my position was a little far and behind the learner so she could not be influenced by my presence and could act normally. From time to time, I made an effort

to assist and respond to the questions of other students. After peer feedback step was complete, I returned to my desk to note down all the details I observed and heard from that learner regarding peer feedback.

Once the entire writing task was completed, I stayed in the hall for a few minutes to write down other details that I had not noted earlier. Also, I added my own observations as a researcher about the same learner. This helped me capture a complete picture of her reaction to the process (See Appendix M and Appendix Appendix MM.1 for examples).

Later, at home, I revised all the notes taken in class. Whenever I remembered further details, I added them to my notes to help me understand better their multi-dimensional engagement with the APT during data analysis and interpretation. In this sense, I included both verbal and non-verbal observation details. Finally, once I was done with every observation, I labelled the sheet according to their occurrences, such as “observation, week 2”, along with the student's name.

3.4.5 Reflective journals (RJs)

Before running the RJ tasks, I was aware that some students may consider this an uncommon practice and may not be familiar with how to provide sufficient data, which could result in their lack of interest. To minimize the possibility of these challenges and to resume the discussion made in previous section (See 3.3.4), I attempted to facilitate the task for the students. In other words, I assigned this task as an online activity during virtual learning sessions (See Table 3), providing them with a space where they could feel more comfortable and creative in expressing their experiences. Additionally, the RJs task was designed to be open-ended, allowing students to freely express their thoughts without any limitations on word count. Furthermore, I gave the students several days to complete the task and submit it on Blackboard while I made myself available to address any questions or difficulties the students may have had.

Therefore, as shown in table 4, RJ1 was collected in Week 4. During this process, I provided specific prompts to help the students organize their ideas and respond to them. These prompts consisted of three main questions: What have you learned from Grammarly, your peers, and the teacher feedback thus far? What do you appreciate or enjoy about the feedback you receive from these three sources? What do you dislike or find problematic about the feedback you receive from these three sources? (See Appendix K). By doing this, RJ1 tended to fulfil the second aim of this research, which is to investigate the collaboration of the APT sources.

RJ2 was conducted in week 8, and its goal was to explore the students' engagement and authentic emotions regarding the APT experience. To achieve this, I prompted them to draw two faces representing themselves as L2 writers before and after the intervention. After completing these

drawings, they were asked to reflect on them and justify their choice of these specific faces (See Appendix L). I observed that this technique truly motivated the students to express their reactions, especially their emotions, about the intervention more easily. The drawings provided them with a starting point to articulate their thoughts and feelings which enriched my findings with important data. Considering these points helped in reducing the limitations that may arise due to the students' unfamiliarity with the reflective journal practice.

3.4.6 Post-Study Engagement Questionnaire

As clarified in Table 4, the questionnaire data was the final collection procedure in this research. It took place in week 10, after the participants had completed the APT tasks and gained a good understanding of their performance as L2 writers. During this phase, I distributed the questionnaire to all the students while they were in class.

To ensure accurate answers from the students, I provided instructions on how to answer the Likert scale items and emphasized the importance of reading the questions carefully and responding honestly. The participants had spent 25-30 minutes to complete the questionnaire. This time was necessitated by the students' unfamiliarity with filling out post-study surveys. Additionally, some of the engagement questionnaire concepts are unfamiliar to them, so they had to take their time and focus while reading it to give honest answers. Throughout this time, I monitored the students and was available to answer any questions or address any difficulties they encountered. I also made sure that the students did not influence each other while filling out the questionnaire, creating a quiet and relaxed atmosphere to promote concentration.

3.5 Data Analysis Procedures

In the following paragraphs, I will present the analysis procedures of the essay writing drafts, the pre- and post-tests, then, the qualitative data obtained from focus groups, classroom observation, and the reflective journals since the same procedures were followed to analyse each instrument of them. Finally, the data analysis procedure of the post-study questionnaire data is discussed.

3.5.1 Essay Writing Drafts

In the initial period of data analysis, as the primary data source for this research, I reviewed the students' essay writing drafts alongside the students' attendance records throughout the semester. Based on this review, I observed that the number of drafts submitted for each of the four tasks varied and was inconsistent. As a result, the total number of drafts collected from each task differed. For instance, in task 1, all 33 students submitted their four drafts, whereas in task 2, only 31 students

appeared in class and submitted their four drafts. The same issue occurred in tasks 3 and 4, where the number of attending students decreased. Below, I illustrate the inconsistencies in their attendance throughout the intervention (see Table 5).

Table 5 : The distribution of the students' attendance throughout the intervention

Weeks	**Students' Attendance**	**Total Drafts Gathered Per Task (4 Steps)**
Week 2	33 students	132 drafts (Task 1)
Week 3	31 students	124 drafts (Task 2)
Week 5	30 students	120 drafts (Task 3)
Week 8	16 students	64 drafts (Task 4)

Therefore, to ensure consistency in my data analysis and accurately represent the systematic results of the students' essay drafts, I have specifically selected and reviewed those students who fully participated in every APT task and submitted their complete set of four drafts. Consequently, a sample of 11 learners was identified as representative of the findings in this research. That means the total number of drafts submitted by these 11 learners across the four tasks was 176 drafts. This calculation was determined by multiplying 11 learners by 4 tasks and then by 4 APT steps.

During the data analysis and based on the total number of drafts determined, I began analysing feedback items and the accepted ones/uptake from these drafts via coding them according to the framework proposed by Faigley and Witte (1981) which is revised and developed later by Tian and Zhou (2020) (See Figure 6).

Coding scheme and examples.

Feedback categories			Examples
Surface-level Feedback	Meaning-preserving	Lexical	*"Amazed is a positive word, choose a different word, shocked, surprised, astonished."*
		Sentence	*"Combine into one sentence as these ideas are closely related."*
		Paragraph	*"This part is very dense and there is a lot of information here. Try to break this down."*
	Grammar		*"Pay attention to your singular and plural forms. Please use 'challenges'."*
	Mechanics		*"Please check your capitalization here."*
Meaning-level feedback	Meaning-related	Lexical	*"Change the word compete. Its meaning doesn't fit here."*
		Sentence	*"Talk about how this will make you more competitive in the future job market."*
		Paragraph	*"Is this an introduction? You need a thesis with 3 supporting points here."*

Figure 6. The Coding Scheme Adopted from Tian and Zhou (2020).

To clarify, as Figure 6 shows, surface-level feedback refers to feedback that does not change the meaning of the text. This type of feedback includes three levels of discourse: preserving meaning, grammar, and mechanics. The meaning-preserving level involves making changes, such as adding, deleting, substituting, permuting, distributing, and consolidating, without introducing new information or removing existing one. It rather requires paraphrasing the text while keeping the

meaning intact. These changes can be made on lexical, sentence, or paragraph levels. Additionally, grammar feedback focuses on issues like tense, subject-verb agreement, singular-plural forms, and the use of determiners, among others. Mechanics feedback addresses capitalization, punctuation, spelling, formatting, and similar aspects.

On the other hand, meaning-level feedback involves changes in the meaning of the text. This may include adding, deleting, substituting, permuting, distributing, and consolidating to alter the meaning on lexical, sentence, or paragraph levels. For example, it may involve noting that a specific word does not convey the intended meaning or suggesting the addition of a statement or more details to clarify the essay's meaning (Tian & Zhou, 2020; Shi, 2021).

Thus, according to this scheme and to consistently analyse the drafts, after ensuring the reliability of the coding process (See 3.7), I utilized an analytical software called MAXQDA wherein I structured the coding book to align with the scheme. This involved creating two levels of coding: one for meaning and another for surface aspects. Within each of these macro levels, I incorporated the three micro levels discussed earlier. Once I established the coding scheme in MAXQDA, I dedicated sufficient time to thoroughly read each draft and identify the potential code of each APT feedback item (See Appendix N). The students' uptake has been also considered because it reflected the writing performance improvement across the tasks. In other words, the uptake rate can indicate the extent to which students improved in their writing ability within the boundaries of the feedback they accepted (See 4.1). That is to say, since Grammarly involves automated writing correction, its intensive feedback could sometimes be inaccurate or irrelevant to the context or meaning (See 4.2.1.1.3 and 4.2.1.1.4). Therefore, it is unreliable to measure the progress in writing performance solely based on Grammarly feedback, without considering the items that the students rejected or accepted. Therefore, I present their uptake as an essential element in this study, alongside the feedback items.

Further, since this intervention consisted of tasks of four different genres with varying word counts (as per PNU/ELI requirements), the L2 writing progress could not be directly compared across the varied length of the essays (that is, of 120 words, 150 words, 180 words, and 200 words). As such, counting the feedback items as well as the students' uptake for every 100 words across all tasks was considered as an essential step in presenting a logical and consistent measurement of their writing progress in this study.

The textual analysis resulted in over 2500 coded feedback items offered by the APT for the 11 learners. Afterwards, I manually transferred all the codes/feedback items considering the accepted ones (uptake) onto an Excel program. This step was essential as MAXQDA is an analytical software that lacks the capability to perform calculations or provide numerical data or figures, especially the calculation of items per 100 words for each task. Consequently, I created an Excel sheet that mirror

the same coding framework to enter the total number of the feedback items coded, alongside the total accepted items. Consequently, I was able to present the findings in more visual and systematic manner.

I then proceeded with the drafts analysis on Excel program for another aim of this research. In other words, in the previous process, the focus was on the collective feedback items for each task and their corresponding acceptance count, aiming to address the changes in the students' L2 writing across the tasks/over time. In contrast, the focus in this process is on the feedback items given by each source individually, aiming to explore the specific surface and meaning level aspects provided by each. This way, I was able to determine the extent to which each source addresses unique or similar items, and to reveal their respective strengths and limitations in L2 writing context.

3.5.2 Pre-Tests and Post-Tests

After completing the data analysis of the students' essay drafts, I proceeded with the pre- and post-test data analysis. In doing so, I took two steps. First, I utilized the same coding scheme to count the feedback items given to the students in both tests. This allowed me to examine the decrease or increase in the total number of errors (i.e., feedback items). Added to that, I recorded the number of words the students were able to produce, whether they were able to write longer or shorter essays with more clarity and accuracy over time (See 4.1.4).

Second, a statistical analysis for paired samples using the SPSS software was conducted. In this sense, a parametric normality test to determine the significance of improvement was performed. However, tests for normality such as the Shapiro-Wilk test or direct inspection using histograms and Q-Q plots were found to be inappropriate for answering the research question. Initially, these tests indicated that the L2 writing improvement of the 11 learners did not follow a normal distribution (See Appendix I). Hence, a non-parametric test such as the Wilcoxon signed-rank test, which does not require assumptions about the actual distribution of the data, was deemed to be a reliable choice (Nahm, 2016).

The Wilcoxon signed-rank test is used to determine if there is a significant difference between two related groups. In this sense, it considers the same learners but under two different settings on the same dependent variable (Field, 2024). Accordingly, I measured L2 writing performance at two time points: before and after the intervention to observe any changes in the number of errors over time. To do this, the significance level associated with the Wilcoxon test (p-value/Asymp Sig) is shown. A small p-value of less than 0.05 would indicate strong evidence against the null hypothesis, which states that there is no difference between students' L2 writing before and after the intervention. Then, the Wilcoxon signed-rank test was deemed appropriate for this study due to the design of the dataset and the deviation from normality. Also, possible biases caused by violating the assumptions

of normality were controlled by this test, resulting in accurate and reliable results when comparing the pre-test and post-test scores.

3.5.3 Qualitative Analysis: Focus Groups, Reflective Journals, and Observations

In this stage of analysis, a thematic approach was considered suitable for the data of this research because it allows the codes to emerge from the data itself (Braun & Clarke, 2022). In addition, the flexibility of this approach helped me navigate through the complex theoretical background of this research. In terms of its coding approaches, thematic analysis involves both inductive and deductive coding approaches. The former refers to coding that emerges from the data, while the latter refers to coding that is predetermined before the analysis (Braun & Clarke, 2022). In this study, I have combined both approaches, considering that both align better with the nature of the data, the aim of this research, and the complexity of the theoretical constructs underpinning it (See 2.32.4). This is due to the impracticality of completely separating the two approaches. Braun and Clarke (2022) have confirmed that qualitative researchers cannot be overly deductive or overly inductive, since "we always bring something to the data when we analyse it, and we rarely completely ignore the semantic content of the data when we code for a particular theoretical construct" (p. 58-59).

Having said that, I started analysing the qualitative data I collected without any preconceived assumptions. I analysed each qualitative tool separately: focus groups, observation notes, and reflective journals. Rather than immediately diving into the analysis, I first familiarized myself with the data through journals, notes, and audio recordings. For example, to prepare my data for analysis, I have taken the following steps.

I carefully reviewed the reflective journals and observation notes, reading each line repeatedly to understand its meaning and identify potential codes. I recorded the focus group data in Arabic and transcribed each session immediately after it concluded. Therefore, in order to prepare my data for analysis, I took detailed notes on the transcripts while listening to and relistening to the audio recordings, which also helped ensure the accuracy of my transcriptions. At this stage, the aim was to closely inspect how the participants thought, saw, and felt. Understanding the participants' perspectives improves the quality of the qualitative data analysis (Miles and Huberman, 1994). Added to that, I made sure to immerse myself in the original language of the data, whether Arabic (FGs) or English (RJs and observation), to accurately capture the participants' perspectives and subtle nuances. Working with translated versions would have risked losing the clarity and precision of these meanings. Doing so enabled me to fully engage with the data as "data rather than simply as information" (Braun & Clark, 2022, p. 84). Also, I conducted the analysis for the data tool in their original languages, be it Arabic (i.e., FGs) or English (i.e., observation and RJs), to prevent any loss of meaning during interpretation and translation (Van Nes et al., 2010).

After that, I had all my data printed (i.e., FG, observation notes, and RJs), as I prefer this way of approaching data for simple understanding and coding. I posted the printed data of each tool separately on the wall and began the process of coding and recoding (See Appendix O). Doing this allowed me to manually locate the codes in the data by using sticky-coloured notes beside each quote. This initial process was inductive, allowing the codes to emerge from the data itself. After that, I visually organized the emerged codes using the MAXQDA software to help me easily organize the codes and identify potential themes in the data. As a result, some of the inductive codes located in the observation notes were: “help,” “answer queries,” “listen to questions,” and “lean toward peers to answer.” As a result, after a thorough review of the literature and the underpinning theories of the current research, I developed a theme to these codes which is called "scaffolding," shaping the behavioural engagement domain with APT. Furthermore, other inductively emerged codes from the data included "talking to self," "reading aloud," and "thinking out loud." These codes were found to fall into the cognitive strategies for task comprehension. Thus, after revisiting and checking the literature, I developed a theme to these codes which is called "private speech," shaping the cognitive engagement domain with the APT (See Appendix P and P.1 for more examples).

I developed these themes from the codes emerging from FGs, observation notes, and RJs collectively, rather than developing them separately for each instrument. This helped enhance the integration of the qualitative data findings from multiple sources. For instance, the observation notes' codes (e.g., embarrassment and puzzling), the reflective journals' codes (e.g., anxiety/worries/fear of poor levels of writing and complaining), and the focus groups' codes (e.g., frustration of mistakes and exam mark worries) collectively form a theme known as "distress". Developing and refining the final themes for my findings in a way that aligns with the current underpinning theories and literature can improve the quality of the analysis and increase its validity and reliability (Richards, 2003).

During all these processes, as seen, I applied the common six phases of qualitative analysis continuously (Braun & Clark, 2022). In other words, I found myself frequently moving back and forth between familiarization, coding, generating initial themes, developing, and reviewing themes, refining, defining, and naming themes, and writing for analysis (Braun & Clark, 2022). These steps happened recursively considering a thorough reading of the theories to comprehend the themes emerged, and their relation to the literature underpinning this study.

Given the interpretive nature of qualitative research methodologies, there are no standardized methods to ensure rigor across all types of qualitative studies. However, the establishment of multiple frameworks guides qualitative researchers in designing rigorous research studies (McAlister et al., 2017). Miles and Huberman (1994) established the inter-rater reliability as a standard method to ensure consistency in coding. So, to ensure the consistency and reliability of my coding, my colleague and I coded the second focus group data separately. Before she began coding, the

colleague had a thorough understanding of the research aims, questions, and the underpinning theories. After a few days, we sat together to discuss the differences and similarities between the two coding systems. We then employed the formula from Miles and Huberman (1994), which calculates reliability by dividing the number of agreements by the total number of agreements and disagreements. The results indicated that we achieved a high level of agreement in the coding process, surpassing 80%. According to Miles and Huberman (1994), 80% agreement among coders on 95% of the codes is considered sufficient agreement among multiple coders.

After the completion of the qualitative data analysis, certain themes were uncovered to be exclusive to either FGs, RJs, or observation. For example, while cognitive engagement was primarily assessed by the FGs and RJs, behavioural engagement was primarily assessed through classroom observation notes. That is, observation is a method of gathering data by documenting individuals' behaviours within their environments, with the aim of understanding them within specific settings (Lauren et al., 2022). Such data on individuals' behaviours may not be easily obtained in a simulated scenario or through other qualitative methods (Lauren et al., 2022). Hence, combining data from different sources facilitated better explanation of unexpected findings that may arise from one of the other methods (Armitage, 2007; Bryman, 2006; Hammersley, 2008). A further discussion in this regard is presented later (See 3.7).

Later in the findings chapter, the participants are given the following pseudonyms: Jumana, Lenah, Rania, Lora, Razan, Maisa, Jawdah, Rama, Muna, Wesam, and Jude. It is important to note that their quotes are presented in the translated versions from Arabic, while their quotes from the RJs are presented in the original English version which are edited for clarity.

3.5.4 Post-Study Engagement Questionnaire

After concluding the qualitative analysis, I proceeded to analyse the questionnaire data using the descriptive analysis feature in SPSS. By choosing a descriptive statistical approach for quantitative analysis, I aimed to gather the learners' perceptions and opinions about the impact of the APT on their multi-dimensional engagement. Descriptive statistics are more suitable to answer the current study’s aims than inferential analysis. This is because descriptive statistics provide us with the necessary understanding of the provided data to draw conclusions; however, they do not attempt to generalize the conclusions beyond the available data (Ravid, 2024), as this would not align with the current study's aims. Understanding the characteristics of a specific group of individuals is crucial. Therefore, by employing descriptive statistics, I can effectively illustrate the central tendencies of the participants' behavioural, cognitive, and affective engagements, thereby providing enough insights for the current study within the APT context. As a result, this analysis helped determine the basic information needed to understand the mean scores, standard deviation, and overall percentages of

students' perceptions without unnecessary complexity and without taking any step further in the analysis (Ravid, 2024). Conversely, inferential statistics may be more appropriate for hypothesis-driven research and generalizing findings to larger populations (Ravid, 2024), a purpose that does not align with the current study. Therefore, the current study deems descriptive statistics more suitable.

3.6 My Stance as a Teacher and Researcher

Being a teacher for six years made this trip enjoyable and challenging at the same time, hence, a valuable learning experience for me. On one hand, it allowed me to reignite my teaching skills and passion, which had been put on hold since 2019 when I started my PhD journey. On the other hand, I recognize that being both a teacher and a researcher for the first time was challenging right from the start. Whether it was implementing a non-traditional model or juggling multiple responsibilities and tasks, the journey was not strewn with roses. However, I gradually grew and learned to navigate these challenges as I developed my skills and assumed my roles.

What made this journey enjoyable and challenging is the story that the broad context of my intervention holds towards teaching English. In most English classes in Saudi universities, teachers traditionally put a lot of effort into teaching English skills. This is due to two main factors: the specific timeframe and the large class sizes. As a result, the long and slow process of improving L2 writing skills often leaves teachers exhausted with the sole responsibility of teaching, correcting, and guiding their students. Consequently, they prefer to mitigate this effort by shifting their attention to teaching and covering only the issues included in assessments, which is a priority from the perspectives of teachers, students, and decision makers.

Sometimes, given the required effort and slow improvement, teachers end up giving minimal attention to writing skills. In doing so, they often encourage students to work in groups and complete tasks in a linear manner, which ultimately results in the students preparing for the exam independently. This instance is proven in this study, where the participants expressed feelings of being lost and unsure about how to prepare for L2 writing exams and which areas they should focus on, as there is no guidance, or references provided for them during their previous semester.

Having said that, I realised that the model/strategies I used to teach English writing were completely new and therefore likely to be challenging for the students. This made me attain that extra efforts were required and that I should not expect any improvement in their writing level from the beginning. Instead, my aim was to enjoy working with the students and help them discover their abilities. Therefore, I started the intervention by emphasizing that the students should be aware of this skill (See 3.2.2). Also, I informed them that this model was designed to facilitate their writing improvement, not to evaluate them.

My efforts did not cease at that point, but I also helped the students identify their weaknesses in each task, provided individual guidance, and taught the tasks seriously and honestly without assuming any improvement. Whether through email, WhatsApp, or during FG sessions and RJs, I welcomed and addressed questions raised both in and outside of class. I let the students know that I was available to listen to their ideas, experiences, suggestions, or problems. I did not dismiss whatever they wrote or said when they contacted me. Rather, I considered them to improve my research materials and teaching practices. For example, after completing FG2, one participant came to me in tears, stressed about the amount of work she had to put in. She did not expect writing tasks to be challenging and time-consuming. Instead of taking offense, I used this as an opportunity to work harder and listen to my students. As a result, I encouraged those who felt the need to practice more and enhance their writing skills to send me additional tasks on WhatsApp. I then dedicated my time and effort day and night to advising, guiding, providing feedback, and encouraging these students to practice and learn from their mistakes.

To cultivate a sense of learning and passion, I also attempted to share examples of good work done by different students throughout my roaming and facilitating time in class, accompanied by explanations of how the work should be done. My intention was not to foster competition, as that could create stress and tension in the classroom, but to encourage curiosity and initiative. Working in groups and pairs further enhanced this opportunity, as it allowed those who felt shy to ask for assistance and address each other's questions.

The efforts were also made through effectively managing my dual role as a researcher and teacher. I established a structured routine to balance both responsibilities. Specifically, on the two days designated for teaching, I focused solely on delivering engaging lessons to my students without allowing myself to become distracted by research-related tasks. During this time, I dedicated myself to preparing materials and slides that would attract and motivate students such as the use of Kahoot activities before APT tasks. Throughout my teaching hours, I prioritized creating a classroom environment that fostered learning and self-discovery. Once the teaching period concluded, I dedicated the remainder of the week to reviewing students' drafts, refining my research instruments, reflecting on what went well, and brainstorming ways to address any challenges that arose. The ultimate objective was to facilitate the students' tasks and hence encourage, not force, more effective engagement from them.

I believe that practicing this approach not only improved my relationship with the students, but also boosted their confidence and made them feel more comfortable with their progress, which in turn persuaded them to work harder. This feeling also provoked my passion and effort as a teacher. Additionally, this model enabled the students to be active participants, rather than passive members, not only in my classes but also in Speaking/Listening classes, as reported by their main teacher. This

further reinforced my belief in the value and influence of my intervention on their skills, creativity, and ownership. As a result of effectively managing my work, responsibilities, skills, and time, I was able to achieve the desired outcomes.

3.7 Reliability and Validity

In this study, I considered various factors to ensure the validity of the data collection instruments and the reliability of the findings. The first factor involved using the triangulation technique for data analysis and interpretations. According to Patton (1990), there are four types of triangulations:

- Data triangulation: This involves using different types of data.
- Investigator triangulation: This entails involving different researchers.
- Theory triangulation: This includes using different theories to interpret the data.
- Methodological triangulation: This involves employing multiple instruments for data collection.

In this research study, a methodological triangulation was applied. This means that multiple instruments/sources of data were used to fulfil a single research aim and answer research questions. This approach involved not only triangulating between qualitative and quantitative data sets, but also considering multiple data sources within a single approach, whether qualitative or quantitative (See 4.1). In mixed-methods research, the concept of triangulation is often used to describe the integration of findings. According to Creswell (2021), a crucial step for mixed-methods researchers is to thoroughly review the integrated results and draw conclusions from them. This process is also referred to as drawing "meta-inferences" (Creswell, 2021, p. 9), meaning that conclusions are derived not only from quantitative or qualitative findings individually, but from their combined overall analysis and assessment of data from various sources. By doing so, the reliability was emphasized in this research as it provided a complementary understanding of the research problem (Patton, 1990; Creswell, 2021) and reduced bias, thereby increasing confidence in the findings (Jick, 1979).

For example, the second research aim was addressed by presenting findings through an integrated meta-inference of qualitative and quantitative data sources (See 4.2). This involved combining the results from the essay drafts with the results from the FGs and RJs. By triangulating and integrating the findings, quantitative data informed the role of each source in addressing writing issues on the writing drafts, while the qualitative students' perspectives enhanced understanding and provided in-depth discussion about these sources, addressing the writers' needs and difficulties when collaborating with each other.

The same procedures were applied to the third research aim. I triangulated the quantitative data sets from the questionnaire with the qualitative data sets from FGs, RJs, and observation (See 4.3). For

example, while the quantitative data provided limited insights, indicating that the APT helped the whole group understand the writing processes of planning, drafting, and reviewing, the qualitative data allowed for a deeper exploration of these issues. The participants delved into their experiences, highlighting the significance of the APT in shaping their knowledge over time, the significance of planning, and the role of drafting in revealing their distinct identities as writers.

In short, by integrating both sets of data, I was able to balance the weaknesses of one instrument with the strengths of the other (Mitchell, 1986) which also strengthened my interpretation and minimized deficiencies and biases that can arise from relying on a single one (Mitchell, 1986). Without this integration, the research study might have understood how the APT affects learning in the L2 writing classroom as either a separate qualitative study or a separate quantitative study, rather than making the "whole greater than the sum of the parts" (O'Cathain et al., 2010, p. 1). In addition, from my pragmatic standpoint, my goal is to integrate the quantitative and qualitative realities to enhance understanding and gain new insights into each research question. This way, the quantitative perspective helps to demonstrate what people do (Hammersley, 1992) by providing numerical data, while the qualitative perspective equally emphasizes subjective issues, recognizing their importance in obtaining necessary details from a group of learners (Creswell & Clark, 2017; Creswell 2021). Therefore, employing these integrated realities during analysis and interpretation allows me to cover various essential aspects and present a comprehensive understanding.

The second factor considered in this study to ensure reliability was the inter-rater reliability check. Prior to analysing the writing drafts, I invited a PhD colleague to manually code a randomly selected 10% of the drafts collected from the 11 students. I explained the coding scheme to my colleague, as she used it to code the drafts. After this, a statistical analysis was performed to compare our coding and measure the similarity. The results showed an excellent agreement between us ($\kappa = .89$), which indicates a high level of agreement (Landis & Koch, 1977). We then discussed any discrepancies between our coding, and I proceeded to code the remaining drafts for the sample in the study. This way, I could ensure a consistent and accurate marking of the students' writing drafts. The same inter-rater check was also conducted to ensure the accuracy of the feedback items on the pre- and post-tests. Prior to performing the statistical analysis, the same colleague was asked to validate the entire set of pre-test errors for the 11 students using the same adapted scheme. The Cohen Kappa value was then calculated to determine the level of agreement between both marking. The value was approximately 0.7889, indicating substantial agreement between the two sets (Landis & Koch, 1977).

Moreover, to ensure the validity of the research data collection instruments, several steps have been taken. First, as mentioned earlier (See 3.3.2 and 3.3.3), the focus groups and questionnaire questions were piloted and reviewed by a colleague to ensure their suitability for the research aims and questions. Following that, the translated versions from English to Arabic were checked and validated

by another colleague specializing in translation. The instruments were then revised and improved based on the feedback, resolving any issues and ensuring their validity. Furthermore, an assessment of internal consistency of the questionnaire data after collection was performed. This assessment utilized the Cronbach's Alpha reliability test for all items. The resulting Cronbach's Alpha coefficient of 0.940 indicated a high level of validity for the questionnaire, highlighting strong internal consistency among its components (Peterson, 1994). Finally, the reflections after each class greatly helped me improve the suitability and accuracy of my research instruments. These reflections inspired me to identify challenges and explore additional areas of investigation, which contributed to obtaining richer data for my study. They also prompted me to revisit the data collected in earlier weeks and work on reviewing and improving the instruments such as FGs for subsequent collection procedures (See 3.4.2). By maintaining these reflections, I not only safeguarded against any loss of valuable information, but also adopted a strong reflective position during data analysis as well (Bryant & Charmaz, 2019; Urquhart, 2019).

3.8 Ethical Considerations

To ensure the ethical conduct of this research study, I have taken into account essential considerations to align with the ethical requirements. Regarding the research procedures, I did not initiate any research activities until I received the approval from the ethical committee at the University of Southampton.

Additionally, before utilizing my research tools and collecting data from the students, I informed them about the study's purposes. I also emphasized that their academic performance and grades would in no way be impacted. I made it clear that this research project posed no harm and provided an opportunity for them to express any needs or concerns as their L2 writing teacher. To participate, they signed a consent form and agreed to be involved prior to the intervention in line with the ethical requirements of the university (See Appendix Q). Furthermore, throughout the intervention, I actively demonstrated respect, interest, and cooperation towards the students, valuing their participation in my research and creating a safe space for them to share their experiences.

After collecting the data, I securely stored and organized all of my data sources on the University of Southampton and OneDrive servers. Additionally, I locked away the hard copies of the data in a drawer, ensuring that only I could access them. Furthermore, throughout the data analysis process, I made a conscious effort to prioritize the participants' words and opinions, rather than relying on my own opinions and words. I used my theories to deeply interpret their statements as it was important to me that I did not speak on behalf of the participants or make assumptions that were not supported by the data. Moreover, their identities were kept anonymous during the presentation of

the findings, and only me who had access to their information, strictly for research purposes. These ethical considerations allowed for honest findings to emerge in this research study.

3.9 Chapter Summary

In this chapter, I began by restating the research questions. This was followed by a thorough discussion of the research paradigm and design chosen for this research study. I then explained the research context, including the research participants and the teaching procedures for the APT intervention. After that, I discussed the data collection instruments in light of their significance and suitability to the research questions and aims. I went on to discuss the data collection procedures, providing detailed explanations of how each instrument was conducted.

Following that, the data analysis section was dedicated to explaining how the data gathered from various instruments were analysed. A separate section is further assigned to reflect on my experience/stance as a teacher and researcher for the first time. Lastly, the reliability and validity, as well as the ethical considerations were explained and discussed. In doing so, this chapter sets the scene to present the findings of this research which are displayed in the following chapter.

Chapter 4 The Findings

In this chapter, the presentation of the findings is set based on three main topics which mirror the research aims and questions: the writing performance change over time, the APT sources individual and collaboration roles, and lastly the L2 learners' behavioural, cognitive, and affective engagement with the APT. As this study follows a mixed-methods design, the chapter outlines the findings through an integration of quantitative and qualitative data, excluding the first aim that was investigated through quantitative data only.

It is important to note that while the imbedded group for the essay writing drafts results contained a number of 11 learners, the findings are indicative and suggest certain tendencies. Moreover, integrating the findings with the other datasets (See 3.7) reveals richer information about the impact of the APT on L2 writing performance and multi-dimensional engagement. Hence, it created a comprehensive picture that better fulfil the research aims.

4.1 Students' L2 Writing Performance Change Over Time

In order to investigate how the APT sources could impact the students' L2 writing performance over time, a textual analysis following the adapted coding scheme was performed for 176 writing drafts across four tasks (See 3.5.1). In doing so, the surface and meaning levels of the feedback items provided by Grammarly, peer, and teacher, individually, demonstrate the change in their writing performance. Each source presents these feedback items and compares them with the students' acceptance or uptake. The section then concludes with a presentation of the collective feedback items from the three sources alongside the students' uptake across the tasks.

4.1.1 Grammarly Feedback Items and Students' Uptake

This section presents findings related to the surface and meaning levels feedback items given by Grammarly versus the students' acceptance rate to those items as shown in Figure 7.

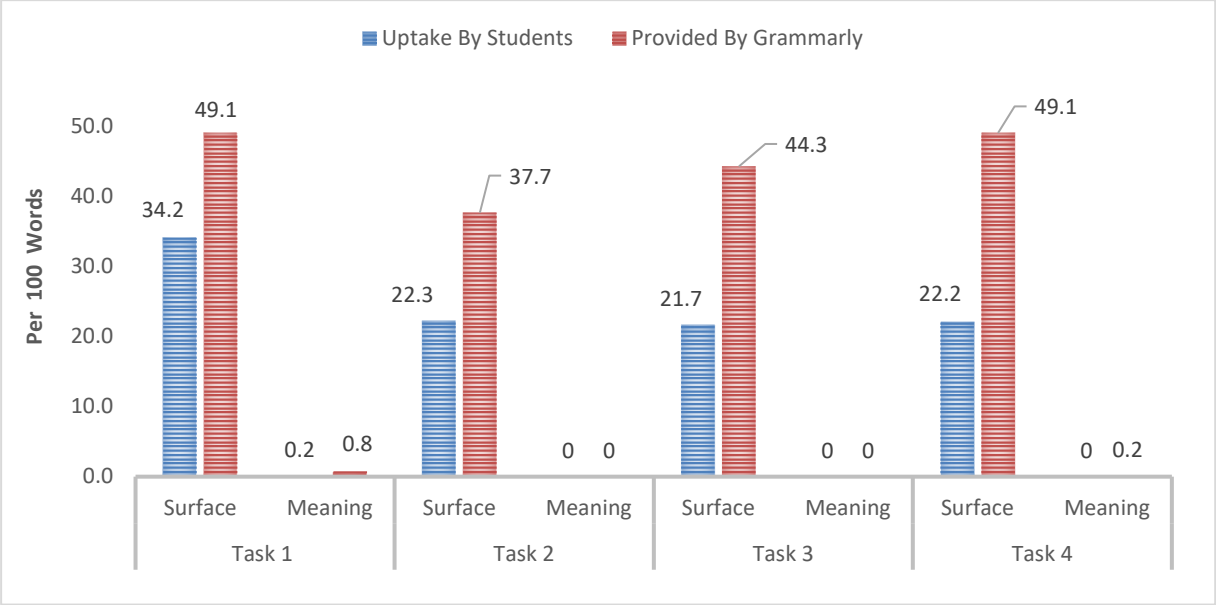

Figure 7. Surface and Meaning Feedback Quantities from Grammarly Versus Students' Uptakes

As can be seen in Figure 7, Grammarly provided 49 surface-level feedback items in the first task, falling to nearly 38 and 44 items in task 2 and 3 respectively. However, in task 4, surprisingly, Grammarly returned to the same number of items as in task 1, that is, 49. This necessitated the provision of how the students performed vis-à-vis Grammarly feedback: not only by counting the entire items but by considering the accurate ones as well which suited the contexts and intention of the writing (See 4.2.1). As such, the blue bar indicates an uptake of 34 items in task 1, falling to almost 22.3 in task 2, 21.7 in task 3, and finally with only a slight increase to 22. 2 in task 4 per 100 words. Conversely, Grammarly displays an extremely low number of items associated with meaning-level items across all tasks. In task 1, the number of items is 0.8 with a very low uptake rate of 0.2, and in the subsequent tasks, the number is almost non-existent.

Therefore, it can be said that the students over time become more aware and selective to the items relevant to their writing through a guided and scaffolded environment. That is, a closer inspection shows a falling trend between task 1 wherein 34 errors accepted, and task 4 wherein only 22.2 errors accepted by the students. In this case, the number 34 is considered the "initial value" while the number 22.2 is considered the "final value". Having said that, to calculate the reduction in errors and the percentage of improvement, I subtracted the final value from the initial value: 34 - 22.2 = 11.8. Afterward, I divided the difference by the initial value and multiplied the result by 100% to express the change as a percentage: (11.8/34) × 100%. This formula suggests that Grammarly may have contributed to a 35% change in their writing performance, primarily at the surface-level of L2 writing. Further, to fully investigate the impact of the APT on the whole writing aspects, further findings of the items offered and uptake vis-à-vis other sources: peer feedback and teacher feedback are presented next.

4.1.2 Peer Feedback Items and Students' Uptake

In this part, the feedback items related to surface and meaning levels given by peers versus the students' acceptance rate to those items are presented. This is as the following figure shows:

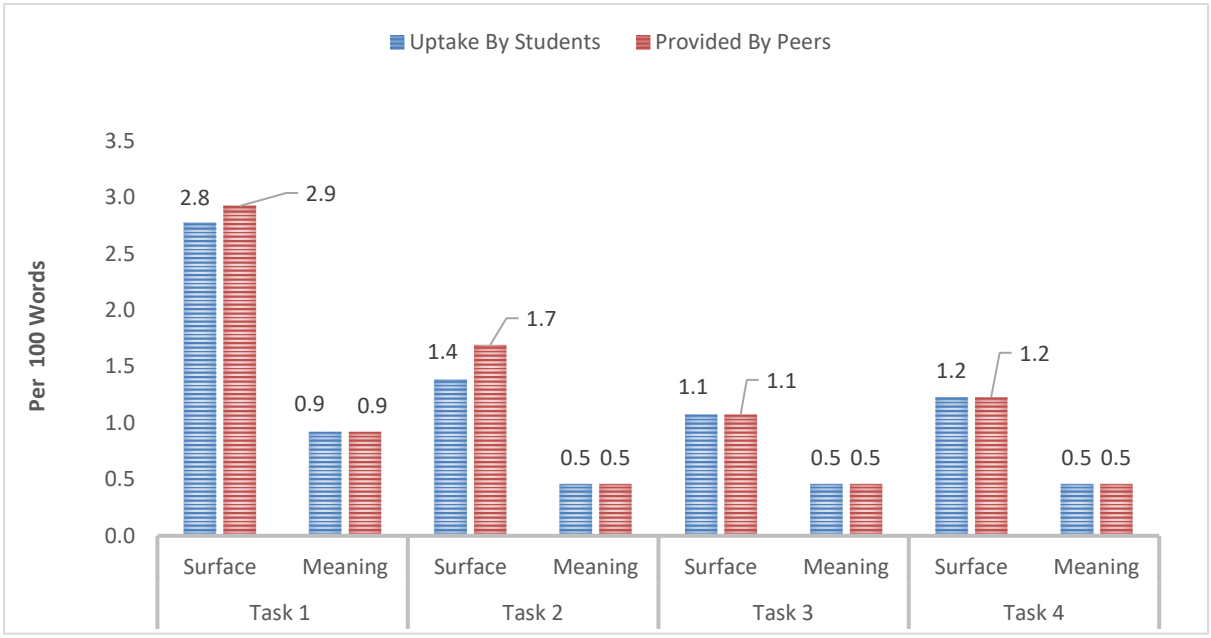

Figure 8. Surface and Meaning Feedback Items from Peers Versus Students' Uptakes Per 100 Words

Figure 8 shows the peers feedback items obtained from the evaluation checklists and the accepted items (Uptake) obtained from drafts 3 (3.4.3). Accordingly, the students received overall feedback items of 3.8 per 100 words for task 1. This has decreased to 2.2, 1.6, and 1.7 items in the following tasks respectively. Also, as clearly seen, the feedback items do not differ much from the students' uptake. That is, the students have accepted almost all the feedback offered to them by their peers, particularly in tasks 3 and 4. Therefore, it appears from the declining number of errors over time that peer feedback across tasks may have had a positive change on the students' L2 writing performance on surface and meaning levels.

4.1.3 Teacher Feedback Items and Students' Uptake

In this sub-section, the feedback items related to surface and meaning levels given by the teacher versus the students' acceptance rate to those items are presented. This is as the following figure shows:

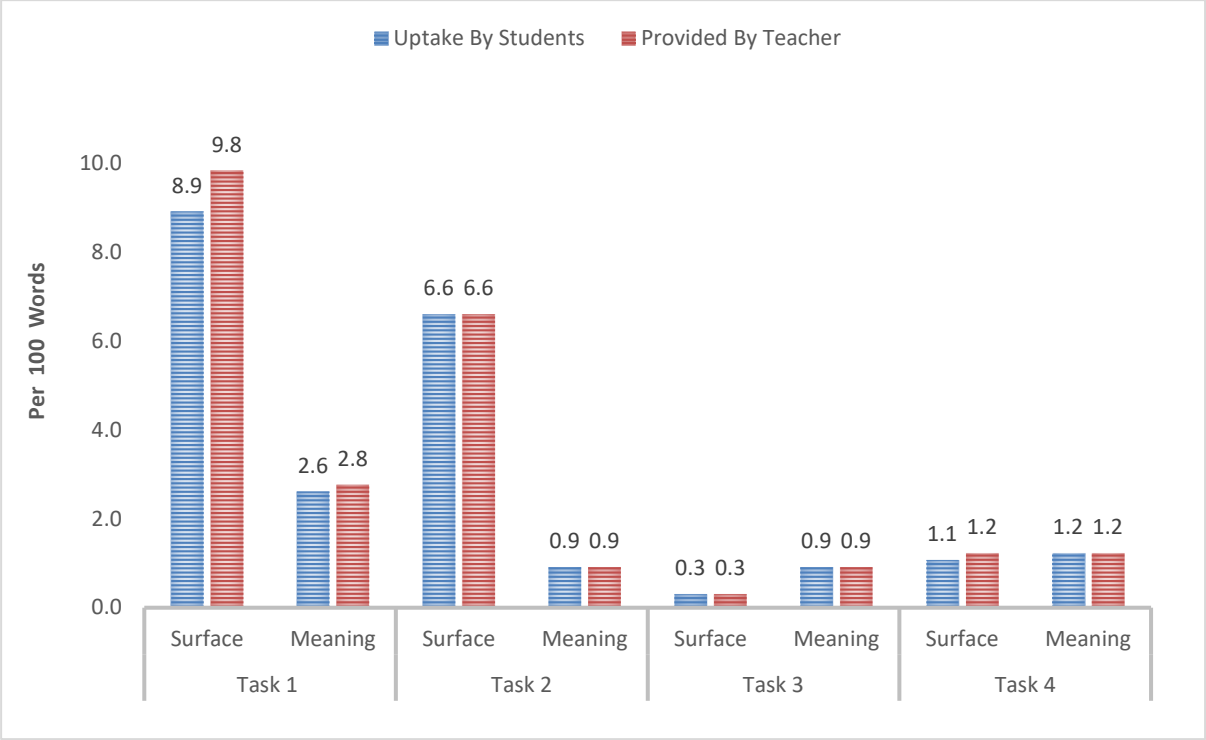

Figure 9. Surface and Meaning Feedback Items from Teachers Versus Students' Uptakes Per 100 Words

Figure 9 indicates that, per 100 words, in task 1, the teacher offered 12.6 surface and meaning levels feedback items. The items were decreased to 7.5 in task 2, to 1.2 in task 3, and a slight increase to 2.4 in task 4. Therefore, the teacher feedback may have positively impacted the students' writing when comparing their performance in task 1 and task 4. That is, the 95% acceptance of the teacher feedback in task 1 (9.8/8.9), followed by close to a 100% acceptance rate in task 2 onwards, may have contributed to their writing change, particularly through the steep fall in the number of errors students made throughout the four tasks. This calculation solely takes into account the errors made by the L2 students that the teacher could spot to be compared with the students' acceptance or rejection.

At the end of this section, taken together, the following figure indicates the collective feedback items offered by the three sources and the students' uptake across the tasks.

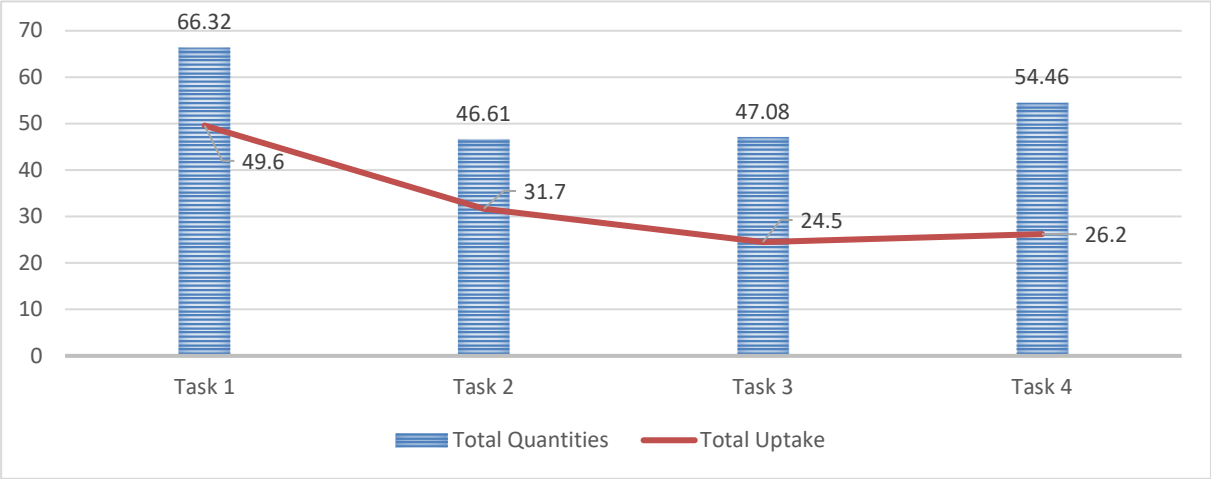

Figure 10. Total Items of APT Feedback and Students' Uptakes across Four Tasks Per 100 Words

Figure 10 shows that the APT offered 66.32 items in task 1, which decreased to 46.61 items in task 2. Then, in tasks 3 and 4, there was only a slight increase to 47.08 and 54.46, respectively. In this sense, Grammarly feedback items particularly reflect this increase. Thus, the students' uptake clearly indicates a decrease in the relevant feedback items, starting at 49.6 in task 1, falling to 31.7 in task 2, 24.5 in task 3, and ending with an extremely slight increase at 26.2 in task 4. As a result, the reduction in the total number of feedback items may indicate a positive outcome. The collaboration among the three sources across the tasks may have supported an 18% positive change in surface and meaning levels from task 1 to task 4.

Next, to enhance the credibility and reliability of these results, the pre- and post-tests have also been considered to investigate the impact of the APT on the L2 writing change before and after the intervention as in the following sub-section.

4.1.4 Students' L2 Writing Performance Change Before and After the APT

The impact of APT on the students' writing performance was further examined using statistics for the pre and -post-tests. Therefore, a descriptive statistical test was conducted to determine the total L2 writing change between the pre-test and the post-test. Following that, the Wilcoxon test (non-parametrical test) was chosen for its appropriacy and relevance to the data type and nature as the data did not follow a normal distribution (See 3.5.2).

Table 6. Descriptives Statistics Results of Pre- and Post-Tests

Descriptives	Statistic	Std. Error
Mean	-13.91	4.25
95% Confidence Interval for Mean	Lower Bound -23.38	
	Upper Bound -4.44	

Median	-10.00	
Std. Deviation	14.10	
Minimum	-49	
Maximum	0	
Range	49	
Interquartile Range	7	
Skewness	-1.89	.66

As shown in table 6, the sample mean for the 11 learners is -13.91, with a standard error of 4.25. This indicates a 95% likelihood that the actual population mean falls within the confidence interval of -23.38 to -4.44. Furthermore, the mean is shown to be lower than the median as the median value is -10 indicating a leftward skew in the data. This skew in turn reflects the influence of extreme low values that further decrease the mean. Having said that, the median appears to be a more appropriate measure of central tendency for this dataset. In addition, the interquartile range (IQR) of 7 signifies the spread of the central 50% of the data within a range of 7 units. This indicates a highly concentrated data set around the median. Also, the estimated standard deviation is 14.10, reflecting a range of 49, with values extending from -49 (minimum) to 0 (maximum). In this regard, the extreme values at both ends of the dataset contribute to the observed wide range, representing a moderate negative skewness of -1.89. The data reveals a concentration of points at the upper end, with a minority of lower values causing a leftward skew in the distribution (See Appendix I and Appendix J). This analysis provides a comprehensive summary of the data's central tendency, distribution, and shape. Such an understanding to the data's description is crucial before conducting further statistical analyses, such as the Wilcoxon signed-rank test.

Table 7. Wilcoxon Matched-Pairs-Signed Ranks Test of the Difference between Total Participants' Errors Means on Pre- and Post-Tests

Tests	**Signed Ranks**	**N**	**Mean Rank**	**Sum of Ranks**	**Z**	**Asymp. Sig.**
Errors of Total Tests	Negative Ranks (*)	10	5.50	55.00	2.807	0.005
Errors of Total Tests	Positive Ranks (**)	0	0.00	0.00		
	Ties (***)	1				
(*): Post-test errors < Pretest errors						
(**): Post-test errors > Pretest errors;						
(***): Post-test = Pretest						

As seen in Table 7, the Wilcoxon signed-rank test shows a significant difference ($Z = 2.807$, $p < 0.05$) in scores between the pre- and post-tests for 11 learners. The small p-value (usually less than 0.05) indicates strong evidence against the null hypothesis, suggesting a significant difference in L2 writing performance before and after the APT. Furthermore, the mean pre-test score was 5.50, indicating that, on average, the post-test scores were 5.50 units higher than the pre-test scores. The sum of negative ranks for the score differences was -55, which reflects a consistent pattern of improvement

across 10 students, apart from one student indicating an equal performance before and after the intervention. In other words, a higher negative rank sum indicates that the post-test scores tended to be higher than the pre-test scores. Therefore, the statistical analysis comparing the number of errors between the pre-test and post-test demonstrates a significant improvement, with most students showing a lower number of errors (feedback items) in the post-test.

Moreover, further analysis to the pre- and post-tests were performed manually through the excel program (See 3.5.2). The results then suggested that the students were able to write longer essays with fewer errors in the post tests as indicated in the following figure.

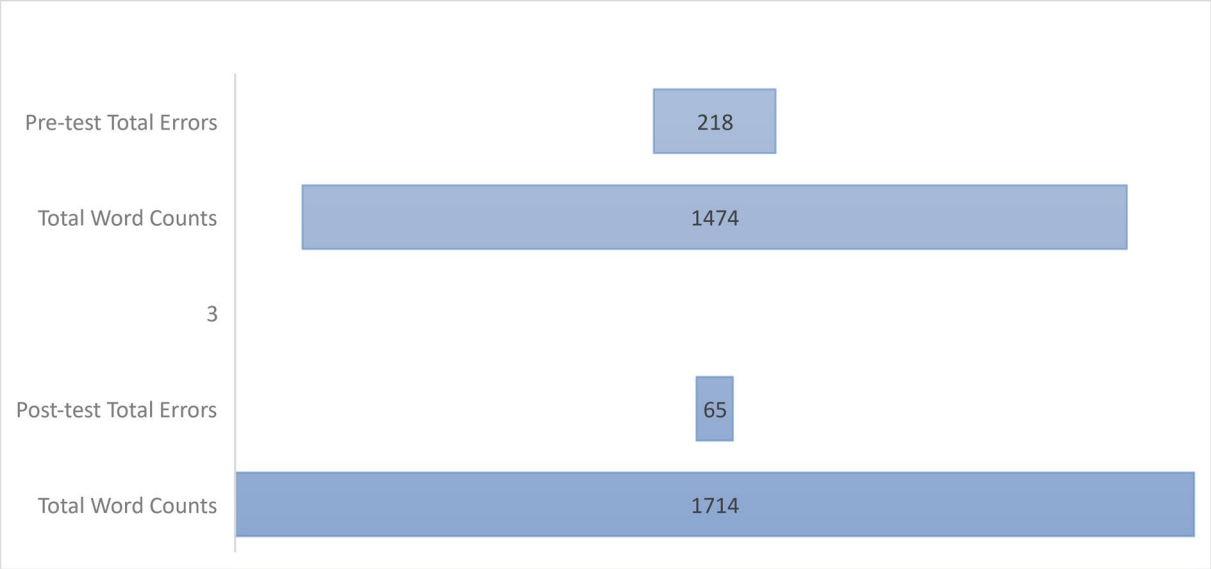

Figure 11. Manual Analysis of the Pre-Test and Post-Test Using Excel Program

As seen in Figure 11, there exists a pattern of improvement in the number of errors from the pre-test to the post-test. In this case, the overall errors made by the whole sample in the pre-test stood at 218 errors (surface and meaning levels) per 1474 words. After the intervention, while they were able to write more words (that is, 1714 words), a lesser number of errors (that is 65 errors only) were found.

4.2 The APT Individual and Collaboration Roles

Following the approach of this research study, the individual and integrated work of the APT were investigated through quantitative and qualitative data sources to fulfil the second aim of this study. Accordingly, this section presents the findings of the students' writing drafts analysis followed by the findings of the focus groups and the reflective journals analysis (See 3.5.1and 3.5.3).

4.2.1 Grammarly Feedback Individual Role

In this sub-section, the feedback items related to surface-level (i.e., meaning-preserving, grammar, and mechanics), and meaning-level (i.e., lexical, sentence, and paragraph) are shown. This is followed by the participants' viewpoints about Grammarly strengths and limitations.

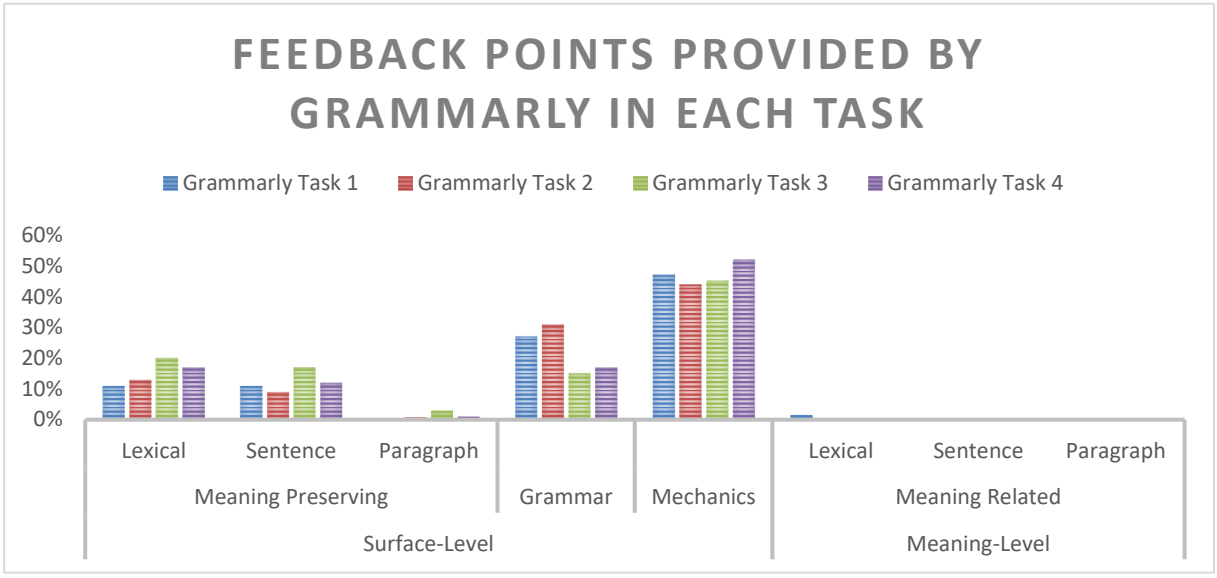

Figure 12. Grammarly Feedback Items at Surface and Meaning Levels across the Four Tasks

Figure 12 presents Grammarly feedback items, which mainly impacted the students' surface-level revisions. Here, Grammarly excelled in providing feedback on mechanics (for example, a missing comma in writing: See Figure 13), with a consistently a high percentage between a minimum of 44% and a maximum of 52% across all tasks.

In addition, feedback on grammar was ranked as the second highest in number, across the tasks (for example, using the infinitive verb instead of the wrong use of gerund with 'to'), with 27% and 31% for tasks 1 and 2, dropping to 15% and 17% for tasks 3 and 4.

Further, the feedback on lexical and sentence meaning-preserving levels constitute the third most prioritised feedback after mechanics and grammar across the four tasks. For instance, on the lexical level, Grammarly suggests using synonyms instead of overusing the same adverb throughout the essays. On the sentence level, Grammarly suggests rephrasing sentences that are hard to understand for more clarity and ease of understanding (See examples in Figure 13).

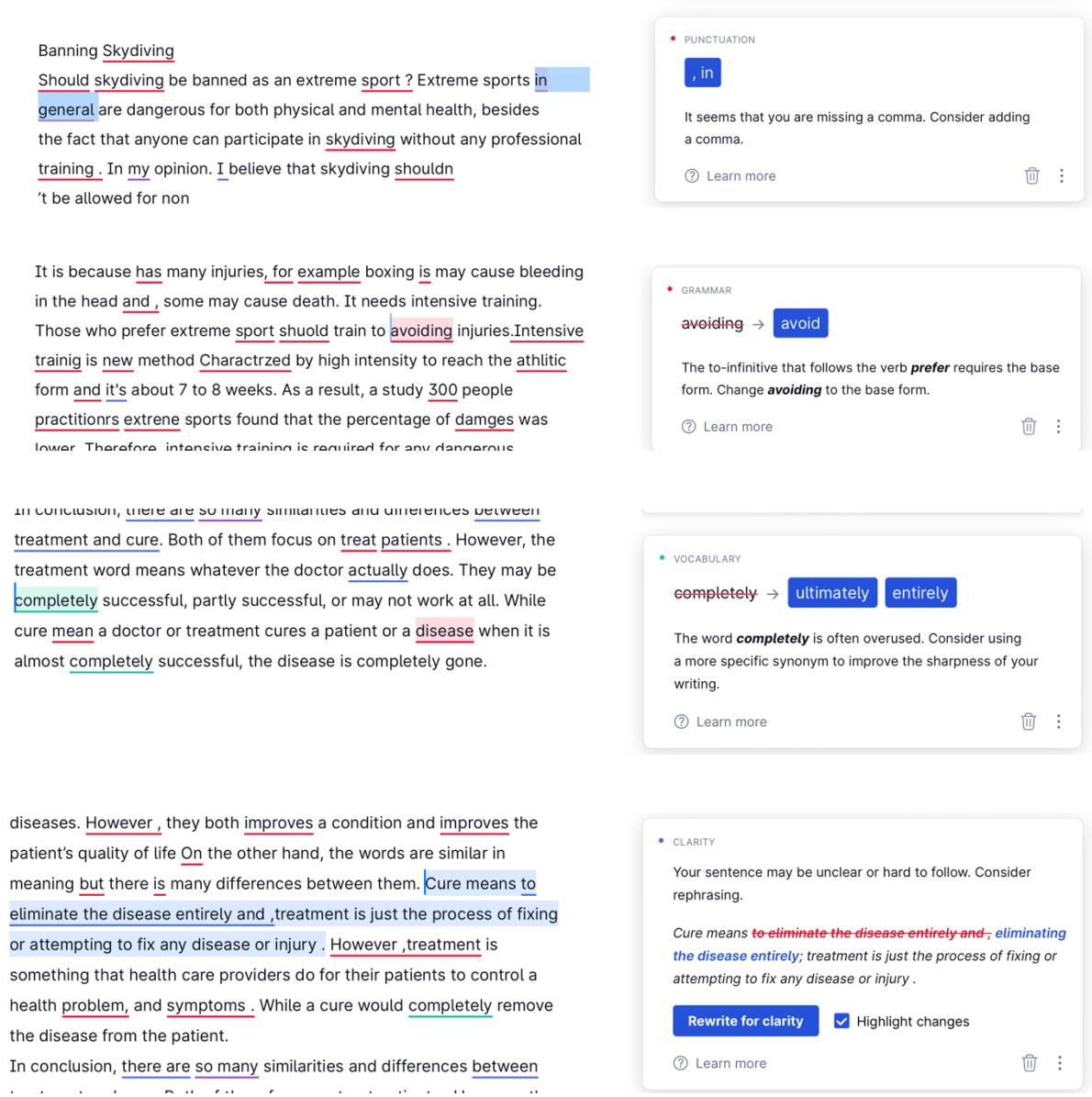

Figure 13. Examples of Grammarly Feedback: on Mechanics, Grammar, and Meaning-Preserving lexical and sentence Levels.

Unsurprisingly, Figure 12 reveals that Grammarly only contributed a mere 1.50% of meaning-related items at the lexical level in Task 1. This implies that Grammarly excelled at polishing the language of students' writing by mainly tackling surface-level errors. As such, other sources of feedback could play a crucial role in complementing Grammarly role especially when it comes to the limitations of understanding contextual meanings. Further discussion of Grammarly's strengths and challenges as per the participants' viewpoints is presented next.

4.2.1.1 Grammarly Strengths and Challenges

According to the results of the FGs and RJs (See 3.4.2 and 3.4.5), the themes emerged were found to fall into two primary categories for Grammarly source: strengths and challenges (See Figure 14). In this vein, there was no prior intention to categorise the themes before the data analysis; but, during

the analysis, I realised that the participants informed how each source supports and challenges their L2 writing, thus leading to two distinct categories.

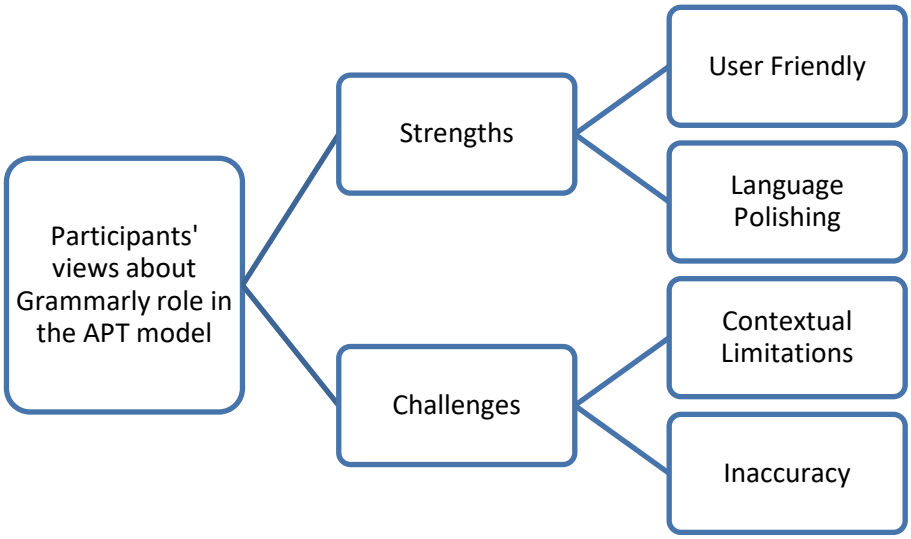

Figure 14. Emerging Themes Related to the Role of Grammarly Within The APT

The findings, as shown in Figure 14, indicate that Grammarly is powerful as being user-friendly and language-polishing assistant, whereas its challenging role involves contextual limitations and occasional inaccuracy. Also, as mentioned earlier, the participants' quotes presented in this section are all in their English translated versions.

4.2.1.1.1 User-Friendliness

The theme of user-friendliness explains the participants' preference for Grammarly due to its straightforward approach and time-efficient features. Jawdah, for example, highlighted such features when asked to describe her acquired knowledge as a result of using Grammarly to improve her writing.

> Feedback delivery was beneficial. Grammarly makes the feedback more understandable by explicitly identifying the grammar mistakes and suggesting well how to correct them. These features make it so practical for me (Jawdah, RJ1).

In her statement, she discussed her use of Grammarly to correct her grammatical errors, highlighting its usefulness in identifying problematic areas and providing immediate, straightforward solutions. This feature is deemed friendly by the participants, given that grammar is often perceived as a challenging area for novice writers. As a result, this description emphasizes the importance of having a practical source in the classroom that assists learners instantly and effortlessly and then mitigates the load of feedback from peers and teacher. This is as described by other participant when she said:

“Grammarly was assisting me to improve my mistakes in an easy way” (Rama, RJ1). Apart from being a state-of-the-art source of feedback, Grammarly offers a new feedback style in Saudi writing classrooms, different from the traditional practice of awaiting the teacher’s feedback, which could sometimes be indirect and require more effort to understand and implement. Directness and immediate access to corrections can indeed simplify learners' tasks, particularly during the first step of revision, which follows the lengthy and challenging process of generating draft 1 (See Figure 4).

Further, the aforementioned feature also seemed to be a helpful tool for justifying feedback, thereby enhancing the learner’s understanding to the error. This is as articulated by Razan saying “... Grammarly spotted the mistake in my writing, and explained why it was wrong” (Razan, RJ1). Here, Razan highlights how she could enhance her understanding by learning the reasons for her errors, which in turn could increase the possibility of avoiding this mistake later, resulting in cognitive improvement. Razan found Grammarly to be a valuable learning resource (a scaffolding construct according to sociocultural theory), while also utilizing the explanations it provided for the reasons underlying her errors. As another participant added that: “Grammarly was very helpful for me. I remember I was less self-reliant in what I wrote, so my mistakes in grammar were a lot. Now, I can barely see mistakes” (Maisa, RJ1). Grammarly, in this sense, not only enhance learners’ understanding of their errors, but also seem to improve their confidence in perceiving them (A detailed discussion of how these results relate to previous studies will follow in section 5.1.1).

4.2.1.1.2 Language Polishing

The participants conveyed their perspectives regarding Grammarly’s significant contribution towards polishing their surface-level errors. In this sense, Grammarly had addressed various aspects including grammar, mechanics, vocabulary, and sentence structure.

For instance, “Grammarly significantly developed my writing with regard to the use of punctuations and the appropriate use of vocabulary for the topic” (Razan, RJ1); and “Grammarly assisted me in improving grammar, punctuation, and sentence clarity” (Wesam, RJ1). These comments provided insights into how Grammarly influenced surface-level polishing. Confirming the results in 4.2.1, participants’ comments showed how Grammarly excelled in improving their punctuation, grammar, vocabulary variety, and moreover the sentence clarity.

Razan highlighted such qualities, particularly with regard to usage of vocabulary: “I like Grammarly more when it suggests stronger vocabulary that can be more impactful in my writing” (Razan, FG2). The same view was defended by Jude: “Grammarly encouraged a synonym use in my writing that I was unfamiliar with before” (RJ1). In this vein, the participants informed how Grammarly had contributed to an improvement in their writing, not only in polishing their punctuations and grammar

but also in enabling better lexical usage (a new aspect for some of them as per their past experience).

Further, spelling correction was among the most preferred and reliable Grammarly features for participants. This is when one described: “Grammarly was nice in fixing my word spellings, since I found this to be a personal struggle ...” (Jumana, FG2). Jumana here showed that Grammarly could polish her writing by tackling the most challenging aspect of spellings, thereby offering great relief in her personal writing struggles. Rania mirrored this view: “I mostly relied on Grammarly for checking my spellings …” (Rania, FG2). As such, Grammarly is seen to be powerful in spelling correction, verifying the numerical findings in 4.2.1, and it can be effectively integrated with teacher feedback as if the teacher tackled the spelling issues alone, it would be both highly challenging and less valuable. Indeed, the participants admitted that “At the end of the day, teachers are humans, and Grammarly cannot reach their level in feedback” (Razan, FG3). That is to say, though the data gathered suggested that Grammarly is a user-friendly and helpful assistant for language polishing, it still has its limitations if employed alone as the participants perceived that this tool could never replace teacher feedback (A detailed discussion of how these results relate to previous studies will follow in section 5.1.1). These challenges are discussed next.

4.2.1.1.3 Contextual Limitations

In terms of challenges, participants found Grammarly to be extremely limited in understanding their L2 writing contexts as consistent with the results presented earlier (See 4.2.1). In more details, Grammarly has difficulties recognising the marking criteria, which is crucial for boosting their L2 writing exam grades. Also, Grammarly sometimes misunderstands the writer's intended meaning, providing the same suggestion for correcting varied sentences instead of capturing the intended meaning for each sentence.

For instance, Lenah opined that Grammarly was not meeting her needs, in terms of the specific writing weaknesses that she would have to work on to improve her grades in the writing exam:

> Teacher feedback differs from Grammarly. Teacher could follow the criteria marking scheme for our curriculum. For example, the teacher notifies me to write in specific way that aligns with the curriculum requirements, such as including a thesis statement that I would really need to improve my grade. Honestly, this benefited me a lot. However, Grammarly was more superficial to recognise these issues (Lenah, FG3).

Her view sheds light on the different feedback she received from Grammarly and the teacher. This explains the importance of incorporating multiple sources of feedback in L2 writing classrooms. That is, Grammarly may not perfectly align with the specific genre features necessary for academic success, as it systematizes the correction of multiple essays in a similar way. Despite enabling its

users to establish their writing goals, including audience, formality, and domain, it remains restricted to comprehending the primary components of the essay structure, such as a thesis statement or the writer's opinion in a persuasive essay. This in turn clarifies the 1.50% meaning-related feedback that Grammarly could not affect (See 4.2.1). Therefore, humanised guidance can play a significant role in promoting learners' understanding of their weaknesses and how to improve them within their L2 writing contextualised boundaries as one participant explained: "The teacher feedback was more focused; so, I can know well what my mistakes are" (Rania, FG3). In other words, the teacher was able to customise her feedback to meet the genre requirements; this proved to be helpful in improving the students' grades and complementing Grammarly feedback.

Further, given its contextual limitations, Grammarly's comprehension of intended meaning is similarly restricted, as seen in Rania's comment. She described that Grammarly could not understand her own ideas, and altered them in the process of feedback:

> It rephrases the sentences incorrectly, sometimes. I can notice that it changes the quality of the sentence; when I write a sentence, it rephrases it with a different meaning. It ruins my ideas so I must recheck the content again ... (Rania, FG3).

Rania's statement provided insights into the limitations of Grammarly when it came to understanding the intended meanings in writing. She specifically highlighted how she struggled with Grammarly's limitation of not conveying thoughtful content while preserving the text's original essence in its feedback. Rather, it sometimes weakened the essay's flow by providing incoherent ideas due to its inability to capture the writer's intended meaning.

Jumana also agreed with Rania's views, adding that Grammarly could succeed more in the genre of the formal essay that does not focus much on the writer's thoughts:

> I agree with [Rania] that ... Grammarly is useful if you are writing something formal, such as in the fourth task when we wrote about the CPR process. This essay type does not necessarily include writer's ideas. So, it goes perfectly well while using Grammarly. Otherwise, you can rely on yourself ... (Jumana, FG3).

Jumana expanded upon Rania' comment that Grammarly was particularly suitable for formal writing tasks, such as process essays or writing reports, as it did not expose them to the risk of meaning change. She suggested that, when it came to topics requiring the expression of individual stances, learners could rely on their own editing skills (or re-check the content after using Grammarly, as Rania informed). Further, Maisa added, "When it modified the sentences, none of those was true. I chose to delete them ..." (Maisa, FG3). This explains why the students' uptake of Grammarly feedback shrank throughout the semester. Therefore, they chose to not utilise some of Grammarly's feedback as the intervention proceeded. That is to say, relying solely on Grammarly could be

misleading (A detailed discussion of how these results relate to previous studies will follow in section 5.1.1).

4.2.1.1.4 Inaccuracy

Among the challenges encountered while using Grammarly, over time, participants grew increasingly aware of the occasional inaccuracies of Grammarly's feedback. For example, Jumana explained that Grammarly was accurate most of the time; however, she had noticed its occasional inaccuracies vis-à-vis varied aspects:

> It is often correct, but I noticed that maybe once or twice that Grammarly weakened my sentences and rephrased them incorrectly ... also, sometimes the punctuations were either misplaced or overused. So, this is where it does not work for me (Jumana, FG2).

In her comment, Jumana noted some instances of technical glitches. She emphasised moments wherein the tool failed to be reliable, particularly in maintaining the consistency of feedback, by either misusing punctuations or mispresenting sentences. To illustrate further, Raina added: "Yes, Grammarly deleted some words or letters. So generally, in writing, using it alone is not reliable" (FG2). This indicates that the learners were aware of the limitations of the tool's feedback, thereby undermining its overall reliability. Without the teacher's scaffolding and guidance, students would not notice those glitches. That is to say, inexperienced writers new to automated feedback could be unaware of its limitations. Scaffolding, therefore, is necessary for such novices so as to improve their awareness of the writing tools and, thereby, their L2 writing.

In short, the aforementioned insights into Grammarly's strengths and weaknesses collectively underscore the major role that Grammarly plays within the APT model. While the tool offers substantial assistance, in some senses, its limitations can influence the overall quality of L2 writing. This reinforces the need for users to be cautious while using it and to be aware of its flaws. More importantly, the integration of Grammarly within another complementary sources of feedback, including that of peer and teacher, seems imperative to ensure writing quality and accuracy (A detailed discussion of how these results relate to previous studies will follow in section 5.1.1).

4.2.2 Peer Feedback Individual Role

Peer feedback served as the second source of feedback in this research study. The results obtained from the peers' comments on the checklists are presented first. Next, the mixed-methods approach complements the quantitative results with the findings of FGs and RJs, highlighting the strengths and weaknesses of this feedback source.

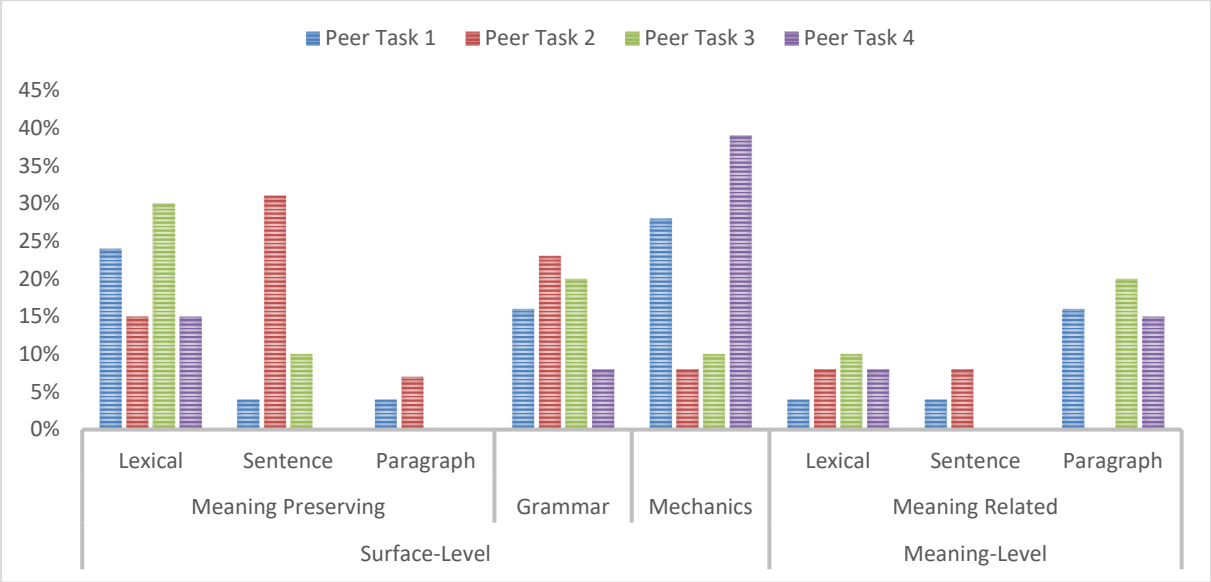

Figure 15. Peer Feedback Items at Surface and Meaning Levels across the Four Tasks

Figure 15 indicates that peers demonstrate a capacity to deliver diverse feedback, across varied aspects of L2 writing. They can consistently offer a high volume of varied surface-related and meaning-related feedback across all tasks. First, it is clear that the lexical level at the meaning-preserving fluctuated across tasks: at 30%, 24%, and 15%. One example of these lexical instances was: “Vocabulary is basic” (Reviewer: Jawdah, task 3; see Figure 16), wherein the receiver interacted to improve it by adding a synonym.

Next are the sentence level at the meaning-preserving, which witness their highest rate of 31% in Task 2. For instance, the receiver shortened the paragraph in response to the statement "It is rather wordy" (Reviewer: Lenah, Task 3) (see Figure 16). In this context, lexical and sentence items surpassed paragraph level at the meaning-preserving which were minimal in tasks 1 and 2 (4% and 7%), and zero in the final task.

Peers also demonstrated sustained attention to other aspects, such as grammatical and mechanical issues, which they addressed interchangeably across the four tasks. That is, in tasks 2 and 3, grammar feedback items peaked at 20% and over (for example, “Grammar is ok, but some sentences in the past and some sentences in the present”; Reviewer: Jawdah, task 2). On the contrary, in tasks 1 and 4, mechanics feedback items peaked, constituting 28% and 39%, respectively (for example, “words count is shorter than it was supposed to be”: Reviewer: Ohood, task 1).

Unlike Grammarly, peers excelled in exhibiting more items related to the meaning-level errors. Notably, the highest rates are evident in task 1 (16%) and task 3 (20%) for the paragraph-level (for example, “thesis sentence is missing in the introduction paragraph”; Reviewer: Lana, task 1). The receiver then added it, as seen in Figure 16.

The table chart shows the languages with the most native speakers being six languages and the number of countries where they speak it (**original text**).

The table chart shows the languages with the most native speakers and the number of countries where they speak it (**revised text after peer feedback**).

So, doctors treat people with diabetes using insulin injections and other methods so they can continue to live their everyday lives. (**Original text**).

So, doctors treat people with diabetes using insulin injections and other methods so they can continue to live normal lives (**revised text after peer feedback**).

Figure 16. Peer Feedback Examples of Lexical and Sentence Meaning-Preserving Levels

At the second-highest level, peers consistently provided a decent amount of lexical meaning-level items, ranging from 4% to 10% across the four tasks. In this sense, peers could notify the receiver of the incorrect use of linking words that influenced the meaning of the sentence (Reviewer: Maha, task 2), which the receiver then improved, as shown below (Figure 17). This is relatively similar to the sentence meaning-level items wherein they were 4% and 8% in tasks 1 and 2, and 0% in tasks 3 and 4.

To begin with, treatment and cure are all used to treat patients and fight diseases. However, they both improve a condition and improve the patient's quality of life **(original text).**

To begin with, treatment and cure are all used to treat patients and fight diseases. Moreover, they both improve a condition and improve the patient's quality of life (**revised text after peer feedback)**.

Figure 17. Peer Feedback Example at Lexical Meaning-Related Level

In short, peer feedback, when used alone in L2 writing, tends to emphasise surface-level feedback over meaning-level feedback. However, compared to Grammarly, it provides more meaning-level feedback. The effectiveness of this source highlights the necessity of utilizing multiple sources to reduce the teacher's workload, particularly when providing feedback on meaning-level errors. Following this, the emerging themes from FGs and RJs will delve deeper into their strengths and challenges from the participants' perspectives.

4.2.2.1 Peer Feedback Strengths and Challenges

In this section, the participants' perspectives from FGs and RJs revealed two primary categories within the peer feedback role, delineating two themes for the power role and one theme for the challenging role (Figure 18).

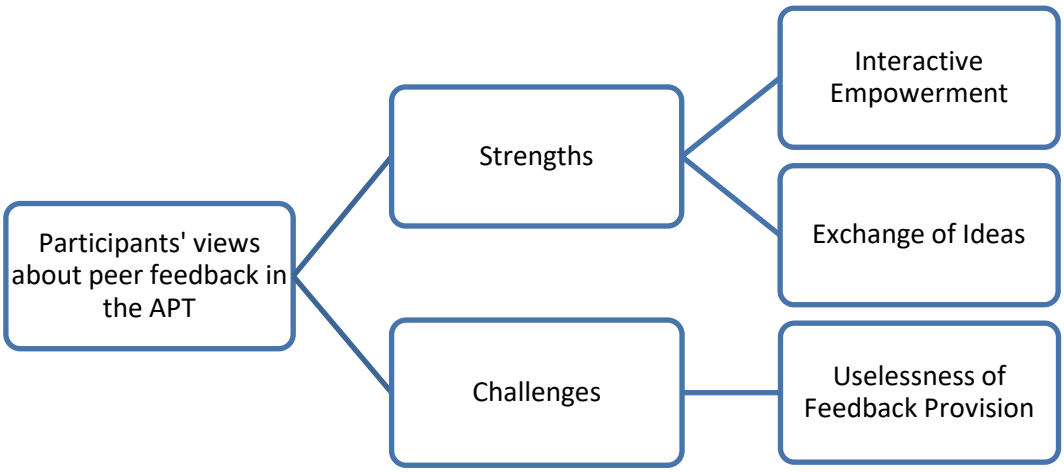

Figure 18. Emerging Themes Related to the Role of Peer Feedback Within The APT

As seen in the figure, the data gathered suggests that peer feedback is powerful in interactive empowerment and the exchange of ideas among learners but is limited in its usefulness for the provision of feedback. The following paragraphs delve deeper into these roles.

4.2.2.1.1 Interactive Empowerment

Participants' quotes collectively highlight the significant influence of peer feedback on creating mutual benefits and empowerment, within the APT feedback model, as peers enable each other to learn and improve L2 writing skills. For example, Razan articulated the significance of peer feedback in augmenting one's sense of responsibility:

> It increased my responsibility, because you must assess your classmate's work by spotting the major errors in her writing. She is reliant on you. Instead of being a negative thing, this is a good thing as it makes you anxious and hence careful and skilful in feedback (Razan, FG3).

As a reviewer, Razan shed light on the important role of peer feedback in making learners more responsible during their interactions. She realised how stressful it could be to be responsible for

someone else's work. Such accountability is important because one person's comments can change another's work, especially in light of Grammarly's limitations, as shown in the previous step. Given this, I found Razan's perspective on the pressures arising from this responsibility to be intriguing. Language anxiety might be one of the individual factors emerging from the relationships forged among students during their interaction with the activity (Ellis, 2010). Such anxiety might influence learning outcomes. Consequently, Razan viewed this anxiety as "a good thing" and a catalyst for being careful about L2 writing errors, thereby leading to enhanced feedback provision skills. This aligns with the notion that, the combination of cognitive processes with social contact is likely to develop feedback provision skills in this research. In other words, it emphasises that the process of peer feedback is not just about evaluation, but also about "interactive" learning opportunities for both receivers and reviewers.

Rania's comment also highlighted the mutual benefits of peer feedback, as she emphasised how peer feedback leads to growth in both the writer's and reviewer's skills:

> When I come to write the introduction, for instance, before I send it to the teacher, I consult my peers who could identify tiny mistakes that I would not observe sometimes. I become more aware not only of my own mistakes as a writer during the exam, but even of the mistakes they made when I worked as a reviewer (Rania, FG3).

Rania emphasised another facet of interactive empowerment. She revealed how peer feedback could contribute to mutual empowerment during the writing process, wherein peers actively advised and taught receivers, reciprocally enhancing their attention to details. This is as echoed by Jumana that "If you miss a point, they will help you in this aspect" (Jumana, FG2). The social context, in turn, could highlight those minor mistakes that Rania and Jumana might have otherwise missed, thereby contributing to cognitive progression as writers and also as reviewers. These statements, then, seem to show the distinct value of peer feedback in illustrating a mutually facilitating relationship among learners within the APT model (A detailed discussion of how these results relate to previous studies will follow in section 5.1.2).

4.2.2.1.2 Exchange of Ideas

The second identified theme delineates the strength of peer feedback in representing the collaborative exchange of ideas among learners during the writing process. Rania, for instance, underscored this by saying: "Peers give me ideas and I give them ideas. Doing this, we can complete the task easily and quickly" (Rania, FG3). She underlined the influential role of peers in fostering the exchange of ideas throughout the writing process. She posited that this social interaction holds genuine value because it catalyses mutual inspiration thought. This not only facilitates the work, but also accelerates the task completion.

Furthermore, the exchange of ideas, which Rania mentions, does not have to mean a generation of new ideas only. Rather, it is based on the meaning-level items, which could refer to the act of refining, adding, deleting, or modifying existing ideas in the content, as confirmed by Jumana: "Meanwhile, other learners' ideas are beneficial for me. This is because they may have better ideas than mine. They can also help me with any missing parts in my writing" (Jumana, FG2). She emphasized that the exchange of ideas extends beyond content-related ideas, encompassing the act of rethinking the content structure by adding some missing parts. Moreover, echoing Rania's words, Jumana highlighted the major factors that might interact to jointly influence the positive act of exchange of ideas. Collaborating with peers can foster the generation of fresh ideas or encourage the reconsideration of pre-existing ones, as it immerses learners in a social environment of varied backgrounds and experiences within the same classroom. Otherwise, such an act would not be possible if the writer worked alone (Han & Hyland, 2015) (A detailed discussion of how these results relate to previous studies will follow in section 5.1.2).

However, the above perspectives might not match those of other learners. Lora, for instance, echoed Jumana's reply that peers could serve as a valuable source of ideas; however, Lora pointed out the challenges of this source in providing limited feedback items when compared to other sources (FG2). Her perspective sparked a discussion which is presented in the following part.

4.2.2.1.3 Uselessness of Feedback Provision: Learners' Beliefs About Peer Feedback

According to the data obtained from FGs and RJs, the participants' views revealed that the feedback items they received from their peers seemed rather useless and less informative, when compared to Grammarly and teacher feedback, for various reasons.

For instance, Rania drew attention to a potential drawback for some learners who could not utilise the feedback items from their peers. She clarified that feedback from peers can be useful, but only during the writing process: "In general, I believe that it is way better when we exchange the ideas and information during the process of writing, but not after the completion of the draft" (FG2). Rania's viewpoint establishes a consensus regarding the role of peers in idea exchange, highlighting that the significance of this characteristic primarily shapes their ideas during the drafting process when they converse verbally, but it becomes less informative when they engage in written peer feedback.

Additionally, Lenah believed that peer feedback could be sometimes more beneficial and less beneficial at other times, based on the peers themselves:

> When we work together in this class, it depends on the students you work with. I mean, some students used to give helpful feedback, but some others made it more confusing ... I

> do not believe that the peer feedback is more useful than the teacher feedback. Although it was beneficial for some students, for me, it was not (Lenah, FG3).

Her perspective prompts an essential consideration of the individual factor in peer feedback that influences students' learning outcomes. In this vein, it raises some concerns about the variations in language proficiency among learners, which can limit the expectations of writers. Based on her pre-test result, this research study classified Lenah as a high-achieving writer. Jumana, a high-achieving writer as well, agreed that peers' varied language proficiency affected the quality and benefits of peer feedback: "I agree with (Lenah), that the level of people you work with can make a difference ..." (Jumana, FG3). Peer feedback in L2 writing, therefore, while valuable in some cases, might not align with some writers' needs or expectations in other cases. This means that peer feedback may be more likely to be helpful for students with similar language proficiency levels and unhelpful for those with varying language proficiency levels. Consequently, in this study, the teacher felt compelled to reposition peers on a weekly basis, aiming to maximise the benefits derived from peer feedback and minimise the effect of dynamic language levels.

Moreover, the language level variation factor alone is insufficient to explain the uselessness about peer feedback. There are other factors that influenced the outcomes of the peer feedback activity. In this sense, Maisa and Lora argued that the peer feedback activity held less value saying: "If there was a third source other than peer feedback, it would be better", and "Honestly, I did not benefit from peers" (FG3). Despite having lower achievement levels than Lenah and Jumana (according to pre-test results), Maisa and Lora agreed with the notion that peer feedback is ineffective. This, in turn, could raise a question about whether the learners may hold judgemental views about peer feedback, believing it to be less informative than teacher feedback. In fact, the results of the students' writing drafts indicate that peers were constantly providing feedback on several aspects on both surface and meaning levels (See Figure 15). This in turn implies that peers could play an important role in providing items within their knowledge domains and understanding and helped significantly improve students' writing equal to Grammarly and teacher roles. Yet, despite such result, negative belief about its usefulness may persist by Saudi students, as one said: "Some girls do not know how to offer feedback ..." (Rama, FG3). In this case, plus the language level variation factor among learners, negative beliefs might initiate some doubts about the abilities and benefits of peers to provide valuable feedback (A detailed discussion of how these results relate to previous studies will follow in section 5.1.2).

4.2.3 Teacher Feedback Individual Role

After the students revised their drafts utilising Grammarly and peer feedback, the final source they used in the revision process was the teacher feedback. Therefore, the findings of this source,

obtained from the essay writing drafts produced by the 11 students is presented first in this section. This is followed by the findings obtained from the FGs and RJs indicating the participant's perspectives to enrich the understanding of the overall teacher feedback role.

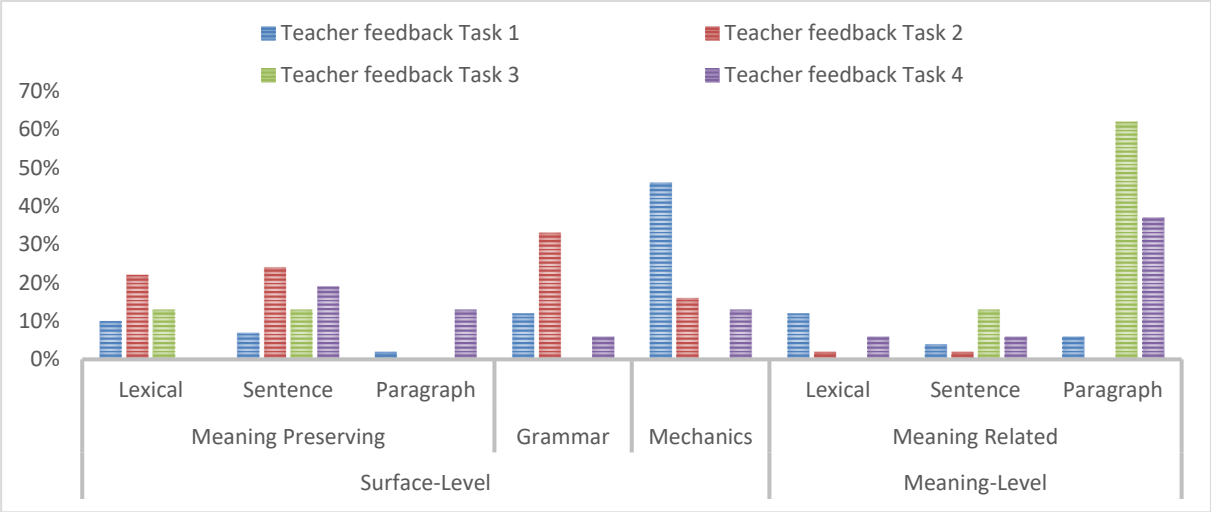

Figure 19. Teacher Feedback Items at Surface and Meaning Levels across the Four Tasks

As Figure 19 illustrates, teacher feedback encompasses various aspects, exhibiting a discernible shift in error focus from the initial tasks (1 and 2) to the final tasks (3 and 4): from focus on mechanics to focus on paragraph meaning-level respectively.

During tasks 1 and 2, the teacher feedback predominantly addressed surface-level issues. For instance, in task 1, a significant portion of the feedback (58%) focused on mechanical and grammar aspects. This was observed because students faced difficulties with Grammarly items only at the beginning, and they accepted all the feedback items, including those that were problematic to their writing flow. The teacher then addressed "the improper use of punctuation" (Teacher, task 1; Figure 20), which Grammarly likely explained as a technical inaccuracy (See 4.2.1.1.4).

Similarly, in task 2, feedback on grammar, lexical and sentence meaning-preserving levels emerge as the foremost central items, comprising a total of 79%. Although it placed a burden on the teacher during the initial stages, she decided to pay more attention to surface-level errors as they were affecting the flow of the contents. For example, one feedback item the teacher addressed was "the plural noun" (See Figure 20).

But if you ask me. I think we should not ban sports hazardous to adults if we are careful (**original text**).
But if you ask me, I think we should not restrict dangerous sports for adults if mandate good

The table shows six language **(original text**).

The table shows six languages (**revised text after teacher feedback**).

Figure 20. Example of Teacher Feedback at Surface-level (Mechanics and Grammar)

As the intervention proceeded, a discernible transformation occurred (concerning tasks 3 and 4). The teacher feedback focused on issues related to meaning in L2 writing. Task 3, for instance, exhibited a notable concentration of a total 75% on sentence and paragraph meaning-level issues, and task 4 further underscored a relatively equal focus for surface and meaning-level issues (That is 50%). An example of the latter is: “adding a thesis sentence to the introduction paragraph” (Teacher, task 4). Figure 21 below illustrates this.

When should we use CPR? CPR is an emergency procedure that can help save a person's life. If their breathing or heart stops when the heart stops beating won't be able to pump blood to the rest of the body, including the brain and lungs (**original text and teacher comment**).

When should we use CPR? CPR is an emergency procedure that can help save a person's life. If their breathing or heart stops when the heart stops beating won't be able to pump blood to the rest of the body, including the brain and lungs. So, the process of CPR is presented here (**revised text with thesis sentence added after teacher feedback)**.

Figure 21. Example of Teacher Feedback at Meaning-Related (Paragraph) Level

This evolving pattern, as seen in Figure 19, suggests a developmental trajectory wherein learners, over time, are likely to overcome initial limitations by using Grammarly feedback. This, in turn, prompted that, to some extent, the teacher was able to allocate sufficient time to correcting meaning-level errors instead of prioritising surface-level errors, thereby improving the focus and quality of her feedback over time.

The data gathered from FGs and RJs clearly demonstrates this trajectory, in which the learners viewed the teacher's initial detailed feedback as challenging but also discussed its role in providing content focus and quality positioning feedback. These emerging themes are discussed next.

4.2.3.1 The Teacher Feedback Strengths and Weaknesses

When I asked the participants in FGs and RJs, they shared their opinions and beliefs regarding what they liked and disliked about the teacher feedback (See 3.4.2 and 3.4.5). The findings provided detailed information about the teacher's success within the APT model and the perceived challenges

in her feedback. Thus, the overarching themes of the participants' perspectives fell into two main categories: strengths and challenges, as indicated in Figure 22. That is, her role demonstrated considerable strengths in terms of content focus and quality positioning, but it also presented challenges of an exhaustive feedback during the initial stage of the intervention.

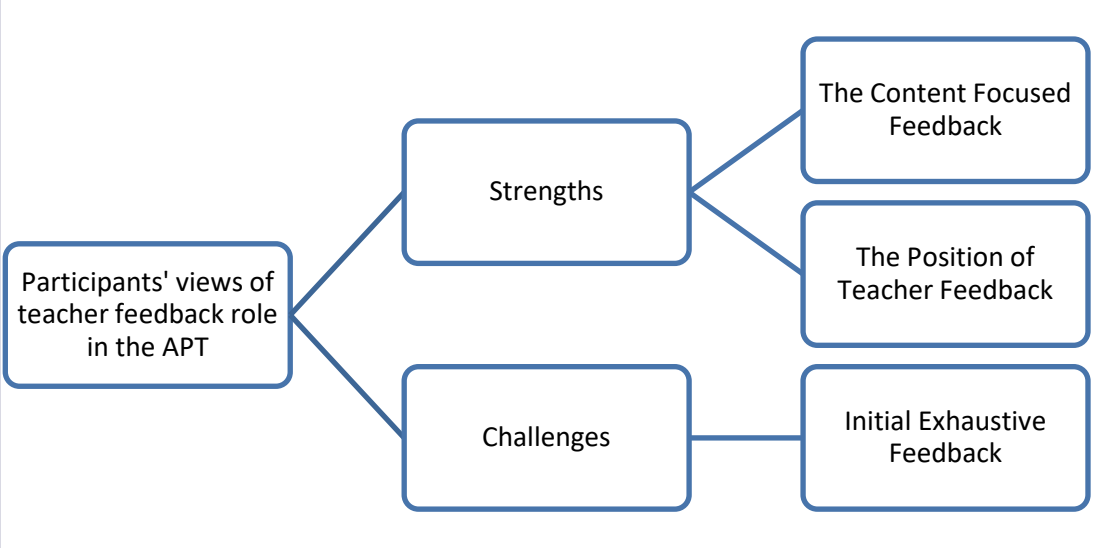

Figure 22. Emerging Themes Related to the Role of Teacher Feedback Within The APT

4.2.3.1.1 The Position of Teacher Feedback

The participants underscored the superior quality of teacher feedback, owing to its positioning within the APT model as the final step of revision. In this sense, Jumana stated in FG2 that the sequence of the APT model had significantly improved the efficacy of teacher feedback, she said: "You gave me the final feedback in the final step. I mean, if I made mistakes in the middle of the process, how would I know where my mistakes were" (FG2). Jumana's comment highlights how important teacher feedback is after the drafts are revised and polished by Grammarly and peers. This is because the teacher can improve the quality of the written work by pointing out important meaning-level mistakes, which Grammarly or peers might not be able to identify.

Jumana's comment, "How would I know where my mistakes are..." (FG2) can align with that of Wesam: "The teacher feedback focused on any other issues the other sources would miss" (RJ1). This is suggestive of the significance of the teacher's guidance, which supplements and fills gaps left by prior sources that the students seek to improve: content related issues. Indeed, such areas are rarely considered by teachers, particularly in the Saudi L2 writing classroom, due to the high number of students and lesser support from other feedback sources. In other words, this cautiously built model proves its merits by reducing the burden of addressing superficial mistakes that Grammarly or peers can easily manage, and using valuable, high-quality teacher feedback in their final drafts. Lenah has provided a thorough explanation of this concept:

> If you receive the first draft, you will pay much attention to the mechanical problems such as spellings and commas. We could better avoid these mistakes by using Grammarly, so you would tackle only the most important aspects for us, such as the essay structure. This is what really benefited us. So, I believe that the steps of this intervention are progressive: each step prepares us for the next one (Lenah, FG3).

Similarly, Lora reported that "Yes, you will correct every comma and every tiny mistake. This is going to be too much. Alternatively, we could check from Grammarly first, then send you the polished draft" (FG2). Lenah and Lora's comments have provided insights into the efficacy of the teacher feedback as a final feedback provider in the APT model. They emphasised the advantages of having Grammarly particularly conduct preliminary checks before the work was reviewed by the teacher. In simpler terms, Lora and Lenah pointed out that, it would be disappointing if the teacher fixes every small mistake from the beginning, and this in turn would lead to less informative and less efficient feedback. Instead, the APT model boosted the teacher's value by allowing her a better capacity to focus on more crucial and appealing aspects, such as content, which in turn could improve the overall writing performance (A detailed discussion of how these results relate to previous studies will follow in section 5.1.3). The content focus in teacher feedback is discussed next, as a separate theme.

4.2.3.1.2 The Content Focused Feedback

Building upon the previous theme, the learners have articulated the strength of teacher feedback in offering guidance concerning the content-related aspects of their writing. For instance, Maisa stated, discussing the knowledge she had acquired from teacher feedback, "I focused on the vocabulary that did not fit with some contexts. For instance, when I received feedback that this word does not fit in this sentence ..." (FG2). Thus, she highlighted the significance of teacher feedback vis-a-vis vocabulary use within the contextual limits of the sentences, and in prioritising clarity of content above linguistic mistakes. Further, she indicated that she had gained new content knowledge pertaining to the contextualised use of words in her writing, which she seemed to have been unfamiliar with earlier.

Also, concerning content focus, the teacher was able to enrich the APT model by using feedback pertaining to the cohesion and coherence of the essays. In this regard, Jumana explained, "I benefited the most from the feedback regarding how to narrate my writing and how to create links among sentences" (FG2). Similarly, Muna informed how she could improve the cohesion and coherence in her writing due to teacher feedback: "... I learnt how to produce understandable writing by making it easier for the reader and making the sentences more related. I also learnt the organisation of writing parts... introduction, body, and conclusion" (RJ2). Both Jumana and Muna emphasised a particular feature of the teacher's feedback that helped them improve their sense of ensuring a clear and smooth flow between sentences and paragraphs (that is, cohesion) and their

sense of ensuring a logical structure easy for the audience to follow (that is, coherence), in their written work. This underlines the fact that the teachers were able to provide useful guidance for improving writing content by checking complex areas, which would not be possible without support from Grammarly and peers.

Additionally, participants such as Lora emphasised the importance of teacher feedback in learning how to create appropriate content for a specific paragraph. This was perceived in her understanding of the conclusion's structure. She informed, “The most beneficial feedback for me was when you told me that the conclusion must not have new information. This was great ...” (Lora, FG2). Lora thus foregrounds the importance of the teacher’s content-related feedback, specifically addressing the structural composition of the conclusion. Earlier, she had been unaware of this piece of information, which greatly improved her understanding of L2 writing practices (A detailed discussion of how these results relate to previous studies will follow in section 5.1.3).

However, it is imperative to acknowledge that despite its uniqueness, the teacher feedback held some limitations in this study, as reflected by the participants’ opinions. This is the final theme in this section which has been discussed next.

4.2.3.1.3 Initial Exhaustive Feedback

The participants discussed how exhaustive the teacher feedback was for tasks 1 and 2, while using the APT feedback model. For instance, during the early tasks, the learners seemingly struggled to use Grammarly effectively. Here, the teacher’s detailed feedback at the surface-level was essential to highlight serious weaknesses affecting learners’ writing clarity, flow, and subsequently their exam grades, particularly mechanics and grammar.

Nour, Razan, and Maisa collectively articulated that “teacher feedback was very specific” (RJ1) referring to the surface-level feedback items during the first half of the semester when doing RJ1, before they developed familiarity with Grammarly inaccuracies and were able to use it effectively. Rania also confirmed:

> I hope that the correction will be done considering that the students do not have adequate English proficiency levels. So, I hope that there will not be too much feedback on the details of writing, but on the overall performance (Rania, RJ1).

Taken together, the two comments above show dissatisfaction with the teacher's detailed feedback in tasks 1 and 2, particularly when the teacher dealt with mechanics and grammar issues, referred to as “details” by the participants. The participants expressed a desire for a lesser focus on those minor errors due to their belief that they had limited writing proficiency in English. In line with sociocultural theory, when providing specific feedback, I aimed to consider the Zone of Proximal Development

construct, wherein I could guide students in understanding the varied aspects of their evolving capacities during the early stages of development (Lantolf et al., 2014). This in turn enabled me to identify the appropriate assistance needed for every individual to operate at their potential level of development (A detailed discussion of how these results relate to previous studies will follow in section 5.1.3).

However, a question remains: why did the learners not show a similar inhibition towards Grammarly's surface-level feedback, despite the intensity of its delivery, while they perceived the teacher's surface-level feedback as exhaustive? Considering this concern may help us understand why we need to integrate various sources of feedback and how each of them works in its own way without exhausting writers. The answer to the above question may be that learners' reactions stem from the inherent nature of the feedback delivered by Grammarly and the teacher. It appears that these two sources function differently, affecting learners' preferences. The automated nature of Grammarly, which provides detailed, direct feedback, and instant correction, makes it a preferred choice. Hence, an integrated model consisting of both feedback sources would facilitate the functioning of each source over time, offering unique feedback types that do not overlap and therefore align with the learners' preferences.

Also, it is essential to acknowledge that, during the later tasks, this challenge was effectively managed, as seen in tasks 3 and 4 (See Figure 19). By this stage, the learners had likely improved their proficiency in the use of Grammarly feedback, and their writing had clearly become more polished. Hence, teacher feedback shifted to a more humanised level, providing more content-related guidance that was preferred by the learners.

4.2.4 The collaboration Role of the APT Sources

Following a detailed discussion related to the strengths and limitations of each source of feedback individually, this section discusses an overall description of the collaboration roles of them when integrated within the L2 writing context.

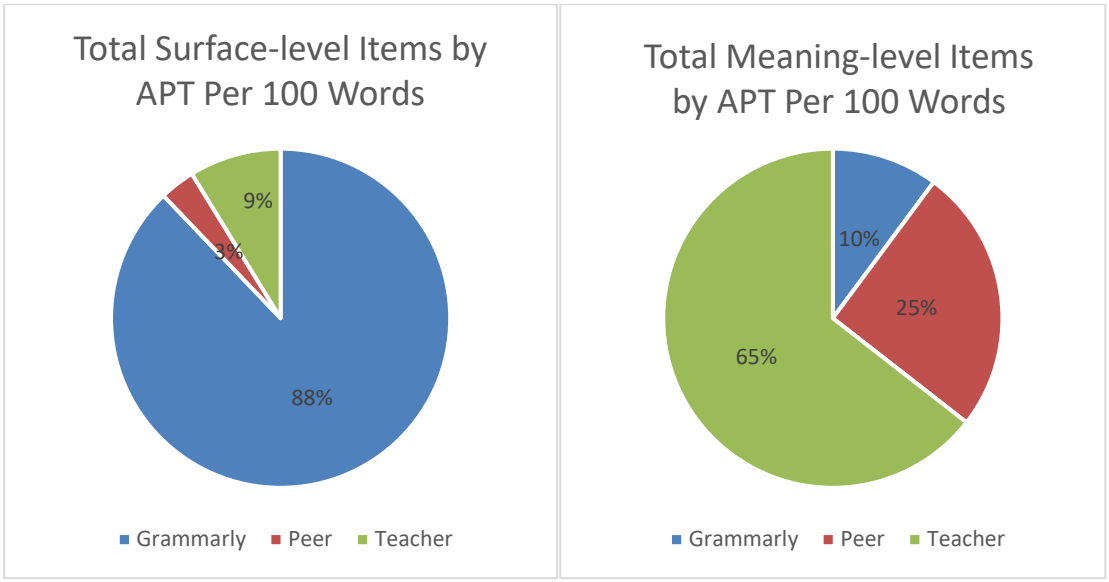

Figure 23. Surface and Meaning Levels Items by the APT across Four L2 writing Tasks.

Figure 23 indicates that Grammarly predominated in delivering surface-level feedback with a percentage of 88% across all the four tasks, while teacher feedback exhibited more proficiency in providing maximum meaning-level throughout the four tasks with 65%. Peer feedback stands midway between the other two sources. It displays the lowest percentage of surface-level feedback among all the sources (3%) whereas it demonstrates relative proficiency in supplying meaning-level feedback better than Grammarly (25%).

Interestingly, peer feedback appeared to fall short in surface-level feedback, when considered in isolation, as the statistics informed earlier. On the contrary, in conjunction with Grammarly and teacher feedback, a discernible tendency emerges, wherein it tends to provide more meaning-level feedback. Therefore, it can be concluded that such integration enhances the effectiveness of the overall feedback provision process, when compared to standalone contributions.

Next, a practical example has been provided to perceive how each source contributes uniquely towards improving the overall L2 writing performance.

4.2.4.1 Translating the APT Integration into Practice

A practical example is used in this section to show how the integration of the three feedback sources improved one learner's essay writing across four steps in order to translate the above results into practice (See Figure 24). This example comes from task 3, where Dina, one of the 11 learners, submitted four full drafts for each of the four tasks. It is important to note that this is a randomly chosen example to provide an understanding of APT sources' collaboration roles without intentionally selecting a specific example.

Draft 1

What is the difference between treatment and cure? There are many differences and similarities between treatment and cure. And this essay will show them

To begin with, treatment and cure are all used to treat patients and fight diseases.

However, **(12)** they both improves **(1)** a condition and improves **(2)** the patient's quality of life **(13)**

On the other hand, the words are similar in meaning, but there is **(3)** many differences between them. Cure means to eliminate the disease entirely, and treatment is just the process of fixing or attempting to fix any disease or injury. However **(4)** treatment is something that health care providers do for their patients to control a health problem, and **(5)** symptoms. While **(6)** a cure would completely remove the disease from the patient. In conclusion, **(7)** there are so many similarities and differences between treatment and cure **(8).** Both of them focus on treat **(9)** patients. However, the treatment word means whatever the doctor actually does. They may be completely successful, partly successful, or may not work at all. While cure mean **(10)** a doctor or treatment cures a patient or a disease, **(11)** when it is almost completely successful, the disease is completely gone.

Figure 24. Dina's Draft 1 Before the APT Steps

Figure 24 displays the initial draft Dina produced before receiving any feedback items. The areas numbered and underlined are the ones corrected by the APT sources. Next, Table 6 is presented to demonstrate the areas tackled by each feedback source (that is, areas from 1 to 11 were corrected by Grammarly, 12 was corrected by peers, and 13 was corrected by teacher). The table also explains the feedback items that each source offered whether surface-level or meaning-level, and how the learners improved them accordingly. Finally, in this section, Figure 28 presents the final draft after the task, indicating all the areas that had improved based on the APT feedback items offered across the three steps (See Figure 4).

Table 8: Presentation of the APT Work: Number of Error, The Feedback Offered, and the Correction

Source of Feedback	Error Number	Feedback Items	The Correction
Grammarly	1	SL Grammar (plural verb)	improve
	2	SL / Grammar (plural verb)	improve
	3	SL / Grammar (plural verb)	are
	4	SL / Mechanics (comma added)	However,
	5	SL / Mechanics (comma removed)	health problem and symptoms.
	6	SL / Meaning-preserving (proper linking word)	In contrast
	7	SL / Meaning-preserving (separating paragraphs)	In conclusion
	8	SL / Meaning-preserving (unclear sentence)	treatment and cure have many similarities and differences
	9	SL / Meaning-preserving (confused word)	treating
	10	SL / Grammar (Faulty subject-verb agreement)	means
	11	SL / Mechanics (punctuation in compound/complex sentences)	, when it is …
Peers	12	ML (proper linking words)	Moreover,
Teacher	13	ML (Adding supporting details)	… For example, treatment is giving the patient some pills to recover and likewise the cure is to recover the patient forever.

As seen in Table 8, each source tackled different and unique areas within the same essay. In other words, the table shows how Grammarly excelled at surface-level feedback, providing suggestions that did not change the meaning of the text. There are several other feedback items that Grammarly offered but Dina rejected due to inaccuracies or contextual limitations, as discussed before. Hence, the feedback items she accepted on her second draft included punctuation errors, grammar errors, synonyms, and splitting paragraphs. After that, her peer was able to tackle linking words that changed the meaning of the sentence and suggest a proper transition word, recognising the context of the sentence. Following that, both sources freed up the teacher's time, enabling greater focus on content quality. Here, the teacher was able to identify the missing supporting details that could

contribute to the coherence of the overall essay. In this sense, peer and teacher feedback could effectively guide the student's attention towards issues that Grammarly was unlikely to identify. Consequently, the following figure shows a substantial improvement between the first draft and the final one across various aspects of writing.

Draft 4

What is the difference between treatment and cure? There are many differences and similarities between treatment and cure. And this essay will show them.

To begin with, treatment and cure are all used to treat patients and fight diseases. Moreover, **(12)** they both improve **(1)** a condition and improve **(2)** the patient's quality of life. For example, treatment is giving the patient some pills to recover and likewise the cure is to recover the patient forever **(13).**

On the other hand, the words are similar in meaning, but there are **(3)** many differences between them. Cure means to eliminate the disease entirely, and treatment is just the process of fixing or attempting to fix any disease or injury. However**, (4)** treatment is something that health care providers do for their patients to control a health problem and **(5)** symptoms. In contrast, **(6)** a cure would completely remove the disease from the patient.

(7) In conclusion, treatment and cure have many similarities and differences **(8).** Both of them focus on treating **(9)** patients. However, the treatment word means whatever the doctor actually does. They may be completely successful, partly successful, or may not work at all. While cure means **(10)** a doctor or treatment cures a patient or a disease, **(11)** and the disease is completely gone when it is almost completely successful.

Figure 25. Dina's Final Draft After the APT Steps

Drawing upon the previous findings in the previous section (See 4.2.1, 4.2.2, and 4.2.3), Figure 25 emphasises that the feedback focus varies considerably among the various sources. Because of these variations and uniqueness, the learner was much more likely to gain more knowledge and better understanding of her needs. That means this exposure could improve their L2 writing and help learners overcome their weaknesses by navigating various problematic areas during the drafting process. This improvement would not be possible without learners engaging with the APT model. Having said that, the subsequent discussion presents the findings pertaining to the final question of this research: how do the students engage with the APT model to improve their L2 writing?

4.3 The Dynamic L2 learners' behavioural, cognitive, and affective Engagement with the APT Model

To investigate the impact of the APT further, this research study aimed to examine how the learners' engagement with it changed over time. The current research employs a mixed-methods approach to achieve this aim. As a result, the next sub-section starts with the results from the questionnaire, which show how the participants in this study (N = 33) responded to the APT in terms of their behaviour, cognitive, and affective engagement (See Appendix RAppendix S). Subsequently, the following sub-sections delve deeper into findings from FGs, RJs, and observations.

4.3.1 The Statistical View: The Group Perceptions about the APT Model Impact on their Multi-Dimensional Engagement.

The section starts with presenting the participants' behavioural perception results as shown in Table 8.

Table 9: Students' Behavioural Engagement with the APT Model

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
1. When I worked with my peer, I listened very carefully to her feedback.	0	1	5	8	19	33
	0%	3%	15%	24%	58%	100%
2. I listened very carefully to my teacher's oral feedback in class.	0	0	0	7	26	33
	0%	0%	0%	21%	79%	100%
3.When I received feedback, I just acted as if I was working on improving my errors in front of the teacher.	17	9	2	1	4	33
	52%	27%	6%	3%	12%	100%
4. This model reduced my intention to work hard to be a better writer.	17	10	1	1	4	33
	52%	30%	3%	3%	12%	100%
5. It reduced my participation in discussions and my intention to ask questions to my teacher.	19	7	3	1	3	33
	58%	21%	9%	3%	9%	100%
6. It reduced my participation in discussions and my intention to ask questions to my peers.	17	8	3	1	4	33
	52%	24%	9%	3%	12%	100%
7. It assisted me in identifying ways for repairing mechanical and grammatical errors.	2	0	2	13	16	33
	6%	0%	6%	39%	48%	100%

8. It assisted me in identifying ways for repairing vocabulary errors.	0	0	2	9	22	33
	0%	0%	6%	27%	67%	100%
9. It assisted me in identifying ways for repairing content errors.	0	1	3	9	20	33
	0%	3%	9%	27%	61%	100%
10. It inspired me to think about other ways to improve my writing.	0	0	3	9	21	33
	0%	0%	9%	27%	64%	100%
11. It made me ask questions to the teacher or peers to understand my mistakes and rectify them.	0	0	3	11	19	33
	0%	0%	9%	33%	58%	100%
12. It made me discuss what was on my mind with my peers and the teacher, and to communicate it more clearly.	0	0	3	12	18	33
	0%	0%	9%	36%	55%	100%
13. I take into consideration all feedback I receive from the three sources.	0	0	3	9	21	33
	0%	0%	9%	27%	64%	100%
14. I solely focus on and value relevant feedback when revising my drafts.	0	0	1	10	22	33
	0%	0%	3%	30%	67%	100%
15. It greatly improved my writing compared to my first draft.	0	0	3	5	25	33
	0%	0%	9%	15%	76%	100%

Table 9 shows positive behavioural attitudes among the learners regarding the APT's feedback on 15 questions. Specifically, a significant majority of the learners expressed strong disagreement with the statements indicating reduced participation in discussions following feedback, a lack of hard work in improving their writing skills, and dishonest behaviour while working on repairing their writing errors (Questions 3, 4, 5, 6). Conversely, the majority of the students agreed that APT had helped them identify ways for repairing mechanical and grammatical errors, vocabulary errors, and content errors, respectively. For instance, in questions 11 and 12, 91% of learners agreed that APT enhanced their participation and discussions vis-à-vis both peers and teacher, motivating them to ask and inquire about their L2 writing drafts. These results clearly demonstrate the behavioural engagement of the entire group with the APT.

Table 10: Students' Cognitive Engagement with the APT Model

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
1. The three sources enhanced my ability to comprehend my writing deficiencies.	0	0	2	8	23	33
	0%	0%	6%	24%	70%	100%
2. It prompted me to engage in a critical reflection regarding improving my writing performance.	0	0	0	9	24	33
	0%	0%	0%	27%	73%	100%
3. It made me engage through a self-inquiry process to ensure a comprehension of its content.	0	0	4	7	22	33
	0%	0%	12%	21%	67%	100%
4. It cultivated my knowledge of various English writing skills, including idea generation, drafting, and reviewing.	0	0	5	9	19	33
	0%	0%	15%	27%	58%	100%
5. It emphasised different stages of revisions encompassing aspects such as mechanics, grammar, vocabulary, and content.	0	1	0	11	21	33
	0%	3%	0%	33%	64%	100%
6. It was inclusive about improving writing weaknesses.	0	0	5	7	21	33
	0%	0%	15%	21%	64%	100%
7. I strived to comprehend and improve my deficiencies in writing.	0	0	2	10	21	33
	0%	0%	6%	30%	64%	100%
8. It provided me with precise and well-placed feedback.	0	0	5	8	20	33
	0%	0%	15%	24%	61%	100%
9. Generally, it made the feedback I received lucid and comprehensible, facilitating the refinement of my errors.	0	0	6	9	17	32
	0%	0%	19%	28%	53%	100%
10. During the process of revising my drafts, I possessed the knowledge of what to incorporate and omit from the received feedback.	0	1	6	12	14	33
	0%	3%	18%	36%	42%	100%
11. The peer feedback worksheets helped me understand weaknesses in peers' writings and improve them.	0	3	8	9	13	33
	0%	9%	24%	27%	39%	100%
12. The feedback I obtained from each source duplicated the other sources.	0	3	13	9	8	33
	0%	9%	39%	27%	24%	100%
13. The feedback I received from Grammarly needed further clarification.	1	3	1	12	16	33
	3%	9%	3%	36%	48%	100%
	0	0	4	13	16	33

14. In consideration of the feedback from Grammarly, I became aware of its potential limitations.	0%	0%	12%	39%	48%	100%
15. The feedback I received from peers needed further clarification.	2	4	8	6	13	33
	6%	12%	24%	18%	39%	100%
16. The feedback I received from the teacher needed further clarification.	11	12	4	4	2	33
	33%	36%	12%	12%	6%	100%

In Table 10, the findings revealed a robust positive cognitive attitude among students regarding APT feedback, indicating its potential to enhance their cognitive abilities in L2 writing. Notably, most of the students could understand their errors via APT, which prompted states of critical reflection (100%) and self-inquiry (88%) during the tasks. According to those states, 85% believed that their knowledge of various writing skills, such as brainstorming, drafting, and revising, had improved. Furthermore, over 80% of the learners agreed that the APT had provided well-placed and clear guidance. While 51% agreed that the APT feedback items overlapped, 48% of the students opined that they did not. It had facilitated the refinement of their writing by enabling them to be aware of what to accept and reject from the feedback offered. Yet, although the majority believed that Grammarly feedback required more clarification, almost all of them were aware of its potential limitations. In contrast, teacher feedback excelled in being the clearest source among the three, with nearly 70% believing that her feedback did not need additional explanation.

Table 11: Students' Affective Engagement with the APT Model

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
1.I believe that integrating three sources of feedback was creative and engaging about improving writing.	0	0	0	9	24	33
	0%	0%	0%	27%	73%	100%
2. I felt I received the social support to be a better writer.	0	0	2	11	20	33
	0%	0%	6%	33%	61%	100%
3.I was more confident about discussing my peer's mistakes.	1	1	9	8	13	32
	3%	3%	28%	25%	41%	100%
4. I believe that this model consumed time and effort.	6	9	9	3	6	33
	18%	27%	27%	9%	18%	100%
5. The feedback I got from Grammarly gave me enough confidence to review my writing with my peers afterwards.	0	0	7	11	15	33
	0%	0%	21%	33%	45%	100%
6. I was willing to let peers read and discuss my writing deficiencies.	0	1	1	10	21	33
	0%	3%	3%	30%	64%	100%
7. The feedback I received from the teacher increased my confidence in my writing.	0	0	1	3	29	33
	0%	0%	3%	9%	88%	100%
8. I felt embarrassed after getting feedback from my peer on my writing.	9	12	5	4	3	33
	27%	36%	15%	12%	9%	100%
9. The teacher's feedback undermined my writing confidence.	17	6	4	2	4	33
	52%	18%	12%	6%	12%	100%
10. I feel that I have become more responsible about my writing improvement	1	1	1	8	22	33
	3%	3%	3%	24%	67%	100%
11. I enjoyed getting feedback on my writing in class.	1	0	6	10	16	33
	3%	0%	18%	30%	48%	100%
12. I found myself uncertain regarding the feedback I received from the APT model.	6	5	10	7	5	33
	18%	15%	30%	21%	15%	100%
13. The three sources created a good learning environment.	0	0	2	9	22	33
	0%	0%	6%	27%	67%	100%

Finally, Table 11 presents the results of the students' affective responses to feedback provided by the APT. The findings suggest that 100% of the students offered robust positive reactions, believing that this model was engaging and creative for improving L2 writing; 94% of them opined that this model created a good learning and social support environment. Whereas 36% of the learners felt uncertain about the feedback received, 91% of them believed that they became more responsible about their writing improvement. Moreover, there is consensus that the APT boosted confidence in L2 writing. This is in addition to 63% demonstrating their willingness to share their work with peers for feedback, and 78% expressing enjoyment during APT tasks. Nonetheless, while a few learners opined that the APT consumed time and effort, the majority of the learners did not.

Table 12: Overall Summary of Learners' Behavioural, Cognitive, and Affective Engagement with APT

Overall Mean	Mean	SD	Weighted. %	Response
Behavioural engagement	3.84	0.861	77%	positive
Cognitive Engagement	4.19	0.824	84%	High Positive
Affective Engagement	3.53	1.029	71%	positive

Table 12 concludes that students have clearly validated the positive impact of the APT model on their engagement with their L2 writing tasks. First, optimistic reactions shaped their behavioural engagement. Second, despite occasional doubts about Grammarly and peer feedback, the overall findings revealed the learners' highly positive responses to cognitive engagement. Lastly, while there were some uncertainties about the APT feedback, the majority demonstrated significant rate of confidence, readiness, responsibility, and enjoyment in the affective engagement. In short, these results highlight the impact of APT on learners' multi-dimensional engagement. Following this, the next section dives into deep discussion using the data findings of FGs, RJs, and observation notes.

4.3.2 The Individuals' Insights About the APT Impact on Multi-Dimensional Engagement

As indicated earlier in previous chapter (See 3.7), although observation tool analysis could mainly inform the behavioural engagement instances, it also informed several ones about the cognitive and affective engagements in this study. Yet, the main data for the latter two dimensions was mainly obtained from the FGs and RJs. This allowed the integration of multiple data instruments, to inform the various facets of the engagement with the APT. Integrating the data from different tools could increase the possibility of presenting more reliable and honest findings (Lauren et al., 2022). In this section, the findings of the behavioural engagement are presented first, followed by the cognitive engagement, and then, the affective engagement with the APT.

4.3.2.1 The Dynamic Behavioural Engagement with the APT

Following a triangulated technique of the qualitative findings, there are five overarching themes representing the learners' behavioural engagement with the APT. These themes are consulting peers and teacher, frequent use of Grammarly during revisions, commitment to APT tasks, uptake of APT feedback, and readiness to interact/scaffolding.

4.3.2.1.1 Consulting Peers and Teacher

One of the ways in which learners reacted behaviourally to the feedback in this study was by approaching others to help them, when they were revising their writing, either their peers or teacher. Lenah, for example, consulted her peers when she faced challenges in dealing with "the passive voice suggestion" she kept receiving from Grammarly on her writing: "What should I do with passive voice?" (Observation, Week 3). Moreover, before submitting her third draft to the teacher, Lenah utilised the teacher's guidance when she was unsure about the appropriacy of her topic sentence asking: "Is this a good topic sentence?" (Observation, Week 3).

In addition, Dina was observed consulting her peer, when she became uncertain about Grammarly correction of certain words: "Is it okay to write (every one) like this? Every word alone? Why the spaces?" (Observation, Week 8). In another class, Rania sought the teacher's explanation when she could not understand various aspects of corrections in Grammarly (that is, correctness, engagement, and delivery). She was observed asking the teacher "... but here I did not understand it, what does the blue colour mean?" (Observation, Week 2). On another occasion, Rania was observed reaching the teacher online outside the class-time, to consult about her feedback, before she submitted the final draft (Observation, Week 2). She clarified this later in the FG that the initial teacher feedback was not adequately clear, and she could not find her way through it:

> ... I could not understand your written feedback, but when you explained them orally on WhatsApp, I understood them more. It might be because I was not still familiar with your written feedback at first ... (Rania, FG2).

Thus, it appears that the students tried to rationalise their revisions and considered teachers' and peers' assistance as necessary for facilitating the task. In doing so, they engaged themselves behaviourally with what APT offered. Since this model is a new practice for the students, their behaviour to improve the revisions was not only shaped by the teacher and peer assistance but extended to the use of Grammarly within different feedback steps, as discussed next.

4.3.2.1.2 Frequent Use of Grammarly Within the APT Steps

The frequent use of Grammarly for revisions post-peer and post-teacher feedback, indicates the learners' behavioural engagement with the APT. In this sense, the students behaviourally reacted to double-check their revisions and to ensure their correction quality using Grammarly. For instance, as per her observation, Lenah used Grammarly following peer feedback: she was unsure of the new sentence she had structured and hence inserted it into Grammarly to ensure its clarity (Observation, Week 3).

Further, Rania suggested that she had utilised Grammarly feedback not only due to its practicality, but also as an external source to help her understand teacher feedback. In this context, since the students are required to modify their drafts at home after they receive teacher feedback, help from peers and the teacher can be less accessible, they found, therefore, that utilising Grammarly is a great technique for them to help provide prompt correction for some difficult or vague feedback items by the teacher before final submission. Rania explained this: "I use it again to understand and correct my mistakes; for example, when you tell me fix that, there are mistakes, I go back and correct it using Grammarly" (Rania, FG2).

Jumana also explained that Grammarly was helpful when she aimed to enhance the quality of her drafts, specifically that of the vocabulary: "... if I have made mistakes in the linking words used, before the final submission, I look at Grammarly to get synonyms from it ..." (FG2). Thus, the participants were seen and heard to exert considerable efforts towards improving their drafts, by frequently using Grammarly feedback to understand mistakes, ensure writing clarity or quality through synonyms even after peer or teacher feedback steps. Thus, the use of this available source was found facilitative to their behavioural engagement.

4.3.2.1.3 Commitment to APT Tasks Attendance

Within this theme, I observed some variations in students' commitments to attending APT tasks. Table 12 below shows the different percentages for students' attendance across the four tasks.

Table 13: Distribution of the Students' Attendances Throughout the Tasks

Week	Students' Attendance
Week 2 / Writing Task 1	100%
Week 3 / Writing Task 2	89%
Week 5 / Writing Task 3	86%
Week 8 / Writing Task 4	46%

As the table shows, among the whole group, 11 learners were committed to attending all the APT classes hence to submission of all the four tasks. Although questionnaire data revealed the positive behavioural engagement of all learners with the APT model, the motivation factor is likely to affect their commitment (Ellis, 2010). In this vein, the 11 learners were keen to seize the chance, improve their learning experience, and achieve their goals. They felt the model as a more valuable opportunity to draft, revise, learn, and thus progress in their writing. This was unlike the others, who were not fully committed to the tasks. Hence, their writing progress could not be tracked, and probably, they could not obtain the same learning opportunity as the 11 committed learners. Indeed, commitment is associated with the learners' interest to invest effort and energy in the activity-at-hand (Fredricks et al., 2004). This, in turn, is likely to be significant to their behavioural engagement with the APT and to their L2 writing performance progress.

4.3.2.1.4 Uptake of APT Feedback

According to Hiver et al. (2020), behavioural engagement not only correlates with learners' active role to learning but also aligns with the amount of learning. In this sense, the uptake quantities serve as an indicator of the learners' level of engagement. Although it was presented earlier to serve the L2 writing progress purposes (S4.1), it also represents to a great extent how the APT shaped their behaviour and selectivity to the feedback (Shi, 2021; Tian & Zhou, 2020).

Table 14: Students' Uptake Rates to the APT Feedback Items

Feedback Sources	Grammarly	Peers	Teacher
Uptake quantities across four tasks	56%	89%	95%

Clearly, Table 13 shows that the 11 learners' uptake reflects their high acceptance rate of the feedback items given by each source. In this sense, peer and teacher feedback acceptance rates were 89% and 95%, respectively, with a lower uptake rate for Grammarly feedback at 56%. As expected, the latter rate could be due to the limitations of Grammarly that the learners had become aware of

recently (See 4.2.1). This means that the learners interacted positively with the APT in the behavioural domain and could make obvious efforts to employ the feedback offered in their revisions.

4.3.2.1.5 Readiness to Interact/Scaffolding

Based on the findings of the observation, it was revealed that the learners were ready to interact in the classroom by scaffolding each other during APT sessions. Rania, for example, was observed to be ready to help, as she welcomed her peers' questions about Grammarly's uncertain feedback while working in the group. This was observed in her body language, when she leaned towards her peers to help, whenever her peers asked a question (Observation, Week 2). Similarly, Lenah used similar body language to offer help, when she was assisting her peer in understanding Grammarly feedback (Observation, Week 3). She was also observed ready to help while listening to and answering everyone's questions during the writing process. Moreover, Jumana interacted with and helped her peer when felt confused about a sentence. For instance, Jumana recommended that her peer could insert the sentence in Grammarly, to ensure its correctness (Observation, Week 5). In this instance, informed by the sociocultural theory notion, it could be perceived that the APT created a mutually scaffolding environment for the learners (See 2.1.2.1.2), which facilitated their behavioural engagement with the tasks.

Moreover, Jumana believed that working with a different group each week was an encouraging opportunity for her to learn, according to the FGs' findings:

> It is nice that you change groups every week, so we become familiar with different people. It means you adapt to the variation of working with people, so you do not become accustomed to certain ones. I think this is because when you work with the same colleagues every time, you become so attached to them, and cannot accept working with others later (Jumana, FG3).

In her quote, Jumana revealed that meeting new peers every week opened the doors for her to different experiences. She showed openness/readiness to new environments. Otherwise, working every time with the same individuals might influence the learning and social skills, thereby demotivating her to improve. It is needed to be considered that such openness could be positively linked to Jumana's learning goal. In other words, a different social environment each week means she learns new things; hence she feels ready to interact with/scaffold others.

The same perspective is agreed by other participants but with some challenges. For instance, Lenah indicated that she felt ready to interact, only if she was working with higher-achieving learners than her, as long as she could learn and improve. On the contrary, working with different learners every

week, but those at the same language proficiency levels, might influence her readiness to scaffold and interact. As she stated:

> I think it is true that the different levels are useful. However, if they are all at the same level, I do not feel that anyone can benefit from the other. They just sit silently, write, and submit the work with no improvement ... If you work with a higher-level writer, she will benefit you by increasing your knowledge. I see that we are all coming to learn, and some learners worked hard on their writing skill so they have more knowledge; those who will benefit you (Lenah, FG3).

Lenah described the barriers in her interaction initiatives with other peers. Unlike Jumana's learning goal, Lenah had unique learning goals that might not have been fulfilled unless she worked with learners having better knowledge. According to her, she had been in a writing class to learn and considered peers interaction as a good source for knowledge improvement. However, when such interaction did not align with her goals, she would refrain from it. It is important to note that the teacher had designed the peer groups in this research study very carefully, with the aim of building a social environment consisting of both higher- and lower-achieving members in the group, so as to bridge the gap "between their current level and the next level on the development scale that the learner is capable of reaching" (Cook, 2013, p. 27).

Also, similar to Lenah, Rania expressed better behavioural interaction, if specific members were involved in her group. She revealed a tendency towards engaging and scaffolding more with familiar peers rather than interacting with unfamiliar ones. She stated:

> I was wondering if the teacher can group the students who know each other well ... because they understand each other more. Frankly, sometimes, the diversity within the groups was not suitable for me. Despite our differences in levels, friends have harmony when working with each other and can do a nice job together... (Rania, FG3).

Rania's preference for working within her social comfort zone is an obvious factor influencing her readiness to interact, as she attributes harmony and a positive work experience more to collaborating with friends than others. In this sense, learners can find themselves feeling more comfortable and secured, when they interact with their friends because of the shared experiences and the sense of familiarity with one another. Leaving this circle might lead to a feeling of discomfort or anxiety for her, but was the opposite for Jumana as discussed earlier.

To sum up, although the readiness to interact and scaffold with the students within the APT tasks was widely found among peers in this study and reflect their behavioural engagement, it might be influenced by some varied personal factors, such as learning goals and comfort zones.

4.3.2.2 The Dynamic Cognitive Engagement with the APT

From the findings of FGs, RJs, and observation, the cognitive engagement with the APT was showed in three emerging themes: private speech for processing APT feedback, attention during APT revisions, and knowledge construction of L2 writing. As the two former themes are non-verbal and interactional, they have been uncovered through the findings of the observation notes. The latter theme, however, reflected the findings of the FGs and RJs.

4.3.2.2.1 Private Speech for Processing APT Feedback

Private speech is a theme that involved the learners' use of L1 while they were reacting to the APT feedback process. This act made them engaged cognitively, as they reported. This also an act that is accepted in L2 learning practices (Fukuta et al., 2019; Mubarak, 2013).

For example, I observed private speech when learners attempted to comprehend the reasons behind their mistakes and made an intentional effort to internalise them. During Grammarly feedback step, I observed Jumana conversing with herself to enhance her comprehension of the feedback. She read the provided explanation, which clarified the mistakes and their corrections: "I think it means..." (Jumana, Observation, Week 5). She confirmed that in FG2 that she would delve into the side explanations provided by Grammarly, which in turn allowed her to realize the errors well. According to Vygotsky (1987), this refers to the private speech that represents a transitional stage in the process of internalisation, wherein interpersonal dialogues are not yet fully transformed into intrapersonal ones.

Rania also attended to Grammarly feedback through private speech when she was thinking: "Aha, THE language", while engaging with it as a learning activity (Vygotsky, 1978). In this, she was trying to comprehend the addition of the article "the" to the sentence. In another time, she was thinking: "What did I write?", trying to understand/internalise the mistakes she committed using Grammarly feedback and compare her original sentence with the revised one (Observation, Week 2). Likewise, Lenah was thinking of Grammarly feedback by initiating a self-inquiry state: "passive voice?", so as to recognise what it meant; it was a grammar rule she might not be familiar with (Observation, Week 3).

Moreover, private speech as cognitive interaction with the feedback was seen when Lenah was aware of the error but could not identify it. For example, Lenah was thinking about the new sentence privately after peer feedback, when she was talking to herself. She seemed to be aware of a mistake but could not identify it, "I feel it is wrong? ..." (Observation, Week 3). In another situation, during peer feedback, Jumana was privately thinking about her peer's writing, trying to identify the problem with the topic sentence of her peer, "to begin with ... is it a topic sentence?" (Observation, Week 5).

She had sensed something was wrong with this sentence and was privately thinking and trying to locate the error.

Furthermore, during the APT tasks, several students were observed engaging in self-talk and using signal words such as “hmm”, “ok”, “how”, “maybe”, and “done”. This means that the students wished to shift their attention towards completing or planning to complete the specific task in hand (Frawley, 1997). According to Frawley and Lantolf (1985), self-talk shows cognitive operations through “private speech”. Thus, the integration of various sources allowed the learners to engage cognitively, by going through an active thinking state when being in an attempt to first understand the feedback offered, identify the errors, and then improve their revisions.

4.3.2.2.2 Attention During APT Steps/Tasks

The second theme under cognitive engagement is the learners’ attention to the APT feedback, as they show attentiveness towards revising their texts during their classroom interactions. In this context, during observations, Lenah and Jumana were able to pay attention to the types of mistakes they usually made in L2 writing, during Grammarly step revision: “Most of my mistakes are about commas” (Lenah, Observation, Week 3) and “I always make mistakes in word spellings” (Jumana, Observation, Week 5). This indicated that they were cognitively engaged learners, demonstrating focused attention in recognising usual mistakes. Hence, they were able to retain those mistakes in their working memory while revising their texts (Ellis, 2010), as Lenah declared later that “It makes us focus more on avoiding them next time” (Lenah, FG3).

RJs additionally outlined the view that learners were highly attentive to their frequent mistakes, during their subsequent revisions. Jumana reflected upon this that “Feedback from different people made me more conscious of possible mistakes” (Jumana, RJ1). Lenah confirmed it that “The feedback helped me in some of the mistakes I overlooked or just simply did not realise. [The three sources] had more knowledge than I do, which helped me improve” (RJ1). Here, Lenah emphasised how she had built an intellectual relationship between her cognition and the APT feedback items, as she became aware that it is a source of learning more knowledgeable than her. In this sense, the APT helped learners, by paying attention not only to the accidently missed mistakes but also to the mistakes they did not recognise earlier as mistakes.

Moreover, during peer feedback, reviewers were highly attentive regarding the mistakes the receivers made in L2 writing. For instance, Lenah was observed to discuss this with her peer saying: “Yes, you have a concluding sentence, but I do not think I included it ...” (Lenah, Observation, Week 3). That is, Lenah could notice and identify a concluding sentence in her peer’s work, because her peer noted a missing concluding sentence in Lenah’s own essay, while both were exchanging feedback. Lenah then became more attentive to the mistakes she would fail to note. Added to that,

Rania, as a reviewer, could pay attention to her peer's mistakes in the persuasive essay task when she said to her peer, "You have started with the thesis sentence; the thesis must be your opinion and must come at the end of the introduction" (Observation, Week 2). Here, Rania' attentiveness was not limited to identifying mistakes in her peer's work; it extended to explaining the reasons behind the mistakes to her peer (Hiver et al., 2020) (Observation, Week 2). This, in turn, may have occurred because of the sense of responsibility acquired during the APT tasks (See 4.2.2.1.1), which indicates that an affective factor intersects with the cognitive engagement during the task.

Moreover, it was observed that the participants' body languages, such as focusing on the screen and avoiding side-talk (Observation, Rania, Week 2), and their body positioning, such as leaning forward to listen to peers' comments and receive feedback on their mistakes (Observation, Lenah, Week 3), captured their state of attention. The use of multiple sources increased their cognitive engagement by giving them a good chance to not only employ the APT feedback, but also to get into a state of high attention with it.

4.3.2.2.3 Knowledge Construction in L2 Writing

The study's findings informed the cognitive engagement, not only through private speech and learners' attention to it, but also when they constructed their own knowledge about L2 writing. Svalberg (2007) asserts that students construct explicit knowledge not only through mental processes but also through active interaction. That is, the participants expressed their developed knowledge in a cognitive interaction format due to their interaction with the various feedback sources, Grammarly, peers, and the teacher.

In this context, the findings indicated that the students have perceived English writing as a process of generating ideas and meanings. In fact, according to FG1, the learners indicated that they were unfamiliar with the writing process in their previous semester. They explained that they used to draft their essays as a group and then submit their work to the teacher, whose only role was keeping the papers and not handing them back to them. As a result, due to inadequate practice, they had very limited knowledge about writing processes.

Then, as the APT progressed, their understanding of the L2 writing processes gradually improved, and I observed their increased focus on idea generation and discussion and seeking feedback from Grammarly and peers during class hours, rather than merely wanting to submit their work to the teacher. This pattern informs a shift in their recognition about the inherent nature of L2 writing as a process rather than a product (Observation, Weeks 2, 3, and 5). The questionnaire results had also confirmed this (See 4.3.1). For instance, Lenah confirmed that she had become aware of writing as a recursive process for communicating ideas:

> It is a creative and flexible process rather than a narrow or linear process that you should follow when you want to know how you would deliver your thoughts. Because we now speak in Arabic, writing stages help you take time to process what you need to say and convert it to English (Lenah, FG3).

This revealed how the students became more thoughtful about the importance of writing as a process for delivering meanings, wherein they could process their thoughts in their first language into a meaningful English work through a process of multiple stages: drafting and redrafting. This knowledge was not constructed in a vacuum but mediated by their cognitive engagement with the frequently revised texts during the APT steps.

As I mentioned earlier, this was not their initial level of knowledge, but their understanding to L2 writing was gradually shifting from being sentences and words put together, into a process of making those words and sentences smooth and clear. For instance, Rania informed that she used to handle writing tasks only by reaching the required word-limit for the task:

> ... I remember the first semester, ... when I came to write, particularly in exams, the most important goal for me was to reach the length of the words as required without knowing what I really wanted to say. I just wanted to reach the required number of words (Rania, FG3).

In this sense, Rania lacked knowledge of the writing process before APT; hence she was unaware of the importance of flow, ideas and meaning, and clarity in writing. Her limited knowledge previously had resulted in her disengagement with the task, which might have been hindered due to insufficient practise and feedback. This is as echoed by Razan too, “I have learnt how to organize the topic and link the content together and make the topic of expression the main focus of my writing, and not ignore it unintentionally” (RJ2). Such feedback inputs facilitated the learners’ awareness that the content is a major element to focus on, and it precedes the focus on the language forms. They became more aware that, for the content to be organised, they needed to go through processes such as brainstorming and planning that would enable their flow of ideas to be delivered coherently.

These steps were found to be new practises for learners that aided in their knowledge construction about L2 writing over time. Muna, in her reflection, showed a growth in her knowledge about such steps in L2 writing:

> At first, I thought writing was just words and sentences put together without meaning and structure. I was just writing what I had in mind, even if it was not clear ... Besides, I was not making a plan that could guide me while writing ... (Muna, RJ2).

In her reflection, Muna referred to her struggle with the lacks in writing practice and guidance, which previously had limited her knowledge and her engagement with the task. She indicated that her previous focus was only on transmitting the words she had in mind onto the paper, without trying to deliver ideas in a regulated manner. Hence, she needed an opportunity to become aware of the importance of processing those ideas in a form of an outline for producing clear writing. She continued reflecting that "But then, I learned a lot during the classes ... practise through lessons has also helped me a lot. I knew the importance of developing a plan before I started writing..." (Muna, RJ2). That is to say, the APT enhanced her writing practice during the revisions, thereby facilitating her engagement with it and expanding her knowledge about L2 writing.

Such expanded knowledge, resulted from students' cognitive engagement, not only enhances their writing knowledge to the steps of planning and brainstorming, but also to the writers' personas. As Jumana put it, "Now, I began to have my own ideas and unique way of narrating my essay, which did not look like that of other students" (FG3), and Rania indicated, "My writing personality has emerged. I have become able to organise my thoughts ... I noticed that my personality has developed in writing" (Rania, FG3). In this vein, APT feedback played a crucial role in helping them discover their writing identities and shape their personal ideas through their unique style of narrating them and unique structure of words and sentences. Revisions could be a driving force behind such cognitive engagement, leading learners to make new discoveries about their writing abilities in each step.

In short, APT contributed to enriching learners' knowledge of L2 writing by allowing them to undertake more than one step of revision. Learners who favour APT practice understand that, first, writing is a recursive process; second, it is a means of delivering thoughts in a structured and smooth manner or stages; and finally, it leads them to be unique writers in transferring their unique ideas.

Yet, learners' cognitive interaction with the APT in L2 writing is unlikely to work on its own, without the intervention of affective engagement. These two constructs overlap and influence each other, for fruitful results to be reached in the language-learning field (Svalberg, 2009). In this sense, one participant opined that "I found in the current semester that I had enough practice to write a whole essay correctly, which made me extremely happy" (Lora, RJ2). That is, the affective engagement, which will be discussed next, is a key characteristic of the engaged learner and is assumed to follow the learners' knowledge (Svalberg, 2009).

4.3.2.3 The Dynamic Affective Engagement with the APT

Lastly in this chapter, the findings of the FGs, RJs, and observation revealed a progressive evolution in the learners' affective engagement as the intervention proceeded: from the beginning (negative emotions) until the end of it (positive emotions). Thus, the themes in this section encompass verbal and non-verbal cues, such as facial expressions and body languages (Ellis, 2010; Svalberg, 2009). They

emerged chronologically as follows: initial distress phase with the APT tasks, confidence phase during the APT tasks, and learners' autonomy phase after the APT tasks.

4.3.2.3.1 The Initial Distress Phase with APT Tasks

In this context, the term "distress" refers to the state of the emotional responses that triggered by negative feelings such as discomfort, worry, anxiety, or frustration (Hiver et al., 2020), as indicated by the learners at the beginning of the APT tasks. The participants spoken their initial problems with the APT, detailing how their initial performance caused anxiety and decreased their confidence during exams. For instance, Rania conveyed a degree of discomfort when her peers evaluated her writing. She politely requested her peers to refrain from highlighting errors in her work. However, once her peer identified a mistake, her reaction revealed a sense of embarrassment and vulnerability to errors: "My mistake is shameful" (Observation, Week 2). Given the interconnection and influence of affective and behavioural engagement, this may have influenced her behavioural reaction due to working with those who were outside of her comfort zone (See 4.3.2.1.5).

Moreover, in their RJ1, several students indicated their distress, possibly towards the teacher feedback being very detailed and intense across several errors, as illustrated previously (See 4.2.3.1.3). For instance, Razan showed frustration that APT spotted several mistakes in her writing, "I dislike nothing, really, except that I feel frustrated that I have had many mistakes" (RJ1). She might have been frustrated because she was not used to receiving feedback on her writing previously— a contextual factor/barrier that differed with her previous semester's experience; thus made her more sensitive to making mistakes (See 4.3.2.2.3). As a result, learners' initial limited understanding of the APT feedback model likely played a pivotal role in their early frustration, wherein cognitive constructs influenced their affective ones.

Also, FG2 findings revealed more views pertaining to emotional struggles in APT initial tasks. For instance, Jumana revealed her worries about the number of drafts required in the class at the beginning of the semester: "In the beginning, I was very worried about the many drafts we had to submit. We are not used to doing such work in English writing classrooms; we used to do it in groups". (Jumana, FG2). Her apprehension about submitting multiple drafts during the task may stem from a recognized lack of capability. As mentioned earlier, the learners in this study had previously experienced a different situation than they were used to working in and being assessed as a group. Consequently, undertaking tasks individually, handling multiple sources, and revising texts seemed complicated writing processes for their initial L2 writing levels and hence fell beyond their language level and familiar approach, causing apprehension about task completion. In addition, to quote Lora: "My English language was weak, and it would be hard for me to understand and express what I wanted in the first task" (Lora, RJ2). This indeed could stem from the APT as a new practise interacting with the individual factors, in terms of basic language proficiency levels. This is as another

participant echoed, “We were mostly weak in L2 writing, which increased our worries about the subject ...” (Maisa, FG2); wherein learners felt that they did not have the adequate understanding, or the level required for task achievement and hence they became worried.

Besides, Rania opined that the APT was quite boring at the beginning, due to the four-step revisions required for submission of each task. She said that “... the first time I got bored, I had to write about the same topic four times: draft one, draft two, and draft three, and then I edited it a fourth time at home ...”. (FG2). As the observation of week 2 was in the initial task of APT, Rania indeed displayed a slight unease when having her writing evaluated by her peers, as mentioned earlier. Moreover, she sometimes showed that she does not like Grammarly feedback for its abundant suggestions, as seen in her reactions through facial expression [observation, week 3]. Therefore, Rania’s boredom and discomfort in the early tasks may be closely linked to the deficits in understanding she demonstrated towards the feedback provided on her initial essays. This correlation, similar to Jumana, Lora, and Maisa, highlights how a lack of cognitive interaction contributes to a lack of enjoyment in the initial tasks. That is to say, the contextual factor of the learners' unfamiliarity with the APT model, influenced the interplay between cognitive and affective constructs to some extent. Hence, this unfamiliarity necessitates that learners invest time and effort with the teacher guiding in adapting and overcoming weaknesses in writing, which then could lead to positive emotional reactions.

According to Ellis (1994), although affective responses are likely to have a hindering effect on L2 learning, they can also have a facilitative effect. Indeed, Jumana explained that “If the student feels anxious and worried, here she is learning, but if you leave her at ease, give her the materials, and leave her alone, she will not benefit at all” (Jumana, FG3). Thus, once I continuously guided and scaffolded the students, I eventually recognised a progress in their emotional responses to the APT tasks. In other words, as the intervention progressed, the participants gradually were immersing themselves more in later tasks, reducing influencing factors.

4.3.2.3.2 The Confidence Phase During APT Tasks

Over time, the learners gained more confidence in their ability to write, due to greater practice and progression in their writing performance. In this vein, Jumana stated: “... over time, I felt that I loved the new strategy and never expected the difference it made in my performance. I mean, it was not simple at all ...” (FG2). She referred to the unexpected differences she could observe in her writing abilities, which implied that, due to the intense and “not simple” work of the APT, her understanding and cognition of L2 writing expanded, thereby causing her to feel happy/satisfied and thus more confident.

Rania, agreeing with Jumana, discussed that this model contributed to a large difference in her emotional reactions before and after she began to progress in L2 writing:

> ... when I came to study from my drafts before the exam, I noticed the difference here is that I do not need to study many things. I have already practised writing; I can easily write 180 words because we practised writing in more than one draft; I do not feel afraid as there are many better things improved (Rania, FG2).

In her quote, it is clear how her previous view of having more than one draft as a boring task evolved (See 4.3.2.3.1). She understood that the practice and feedback did not only help her overcome her weaknesses but also improved her exam preparation. This, in turn, boosted her confidence in her ability to write well in the exam, reducing her previous fear. I, being the teacher, could clearly witness that the learners' writing performance in their initial exams and in the latest ones had totally changed after the application of APT as their grades improved.

Moreover, as the intervention continued after Week 5, observations indicated good affective engagement incidents. Although some incidents seem to relate to the cognitive engagement due to the interconnectedness between both constructs, it is necessary to discuss how they represent the affective angle of the learners as well.

Since the observations of weeks 3, 5, and 8 were conducted in later tasks of the APT, the observants showed quite progressive positive indicators of affective engagement. For example, Lenah was a very relaxed learner (not anxious) during week 3. She was fairly open to talking about her mistakes with advanced and novice learners alike within her group, with no hesitation in seeking help to understand feedback. Thus, she did not seem afraid of making mistakes, which was reflected in her confidence during the APT revisions (Observation, Week 3). Although Jumana and Dina, in weeks 5 and 8, were initially puzzled by Grammarly feedback when they received too many suggestions, they did not feel hesitant but were confident enough to speak about their weak points and Grammarly feedback in their writing. The observants were quiet and relaxed during revisions and in groups. However, although Jumana did not hesitate to work with peers, she was hesitant to ask the teacher for help except rarely. When she did not get an answer from her peers, she preferred doing her revision autonomously or using online sources for facilitation.

As for FG3, echoing the observation findings, the learners expressed that they had increased their confidence in their ability to write and their satisfaction with APT. Lenah, for instance, reflected that she believed this model was "rewarding" for her, and that she became confident due to the good quality and organised feedback she received: allowing her to focus on multiple errors/weaknesses and resolve them (FG3). Added to that, Dina clarified how her anxiety had reduced towards the later tasks:

> ... After more than one task in academic writing, things began to become clear to me, and I noticed a significant growth in my level. This made me forget about all that stuff I was worried about. And I am grateful ... (Dina, RJ2).

That is, over time, the practice and guidance helped her pinpoint her areas of weakness. Since the APT revisions enhanced these areas, it led to a cognitive growth, a confidence boost, and ultimately, an emotional development. Thus, individual factors such as learners' distress resulting from low language proficiency levels seemed to gradually disappear during the following tasks.

4.3.2.3.3 The Learners' Autonomy Phase After APT Tasks

The growth of knowledge and the boost in confidence that learners acquired later increased their belief in their abilities and hence their autonomous skills, particularly when the APT tasks reached the end. They expressed their views about how they became capable of taking charge of their own writing progress in the future. Lenah, for example, described how she could work on making her writing performance even better, autonomously, in the long run, owing to the basic abilities she acquired from APT:

> Later, when we grow up, we will not have to worry about our writing proficiency. If you have an idea, you already have the skills, so you are aware and can improve ... This class helped me to become knowledgeable about the basics of writing, so I know the way how to develop it (Lenah, FG3).

That is, Lenah believes that now she has the necessary tools to guide her writing progress in the future, including a deeper understanding of the L2 writing process and its diverse genre features (See 4.3.2.2.3). The APT feedback model provided her with opportunities for practice, guidance, and learning. As such, it empowered her to establish the foundation for her future journey, enabling her to maintain and enhance her L2 writing skills independently.

Rania similarly put that the APT motivated her to set future goals and try to reach them independently:

> We may become a researcher in such a field. So, since I do not have research skills, one day I will be in a hospital where I will possibly be searching for something other than my field, so I need these skills. This knowledge must continue with me until graduation. I must keep practising what I learnt ... I still need to depend on these basics (Rania, FG3).

In this sense, APT seems to trigger her visualisations about herself in future career, particularly in scientific research field, and how she feels capable enough to take charge of improving her own writing performance and reach her career goals by preserving and practising the skills acquired. The learners could indicate the ability to teach themselves, and to develop their skills which would be

possible to construct if their learning needs were not met during the APT tasks. Thus, as the model could increase their awareness and knowledge, it could increase their confidence, and then their autonomy skills (that is, cognitive engagement influences affective reactions).

4.4 Chapter Summary

In this chapter, the findings of the quantitative and qualitative data were presented in alignment with the three main questions of the current research. In this sense, the first research question's findings demonstrated that the use of Grammarly, peer feedback, and teacher feedback may have an impact on the improvement of L2 writing. That is to say, the findings of the students' writing drafts suggested that the learners were able to address various types of errors through the different steps of APT feedback, as well as their awareness and selectivity to the items relevant to their writing contexts resulted in reducing the feedback items. To support those findings, the current study integrated a different data source wherein it explored the students' writing performance through pre- and post-tests. Interestingly, the findings suggested that not only the learners' errors were reduced before and after the semester, but also, they were able to produce longer essays with fewer errors.

The findings of the second research question demonstrated that the three sources could work harmoniously in L2 writing contexts. First, as anticipated, Grammarly assisted in addressing surface-level aspects like punctuation, grammar, spelling, synonyms, and sentence structure. Also, learners found it to be user-friendly, offering rapid feedback and simple access. However, Grammarly, as other automated tools, had shown occasional inaccuracies and disregard the writer's intended meanings and intentions. Second, this research revealed that peer feedback was particularly effective at complementing Grammarly's role by providing more meaning-level feedback. Despite the influence of some factors, such as the relationship between learners, beliefs, and variations in language levels, peer feedback was unique in creating an interactive and empowering environment. In doing so, peers could advise and teach receivers, enhancing their attention to details and contributing to their cognitive development as both writers and later reviewers. Because the learners came from diverse language backgrounds and experiences, the collaborative thinking among peers during L2 writing processes fostered mutual inspiration when generating ideas, adding, deleting, or refining existing ones. Third, the findings underscored the importance of teacher feedback as the final step after Grammarly and peer feedback which allowed her to shift the focus from surface to meaning-level feedback from the beginning to the end of the intervention. This implies that solely relying on the teacher to provide feedback would not be valuable or sufficient, as the findings indicated that it had placed a significant burden on her to correct multiple aspects of the writing. At that time, the learners were still unaware of Grammarly's limitations, and they received inadequate

feedback from peers who were still unfamiliar with the model. Later, as the intervention proceeded and the learners practised APT enough, the teacher feedback surpassed other sources in addressing the learners' needs for improving their writing coherence and cohesion, being more valuable and of higher quality.

The findings for the last research question indicated that the APT has positively influenced the learners' behavioural, cognitive, and affective engagement in various ways. Firstly, the APT shaped the learners' behavioural engagement by easing their communication with peers and teacher, which enabled them to comprehend and inquire about the feedback they received. Furthermore, the learners frequently used Grammarly for revisions, not only for post-Grammarly revisions but also for revisions following peer and teacher feedback. This demonstrated their engagement with the process, as they thought creatively to ensure the quality of their revisions and to comprehend vague feedback from peers or the teacher. Furthermore, their willingness to attend and submit tasks demonstrated their behavioural engagement with the APT, in which the motivation factor may play a major role as the students' attendance dropped steadily overall. That is, the 11 committed students might have seen this intervention as an opportunity for learning and improvement, whereas non-committed students, might have burdened with responsibilities and commitments to other modules, which may lack the motivation to continue attending the remaining APT tasks. Moreover, the feedback item's uptake influenced the learners' behavioural engagement, as discussed in the first question's findings. In this sense, the awareness gained over time led learners to be selective and choose what to accept and reject from the APT feedback. Moreover, the model facilitated an interactive and scaffolding environment for the learners when they welcomed questions, assistance, and answers from each other. However, this interaction was not always uninterrupted as there were various factors distracted it. For instance, while some learners embraced the opportunity to learn social skills by working with different peer groups each week, others did not until they worked with peers of the same/higher ZPD level (Vygotsky, 1978). The "comfort zone," or familiar group for learners, was also another factor that had an impact on their behavioural engagement with the model.

Second, the findings showed that the learners engaged with the model cognitively in different aspects. For example, the APT shaped the learners' private speech and self-talk in L1. This enabled them to process and think deeply and critically about the feedback they received. In this sense, APT feedback helped to produce their mental efforts, either to internalise their writing weaknesses or to identify the errors. Moreover, attention is another aspect of this engagement, as learners demonstrated an attentive state in recognising common mistakes. As a result, they were able to retain those mistakes in their working memory while revising their texts (Ellis, 2010). By doing so, APT facilitated paying attention not only to accidentally missed mistakes but also to the mistakes that the learners had not recognised earlier. Additionally, during the feedback process, discussions

between learners made peers aware of mistakes they had missed when they found them in others' essays, and vice versa. The APT model also mediated students' cognitive engagement through knowledge-building when they went through multiple stages of drafting and redrafting to enhance their writing. This had broadened their understanding of what writing in English truly involves. In other words, over time, the learners learnt that writing is a recursive process of planning, drafting, and reviewing rather than simply putting words and sentences together—a concept that they were unfamiliar with in their previous semester. This understanding also extended to enhancing their writing style, as learners became more aware of their own unique ideas and ways of expressing themselves in their essays.

Finally, the overlap and interrelationship of the engagement dimensions revealed that as the learners' cognitive engagement improved, their affective engagement also improved, gradually shifting from negative emotions to positive ones. To elaborate, the learners' previous unsatisfactory experience with L2 writing in the previous semester resulted in limited knowledge about L2 writing, which negatively influenced their initial affective engagement with the APT. This contextual factor, combined with the overlapping nature of dimensions, prompted anxiety and diminished their confidence during exams and in-class interactions. Their previous semester experience also heightened their concerns and boredom regarding the number of drafts required by the APT in the initial tasks, as they lacked language proficiency and their familiar approach to teaching L2 writing. Yet, once the intervention progressed, the learners' cognitive engagement improved while the influencing factors’ impact reduced. Consequently, they became more satisfied with their L2 writing performance, and their confidence in their ability grew. Regular practice and inclusive APT feedback helped them overcome their limited understanding of their writing weaknesses and better prepare for their exams. They then described the model as "rewarding" because, for them, it made the L2 writing experience unique and inspiring, making them retain and practice what they had recently learned for the future. This was especially evident when they stated that they had begun to see themselves as competent researchers in their future careers.

Chapter 5 The Synthesis and Discussion

In this chapter, a restructured layout of discussing the findings is presented, organized based on their occurrence in order to demonstrate a coherent flow of discussions. Firstly, the collaboration roles of three sources are discussed, followed by an exploration of how this integration facilitated L2 participants' engagement across behavioural, cognitive, and affective domains. Finally, the discussion moved on to how participants' engagement contributed to an improvement in their L2 writing performances.

5.1 Weaving Threads Together into The APT Feedback Integration

This section aims to discuss the findings pertaining to the roles of APT and their potential overlap or collaboration. Throughout the discussion, an interpretation of the findings, their agreement, and disagreement with relevant studies is highlighted. This facilitates a comprehensive discussion on their integrational role and how this study contributes to the field.

5.1.1 Unlocking the True Value of Automated Written Evaluation (AWE)

In this study, it has been demonstrated that Grammarly was competent in offering feedback on the surface-level aspects of writing, such as spelling, punctuation, grammar, and occasionally maintaining clarity and coherence. In doing so, the focus on these areas highlights Grammarly's strength as a recognised grammar-checking tool. Furthermore, the findings revealed that obtaining AWE coupled with explicit explanations assists learners in comprehending the reasons for their mistakes, thus improving their cognitive skills in L2 writing and increasing their sense of confidence. These findings are consistent with the CPT (See 2.1.1), describing that writers utilise current knowledge stored in long-term memory, which can be modified as new ideas arise. Such cognitive effort involves planning and replanning within a high order thinking skill to achieving writing goals (Flower and Hayes, 1981).

In addition, the findings emphasised other features of Grammarly, such as its user-friendliness, which is related to its simplicity and instant access to feedback as it allows a quick errors recognition and a quick learning. Hence, it offers learners the chance to make countless revisions and hence to save their time (Zhang & Hyland, 2022). This feature is highly appreciated by learners, particularly considering the challenging task of fixing grammar errors mostly for novice writers. Having said that, these findings correspond with those of previous studies (e.g., Cavaleri & Dianati, 2016; Ebadi et al., 2023; Fahmi & Cahyono, 2021; Ghufron & Rosyida, 2018; Wang et al., 2013; Zhang & Hyland, 2022).

However, as the findings suggest, Grammarly cannot substitute teacher feedback because of its limitations to understand unique L2 writing contexts. In the current study, L2 learners faced an issue

with Grammarly's inability to identify the grading components and genre features that are essential for improving their L2 writing exam scores. These limitations were indeed acknowledged by previous researchers (e.g., Ebadi et al., 2023; Lai, 2010; Mohsen & Alsharani, 2019; Xu & Zhang, 2022; Zhang & Hyland, 2022) as they stem from the inherent nature of AWE systems in detecting subtle errors, which is different from human nature (Wang et al., 2013). In this sense, Grammarly provides a standardised correction approach to improve dissimilar sentences without taking into account their contexts or genres. This, in turn, has led to misinterpretations of the writers' intentions when repairing sentences, resulting in incoherent areas that occasionally disrupt the flow of essays. Consequently, when it comes to topics that demand personal opinions, like persuasive essays, students tend to rely on their own editing abilities or reevaluate feedback after using Grammarly, as it could unintentionally change first person sentences into more formal ones.

Additionally, the findings of the study showcased that Grammarly may be inaccurate in some cases, which the participants called it 'technical flaws', like misplacing punctuations and letters deletion. This has led their L2 writing to involve some typos or diminish the flow of sentences. Therefore, the reliability of Grammarly during redrafting may become questionable. That is to say, consistent with a prior study, a considerable number of students reported incidences of inaccurate feedback from Grammarly (Fahmi & Cahyono, 2021) and without the social context of higher-level writers' scaffolding, as demonstrated in this study (SCT; See 2.1.2), learners who are new to AWE feedback may fail to recognise those limitations. In this context, therefore, Grammarly should be considered a complementary tool to other sources that are more competent to handle deficiencies in content and meanings, in line with previous perspectives (e.g., Fahmi & Cahyono, 2021; Ghufron & Rosyida, 2018; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022).

5.1.2 Revealing Peer Feedback as a Valuable Ally

The findings of the peer feedback uncovered that peers could provide numerous comprehensive feedback on both surface and meaning levels. Most likely, they tended to provide feedback on surface-level issues across the four tasks. In this case, they consider addressing simple surface errors more manageable than complicated errors related to content and structure (Chen, 2021). Indeed, acting as novice feedback providers, students can address simpler errors before essays are reviewed by teachers (Irwin, 2017), insisting the positive impact peer feedback could make on the overall essay quality, as concluded by others (e.g., Chen, 2021; Fan & Xu, 2020; Tian & Zhou, 2020; Wang, 2014; Zhang & Hyland, 2022).

Moreover, peers outperformed Grammarly via offering more meaning-level feedback, particularly at the lexical and paragraph levels. In this vein, guiding students for peer feedback influenced draft revisions among L2 students (Berg, 1999) and demonstrated that trained students are capable of

making meaningful revisions. Appropriate guidance and instructions for learners of how to participate in peer feedback can positively contribute to learners' revisions and writing quality (e.g., Berg, 1999). That means, when novice feedback providers could follow a clear checklist to evaluate multiple areas of L2 writing, peer feedback over time could improve and can even outperform automated tools.

In comparison to previous studies, meaning-level feedback that peers provided in this study found different from that of Tian and Zhou (2020), Xu and Zhang (2023), and Zhang and Hyland (2022). In more details, while peers in previous studies mainly addressed lexical and sentence level errors, peers in this study mainly targeted paragraph and sentence level errors. Discrepancies between this study and the previous ones indicate variations in methodologies employed (See 2.5). That is, the prior studies typically required students to provide broad feedback on the strengths and weaknesses of their peers' essays, which may be suitable for learners beyond their second year or postgraduate students in Academic English writing classes. In this sense, the students already possessed some familiarity with academic writing before implementing the APT model, and hence can identify to a good extent some L2 writing weaknesses and strengths in their peers' work. In contrast, the participants in this study were in their first preparatory year, encountering the Academic English writing course for the first time, which is mandatory for academic progress. Therefore, the findings in this study differ as it employed peer feedback checklists to improve the evaluative skills among novice reviewers. These checklists ensured equitable attention to paragraph, lexical, and sentence level feedback, enhancing reviewers' proficiency in assessing different aspects of writing, which is crucial for integrating peer feedback into L2 writing pedagogy (Berg, 1999). As a result, their lack of experience providing feedback and the appropriate guidance they received contributed to differences in outcomes compared to previous research emphasizing aspects of meaning at the paragraph and sentence levels over the lexical level.

Also, the findings highlighted that peer feedback empowered both receivers and reviewers. In this sense, reviewers felt more responsible for their comments (Carless & Boud, 2018), and this sense was influenced by emotions such as language anxiety, caused due to the interpersonal relationships among learners during activities (Ellis, 2010). This anxiety then acted as a catalyst to improve the reviewers' critical evaluation skills, their ability to highlight gaps and flaws in organization, and hence promote receivers' awareness. Indeed, peer feedback in this context promoted collaborative learning environments, which agrees with previous studies, benefiting both parties and engaging them as active participants in L2 writing improvement (e.g., Ballantyne et al., 2002; Carless & Boud, 2018; Hyland 2019; Irwin, 2017; Mobaraki, 1995; Xu & Zhang, 2023; Hu, 2017).

In other words, peer feedback supported the underpinning integration of cognitive processes theory with social interaction theory in order to enhance writers' abilities within the ZPD (Vygotsky, 1978)

(See 2.1.3). The collaborative nature of peer interactions enabled all learners to receive and offer advice, pose and answer questions, and identify weaknesses that others may overlook because of a lack of proficiency; thereby, they directed their attention towards neglected details and mistakes. That is, engaging with peer work served as reflective knowledge production (Van Popta et al., 2017). According to earlier research (e.g., Tian & Zhou, 2020; Zhang & Hyland, 2022), peer feedback findings primarily examined students' potential as social agents within the APT model, with little focus on their collaborative work. Peer feedback steps, held outside the class or in an online class, posed a challenge for students to collaborate physically in those studies. This study, therefore, added a new insight into the significant value of peer feedback to the APT model in creating a collaborative environment that fostered engagement with the L2 writing process (Xu & Zhang, 2023).

Moreover, the collaboration among peers in the current study showed that it greatly enhanced the interchange of ideas during L2 writing process, promoting mutual motivation to review the content. Peers' collaboration was evident in the process of refining ideas, specifically in the statistical analysis of meaning-level items discussed earlier (See 4.2.2) wherein they went through stages of addition, deletion, or refinement to the ideas of their works. In accordance with the CPT followed in this study, this phase provided writers with a chance to harmonise their ideas with their goals, hence aiding in problem-solving and the act of composing (Flower & Hayes, 1981) (See 2.1.1). Such process hence is by nature reliant on social contacts, imposing interaction with others and learning from each other. This is besides that the rearrangement of different pairs each week increased the chance of their collaboration where peers learn from each other's ideas. Indeed, as found by previous studies, peer feedback step reflects the view of learners as "meaning makers" engaged in interactions and meaning negotiation (e.g., Bruffee, 1984; Hyland, 2019; Kusumaningrum et al., 2019; Zhang & Hyland, 2022; Min, 2005; Tsui & Ng, 2000; Zhu & Carless, 2018). More importantly, the use of L1 is not only considered a common practice among L2 learners during peer discussions, but also it significantly facilitated peer interaction in this study, maximizing its benefits and providing students with opportunities for constructive writing conversations (e.g., Villamil & de Guerrero, 1996; Min, 2005).

Yet the findings revealed that several factors may influence the use of peer feedback in L2 writing context. In this sense, the collaboration is mostly beneficial when it occurred during the writing process, suggesting that peer feedback is most effective during L1 discussions rather than addressing feedback on the written works, which was perceived as uninformative and therefore useless (Xu & Zhang, 2023). For example, some concerns arose with the weekly change of peers resulted in dissimilar language proficiency levels among them. This in turn might potentially hinder the expectations and motivation of particular writers to learn. In other words, peer feedback can be advantageous for learners who have similar levels of language proficiency, but it might present difficulties for those with lower or higher proficiency levels. So, the feedback provided has the

potential to either motivate or demotivate learners, as evidenced by similar studies (e.g., Allen & Mills, 2016; Dressler et al., 2019; Tian & Zhou, 2020; Xu & Zhang, 2023). The differences in language levels may involve the influence on the ZPD of both members, wherein the mismatches between the reviewer's and writer's ZPDs could hinder learning. If the ZPD levels are largely different, the writer's feedback may become too advanced or too basic, diminishing its effectiveness (Allen & Mills, 2016).

Additionally, doubts regarding the value of peer feedback were found to influence its advantages in the APT context. These questions may have arisen because of two reasons. First, it may owe to the fact that peers and receivers are still learning language skills. Second, the cultural backgrounds can have an impact on its efficacy. In this regard, L2 learners tend to believe that teachers mainly hold the feedback authority, considering that in my context, the learners have been accustomed to relying on teachers for years. This perception agrees with previous studies as it is commonly observed in similar contexts, especially in Asian learning environments, that peer feedback is usually influenced by learners' belief and the students usually considered it less reliable (e.g., Allei & Connor, 1990; Ballantyne et al., 2002; Chen, 2021; Ghani & Asgher, 2012; Wang, 2014; Zhang & Hyland, 2022).

In short, acknowledging the positive impact and limitations of peer feedback in this context demands an integrational approach with other feedback sources, acting as a supplementary source rather than a replacement for teacher feedback—a perspective that overlaps with the conclusion of Irwin (2017), who cautioned against solely relying on peer feedback in L2 writing.

5.1.3 Releasing the True Value of Teacher Feedback

As per the findings of this study, teacher feedback as the third source of feedback was found impactful to enhance L2 writing performance when addressing multiple aspects. In this sense, there was a noticeable change in the focus of feedback over time. Initially, the focus was mostly on surface-level feedback which is shifted over time towards delivering more meaning-level feedback. This transition happened because the students first encountered difficulties in comprehending and implementing feedback from Grammarly and their peers, resulting in a high rate of uptake of Grammarly's feedback (See 4.1.1). Yet, over time, the teacher was able to pinpoint errors that Grammarly had missed and could work collaboratively to complement it. Such complementation in correcting L2 writing is similar to the previous findings (e.g., Fahmi & Cahyono, 2021; Ghufron & Rosiyda, 2018; Tian & Zhou, 2020).

In comparison to previous studies, there was a discrepancy between this study findings and those of Zhang and Hyland's (2022) study. In their context, the teacher refrained from giving any surface-level feedback to students and instead completely concentrated on meaning-level feedback. This inconsistency may be related to the teacher's decision to assign all surface-level feedback to the automated tool and peers right from the beginning of the study. For example, students were

encouraged to submit their work to Pigai multiple times until their scores improved (Zhang & Hyland, 2022). In this scenario, the teacher intended for the students to independently use the tool to address surface-level issues and apply the same to their peers' writings. This approach would free up the teacher to provide marginal and final comments on meaning-level areas.

Nonetheless, this study had unique aims and underpinned SCT theory addressing learners who are new to integrated feedback sources. Therefore, supporting participants from the beginning of the intervention was crucial for enhancing their writing skills and maximising feedback benefits. Using the ZPD and scaffolding constructs, the teacher facilitated an understanding of learners' evolving capacities at an early stage of development. In this sense, teachers “have the potential to create conditions that may give rise to specific forms of future development” (Lantolf et al., 2014, p. 8). Also, it was crucial to promptly address mistakes and increase learners' awareness of feedback source limitations to prevent them from becoming ingrained (Marzban & Arabahmadi, 2013). Although the initial feedback in addressing many error types imposed a burden on the teacher and heightened the students’ worry (Boud & Molloy, 2013; Poulos & Mahony, 2008; Tian & Zhou, 2020), over time, it gradually diminished as the intervention proceeded. By following the teacher's guidance in social contexts and providing the needed assistance, the students could ultimately acquire knowledge, learn essential strategies for receiving feedback, and achieve their writing goals. At the end, this allowed for a change in teacher feedback, facilitated by positioning it as the final step in the APT model of revision. Indeed, L2 writing teachers should consider their multifaceted roles as readers, writing guides, and language experts simultaneously (e.g., Ismail et al., 2008). This approach, along with the learners' heightened awareness, enabled her to devote less time to surface-level issues and more time to addressing meaning-level issues in later tasks, thereby highlighting the significance of teacher feedback in APT contexts (e.g., Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022).

Basically, it is clear from the findings that relying solely on the teacher to correct every minor error, as was initially the case in the intervention, could be disappointing, particularly in Saudi L2 writing contexts with large class sizes and limited access to various feedback sources. Teachers must indeed carefully manage the quantity and quality of their feedback to ensure its genuine benefits, taking into account aspects such as class size, grade level, and focus, whether on the final product or writing process (Ellis, 2010; Irwin, 2017; Marzban & Arabahmadi, 2013; Zamel, 1985). In other words, as a teacher, I was able to devote more attention to appropriate lexical, cohesion, and coherence in writing over time, thereby facilitating a clear and smooth flow between sentences and paragraphs. In agreement with previous studies (e.g., Diab, 2005; Fahmi & Cahyono, 2021; Tian & Zhou, 2020; Zhang & Hyland, 2022), this transition of focus would be less feasible without the collaboration with other feedback sources.

5.1.4 The collaboration of the APT Sources

The findings of the current study exposed that the automated tool is the main contributor to the improvement of surface-level issues like mechanics, grammar, and the preservation of meaning. However, while Grammarly shows small changes in meaning, previous studies that utilised Pigai tool, discovered that it provided feedback with zero meaning-level change (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022). These discrepancies between AWE tools may appear from the different functions between Pigai and Grammarly. Consequently, most of Pigai's surface-level feedback focused on lexical meaning-preserving issues, while Grammarly feedback mostly focused on mechanical issues. Further, when combined with peer and teacher feedback, AWE relieves their burdens, allowing them to deliver more meaning-level feedback items. Interestingly, when peer feedback took place in isolation, it seemed to only address surface-level errors. Nevertheless, when combined with Grammarly, peers showed a tendency to provide more meaning-level feedback, contributing to the whole process of APT feedback provision. These findings, which pertain to the distinct and supplementary roles of each feedback source, associate with previous research (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2022; Zhang & Hyland, 2022).

Finally, based on the findings, it can be concluded that despite the limitations of each source, they have all demonstrated successful integration. Zhang and Hyland (2022) found no singularly optimal technique for determining the "best" feedback source, aiming to move beyond simple dichotomies. That is, when the teacher is the sole audience, learners would lack motivation to engage and improve. Engaging students to receive AWE feedback and peer feedback was seen as effective in appealing to students and reducing time spent on mechanical issues (Zhang & Hyland, 2022). In this sense, the APT feedback mutually reinforces each other in various aspects (e.g., grammar, content, and structure) and viewpoints (e.g., reader, expert). Overall, this study emphasized the dual role of each feedback source, revealing both their strengths and weaknesses, as well as their collaborative effects in L2 writing. Drawing on this, Grammarly, peers, and teacher feedback were found to complement each other harmoniously to a significant extent.

5.2 The Impact of the APT Model on L2 Learners' Engagement Over Time

5.2.1 The Behavioural Engagement Dynamicity with the APT

Based on the findings, the APT intervention yielded positive behavioural responses by the learners. In this context, most of them recognised that the APT facilitated their active participation in discussions that followed feedback steps and motivated them to improve their abilities in writing. Also, related to previous studies' findings, the multiple feedback sources encouraged learners to ask their peers and teacher for help and discuss their errors (e.g., Han, 2017; Xu & Fan, 2020; Xu & Zhang, 2023).

Drawing on sociocultural theory (SCT), behavioural engagement with the APT, as a mediated tool, encouraged scaffolding by experts, such as teachers or capable peers, who aided novice learners in order to enable them to progress into higher levels of knowledge through interaction. In this situation, students had the chance to reach the teacher, which in turn created a more secure environment for them to seek additional assistance or feedback. The teacher's authority to evaluate their work later provides such a chance. Furthermore, students could seek their peers' assistance, as they may feel more comfortable viewing them as a valuable source of information during the revision process (Han, 2017; Han & Xu, 2021). Hence, collaborative learning settings, where proficient and less proficient writers could communicate, likely impacted the learners' active engagement (Aljaafreh & Lantolf, 1994) as in this study. Doing so involves empowering learners to overcome challenges or achieve goals that exceed their capabilities (Lantolf, 2000).

L2 learners' behavioural engagement was also shaped by their consistent use of Grammarly to modify their writing after receiving feedback from both Grammarly and teacher. This suggests that students were actively and positively engaged with the feedback offered, which occurred because the teacher did not provide strict instructions for the revision process. Instead, the teacher advised students to utilise different sources and employ various strategies to address and improve their writing weaknesses in subsequent revisions. The questionnaire results indeed revealed that the majority of respondents believed that APT helps correct various mistakes in mechanics, grammar, vocabulary, and content.

Like the findings of Zhang and Hyland (2022), there was a similar act among learners wherein they were actively engaged in utilising AWE feedback tool many times for their work. Yet, whereas Zhang and Hyland's (2022) study mostly focused on the frequency of the use of the tool after AWE revision only, this study further explored a consistent use of the tool post-AWE and even post-peer and post-teacher feedback revisions. Doing this assisted the learners to improve their work and gain a clearer understanding of vague feedback items from peers or teacher that were challenging to understand.

Furthermore, the current research findings showed that the students were behaviourally engaged through their commitments to attending and submitting learning tasks (Hiver et al., 2024). This commitment may closely align with learners' motivation, as they dedicate their work and energy to a specific activity (Handley et al., 2011), viewing it as significant and aligned with a specific goal, thereby fostering long-term engagement (Svalberg, 2018). Hence, their commitment not only reflected dedication to their learning goals but also underscored its importance in academic achievement (Mercer & Dörnyei, 2020; Zhang & Hyland, 2022). Motivation is indeed regarded as an essential factor of engagement (Ellis, 2010; Hiver et al., 2024) and can have an impact on behaviours (Martin et al., 2017). This may also explain the reason behind why other students encountered challenges in completely attending and submitting APT tasks, as they were undergoing stressful

situations for other modules exams particularly during the final two tasks of the intervention. Their strong desire to excel placed considerable pressure on their abilities. Hence, the 11 students who were fully engaged in the learning process and submitting APT tasks, showed notable improvements in their knowledge compared to those who showed a less proactive strategy. Practicing writing by making mistakes is essential for improvement; therefore, participants displayed an interest in enhancing their learning and achieving their goals, distinguishing themselves from others (Hyland, 2003). This is similarly highlighted by previous studies particularly in relation to learners' negative emotions or proactive behaviour (e.g., Ellis, 2010; Svalberg, 2009; Zhang & Hyland, 2018; 2022).

In addition, the current study's findings presented how participants accepted APT feedback and how it affected their level of engagement. Grammarly, for instance, provided the most feedback but had the lowest uptake rate among other sources: peers and teacher. In this sense, learners showed selectivity, demonstrating dynamic behavioural engagement, and over time, did not randomly accept all its items but rather applied them selectively and adjusted their uptake accordingly (e.g., Bai and Hu, 2017). In doing so, the selective acceptance of feedback established an interconnected behavioural engagement with cognitive engagement. This indicates that the learners' pattern of accepting most teacher feedback while integrating only half of Grammarly's feedback emerged from their cognitive awareness eventually. The overlapping between cognitive and behavioural domains has been observed in Han's study (2017), and in turn, is correlated with L2 writing development (Zhang & Hyland, 2018).That is to say, conversely to automated feedback uptake rate, the teacher feedback is the most accepted among the three sources as similar to others' studies (e.g., Dressler et al., 2019; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022). That means feedback from experts can significantly improve the structure and language of a student's work, which automated feedback cannot. As a result, students prioritised accepting teacher feedback items to the maximum extent possible (Xu & Zhang, 2023), which over time, also improved their evaluation skills and ability to make feedback decisions (Carless & Boud, 2018). This awareness is also reflected in the questionnaire responses, wherein participants displayed an understanding of Grammarly limitations compared to teacher feedback.

In relation to the uptake rates of peer feedback, the findings indicated that students accepted peer feedback at a higher rate than AWE. However, despite learners expressing unfavourable opinions about peer feedback, whether due to cultural beliefs or due to differing language levels, the quantity of its uptake rate contradicts this view as it is likely significant and comparable to the feedback from their teacher (e.g., Dressler et al., 2019). This suggests that there was no substantial difference in the benefits of peer feedback and teacher feedback. Therefore, it indicates a willingness to receive feedback from peers, which supports the findings of earlier studies (e.g., Villamil & de Guerrero, 1996; Wang, 2014).

The findings also highlighted that learners were engaged with the APT through the classroom interactions/scaffolding wherein they offered support to each other during L2 writing sessions (e.g., Hiver et al., 2020, 2024; Svalberg, 2009). In this sense, during group work, learners actively encouraged their peers to inquire about Grammarly. Engaging with different peers on a weekly basis offered this positive chance as they acquired knowledge and were exposed to different experiences shaped by their goals. Hence, peers' interaction is highly recommended for learning in literature (e.g., Wang, 2014; Xu & Fan, 2020; Xu & Zhang, 2023). Moreover, their body language, such as leaning towards peers to help or asking for help, has signalled their behavioural engagement. Such empirical findings therefore confirmed that social constructivism shaped the interaction and scaffolding among learners and in turn facilitated their behavioural engagement (Chen, 2021; Storch, 2002; Svalberg, 2009; Swain & Watanabe, 2013; Villamil & de Guerrero, 1996; Vygotsky, 1978).

Nevertheless, student initiatives and interaction were subject to fluctuating due to certain individual factors (e.g., Ellis, 2010). First, one factor is the different learning goals among students of varying language, including both higher- and lower-achieving students. To elaborate, working with higher-achieving peers could help learners feel more prepared to interact, as they can learn and improve from better experiences. Yet, working with lower or similar language proficiency level peers could potentially impact others' ability to engage in meaningful interactions. For instance, Lenah, a learner who possesses a higher level of writing proficiency, needs the help of more knowledgeable peers to accomplish her specific goals. Thus, language proficiency levels have a significant impact on how learners interact within the APT (e.g., Tian & Zhou, 2020; Xu & Zhang, 2023).

Second, their preference for the social comfort zone was another factor that influenced their behavioural engagement with the intervention. This preference arises from relationships among students of the same pair, wherein learners may perceive a greater sense of comfort and security when interacting with friends due to shared experiences and familiarity. In contrast, when dealing with unfamiliar ones, learners may feel anxious, leading to reduced engagement (e.g., Micari & Drane, 2011). In this vein, anxiety, as an affective engagement factor, is, indeed, closely related to learning contexts and individuals' behaviour within those contexts (Ellis, 2010; Micari & Drane, 2011). Due to this, the teacher was cautious in rearranging pairs every week, considering variations in language levels, goals, and relationships among them to minimize negative influences. However, given the differences among individuals within any learning context, one could expect some occasional situations to represent normal variations. The subjective attitudes and perceptions that learners have towards language-related tasks were considered vital in the behavioural dimension of engagement (e.g., Dao, 2021; Henry & Thorsen, 2020).

5.2.2 The Cognitive Engagement Dynamicity with the APT

In relation to the cognitive engagement with the APT, the findings indicated that participants' cognitive responses increased significantly. In this sense, the study's participants valued APT feedback for developing their L2 writing skills by identifying errors and reflecting on their weaknesses (Hiver et al., 2020). The participants also gained improvement in different aspects of writing, including brainstorming, drafting, and redrafting. These improvements were made feasible by the APT's unambiguous and strategically placed feedback, in which the feedback items provided was to a high extent non-overlapped among the three sources. Furthermore, the APT contributed significantly to students' writing knowledge by assisting them in determining which comments to include or exclude.

Moreover, the differences in current research data instruments may explain why the findings of this study differ from those of previous studies (e.g., Fahmi & Cahyono, 2021). In previous studies, participants found no need for clarification for AWE feedback, whereas in this study, some participants expressed a need for further clarification for some Grammarly feedback, as shown in the questionnaire results. To clarify, the previous study encouraged students to collaborate with their peers from the beginning when using Grammarly. This technique enabled students to address software issues cooperatively, reducing their reliance on teacher’s support (Fahmi & Cahyono, 2021). In contrast, this study encouraged students to use Grammarly independently while receiving guidance from the teacher throughout all tasks. As a result, once the students gained familiarity with using Grammarly with guidance, they displayed high levels of efficacy in completing tasks 3 and 4 with less guidance. This explains why participants initially found Grammarly difficult, resulting in a need for further explanation. As such, compared to Grammarly feedback, participants found teacher feedback is more effective and prioritized over other sources (e.g., Irwin, 2017; Saito, 1994; Xu & Zhang, 2023).

Additionally, on the intrapersonal level, the findings underlined the role of private speech in shaping the learners' cognitive engagement. In this sense, the learners exerted efforts to understand their weaknesses and grasp the reasons for them which enabled them to be actively engaged in cognitive processes with the feedback provided. For example, when Grammarly spotted passive voice sentences or some grammatical errors, learners were motivated to engage in private speech to better grasp those errors. Furthermore, the students demonstrated an awareness to their errors, despite the difficulties in exactly recognising them in the text. This difficulty triggered cognitive effort, which altered their response to the feedback. Having said that, it aligns with Vygotsky's (1978) theory of private speech, which claims that cognitive development involves a time of transition in which interpersonal interactions are not fully internalised. It also aligns with the concept of "languaging," which is often considered a successful strategy for L2 learning. Languaging is the

process of using language to convey meaning and shape knowledge and experience (Swain & Watanabe, 2013). In this vein, it involves learners engaging in L1 private speech to efficiently address complex cognitive difficulties while also facilitating L2 learning (e.g., Antón & DiCamilla, 1998; Frawley, 1997; Swain & Watanabe, 2013).

Added to that, during the APT tasks, several students used private speech, including words like 'hmm', 'ok,' 'how, 'maybe,' and 'done.' This accounted for the fact that feedback, rather than directly addressing errors, may stimulate deeper engagement through the process of deep reflection (Ellis, 2010; Ferris, 2006). That is, it not only reveals their focus on task completion while learning (Frawley & Lantolf, 1985), but it also informs that students engage in self-reflection. This is in turn empowers them to analyse their work when reading and receiving feedback on their writing, leading to the achievement of learning goals (Svalberg, 2009; Xu & Zhang, 2023).

On the interpersonal level of cognitive engagement with the APT tasks, the findings indicated that the students were able to be attentive when working together. In other words, they were highly attentive to the APT's feedback as they revised their work and interacted with other peers. These instances were displayed when they became more careful about common errors and fixing them, paying particular attention to the errors they had previously overlooked. Meanwhile, peer' reviewers, when demonstrating a critical evaluation of recipients' errors, also learn from the process of identifying receivers' weaknesses. Without a doubt, peer feedback could, over time, assist L2 writers on the interpersonal relationship level in improving their self-editing skills by highlighting common errors in terms of one's own work (Chen, 2021; Han, 2017; Hiver et al., 2024; Zhang & Hyland, 2018). In this sense, attention is crucial for controlling working memory in L2 learning environments (Philp & Duchesne, 2016) as it helps them remember frequent errors and avoid them in the future (Ellis, 2010).

Furthermore, the participants' cognitive engagement on the interpersonal level highlights its potential effectiveness in relation to the learner's ZPD concept. In this sense, interpersonal interactions with peers serve as a scaffolding tool for enhancing attention to weaknesses in L2 writing. Acquiring new ideas frequently requires assistance from knowledgeable scaffolders in a social context within one's ZPD, which refers to the range of tasks a learner may effectively complete with direction (Vygotsky, 1978). In this regard, tasks positioned within the learners' ZPD were critical for fostering cognitive engagement (Mao & Lee, 2022; Svalberg, 2009). This then represents another form of "languaging" at an interpersonal level, where both learners engage in problem-solving and knowledge-building (Swain & Watanabe, 2013). During this relationship, one or both writers may, in a scaffolded mutual support, refine their understanding or reach a new and deeper comprehension of a phenomenon (Swain & Watanabe, 2013) thru using APT feedback as a cognitive tool to mediate their thinking.

Also, different body languages conveyed the participants' attention with APT tasks. For instance, their concentration was especially obvious when they focused on the screen and avoided engaging in any side talks (Hiver et al., 2024). Therefore, evaluating cognitive engagement entails observing non-verbal cues such as body language and positioning in addition to the verbal cues (Hiver et al., 2024).

Finally, the study found that the cognitive engagement with the APT shaped the learners' knowledge development in L2 writing. In other words, the APT assisted participants in understanding the complexities of L2 writing, as they recognised it a continuous process with numerous stages, allowing them to effectively transmit their L1 ideas to L2 writing. This aligns with sociocultural theory, which asserts the interconnection between language and thought (Vygotsky, 1978). Language serves as the primary symbolic system that links individuals' thoughts, enabling students to use their L1 for cognitive processing during learning (Antón & DiCamilla, 1998). Their progression through the writing process, in turn, contributed to a deeper understanding of how APT enhances coherence and clarity in L2 writing. That is, concentrating on areas of weakness identified by APT, over time, led to a shift from just producing texts to actively creating meaning. Learners recognised that writing included brainstorming, drafting, and rewriting, with an emphasis on integrating ideas and meanings rather than just ordering words and sentences. This, in the end, suggests that their knowledge improved towards the idea that L2 writing involves recursive cognitive processes with sequential steps that are interrelated and work together, as in accordance with previous views (e.g., Flower & Hayes, 1981; Hodges, 2017).

Likewise, this newly acquired knowledge prompted them to explore and enhance their own identities through interaction with their own thoughts and personalities. Interacting with their contents helped them understand their own writing styles (Hodge, 2017). As this study merges cognitive process theory and sociocultural perspectives on learning, it views knowledge of L2 writing as the outcome of collaborative efforts and the use of various sources (Murphy, 2000; Vygotsky, 1978). Therefore, the underpinning theoretical framework claims that learners have a better knowledge of writing when they participate actively in a social context. Real-time context is necessary to view feedback as a social and cognitive phenomenon. This includes the learners, their goals, and the reasons for their choices (Ellis, 2010).

5.2.3 The Affective Engagement Dynamicity with the APT

The questionnaire findings showed that the APT approach identified potential benefits for enhancing the affective engagement in L2 writing context. That is, it highlighted its effectiveness in boosting creativity and social contact in L2 learning, emphasising the significance of social interaction among peers and teacher (Vygotsky, 1978). Although a few learners had initial doubts regarding the feedback given by APT, the majority found it to be empowering. That means, the feedback acted as a

catalyst, motivating them to assume more responsibility for their writing and to enhance their skills. Also, a significant number of the respondents expressed an increased sense of confidence in their L2 writing abilities. They attributed such improvement to the beneficial feedback they received. This is consistent with prior research that emphasises the substantial influence of feedback on learners' emotional responses (e.g., Ellis, 2010; Svalberg, 2009; Zhang & Hyland, 2022). In addition, the participants displayed a readiness to participate in this integrated feedback model, frequently perceiving it as more effective in comparison to conventional learning methods. Indeed, positive affective responses, characterized by joy and enthusiasm, demonstrate the students' active engagement (Mercer, 2019).

Moreover, based on the qualitative findings, during the early stages of the study, learners expressed difficulties with their first performance, resulting in affective disengagement. In this case, negative emotions like worry, boredom, and frustration were observed, indicating a possible lack of engagement or interest (Mercer, 2019). Such emotions frequently surfaced during learner interactions, as evidenced when a recipient politely requested that the reviewer refrain from pointing out problems in her work because she was embarrassed by small errors (See 4.3.2.3.1). These observations revealed that students were concerned about minor errors, which they thought preventable and rather embarrassing in front of their peers (Shi, 2021). Despite acknowledging the importance of peer interaction, students may get embarrassed when faced with their errors. In this context, many factors, including the nature of peer interactions (Fan & Xu, 2020), can influence their feelings. In other words, a recipient's hesitation to step outside of her comfort zone may limit her emotional engagement with the APT model, thereby influencing her behaviour and readiness to participate in the work at hand. As such, because affective and behavioural dimensions interrelate and mutually influence each other (Ellis, 2010; Tian & Zhou, 2020; Zhang & Hyland, 2022), understanding the connection between both domains is critical for developing effective language learning environments.

Furthermore, the findings revealed that learners experienced frustration and boredom at the beginning of the APT tasks due to a variety of individual and contextual factors. These factors include the number of required drafts in the APT contexts compared to their prior learning experiences, where they were accustomed to receiving feedback in groups rather than individually. As a result, learners found it difficult to manage feedback from multiple sources and redraft their works alone. Indeed, prior experiences, level of comprehension and skill in L2 writing (cognitive engagement), and unfamiliarity with non-traditional ways are all factors that can have an impact on learners' engagement (Handley et al., 2011; Zhang & Hyland, 2018, 2022).

The current study suggests a close link between affective engagement with feedback and cognitive engagement, which could negatively impact the self-efficacy of L2 learners (Bandura, 1977; Ellis,

2010; Mahfoodh, 2017; Svalberg, 2009). Having said that, as the learners' level of cognitive engagement escalated over time, so did their affective engagement. At this point, the students became more proficient with the model and developed a deeper understanding of their writing challenges; their affective engagement underwent a transformation. Consequently, the participants experienced an increase in their confidence and writing skills as they engaged in the activities (Dao, 2021; Henry & Thorsen, 2020; Svalberg, 2009; 2012). For example, the initial perception of multiple drafts as a boring task gradually evolved into an opportunity to address writing weaknesses. Having this could further improve exam preparation, reduce previous worries, and increase self-efficacy. Learners attributed initial struggles and failures to insufficient mental effort, which is a skill that they can develop (Bandura, 1977). Thus, the scaffolding construct adopted in this study has encouraged learners to invest the necessary effort for efficacy (Bandura, 1977). Higher-level writers frequently provided valuable social support, assisting students with inquiries and difficulties (Bruffee, 1984). Consequently, such a supportive and non-judgmental environment helped foster confidence and efficacy while gradually mitigating negative emotions and enhancing writing skills. In turn, it ended with an increase in positive attitudes and cognitive engagement and a decrease in anxiety (e.g., Ellis, 2010; Hashwani, 2008; Tian & Zhou, 2020; Zhang & Hyland, 2022) which typically arise from misunderstandings or a lack of specificity in the feedback provided (Shi, 2021).

By the end of the APT intervention, learners experienced a significant surge in affective engagement which bolstered their autonomy (Bandura, 1977; Little, 2007; Svalberg, 2012). They anticipated excellence in their future careers, particularly in the scientific field. They also saw themselves capable to guide their own writing performance and achieve career objectives by maintaining and improving the acquired skills, reinforcing their self-efficacy (Bandura, 1977; Svalberg, 2012). In this sense, learners who were emotionally engaged demonstrate a proactive, purposeful, and self-directed approach toward language and associated learning tasks (Svalberg, 2009). As such, the students' academic motivation is positively influenced by high self-efficacy (Pajares, 1996), and the latter in turn has a strong positive correlation with the overall language achievement (e.g., Adams et al., 2020; Cai & Xing, 2023; Celik, 2022; Hiver et al., 2024; Schunk & Mullen, 2012).

In short, in line with prior studies, it is clear that effective feedback practices can go beyond mere revisions and contribute to informing and improving future performance (e.g., Mercer, 2019; Zhang & Hyland, 2022; Zhang & Hyland, 2018), which highlights the role of feedback in facilitating a comprehensive engagement (Ellis, 2010; Zhang and Hyland, 2022). This model therefore significantly enhanced students' engagement with feedback and improved their learning experience in the context of L2 writing (e.g., Tian & Zhou, 2020) over time.

5.3 The Impact of the APT Model on L2 Writing Performance Change Over time

Based on previous discussions, engagement with the APT sources has shown a positive evolution, indicating potential enhancement in L2 writing, as demonstrated by the current research findings. In this sense, as the APT has played a constructive role in improving students' engagement, it may also impact positive changes in their writing performance over time based on the findings of their essay writing drafts and pre-and post-tests.

According to the findings of this study, they suggested that the students were able to show a decrease in the feedback items across tasks, reflecting enhanced writing skill. This decrease was noticeable only in items participants selectively integrated, as indicated by the declining uptake rate (See 4.1). This stresses not only the learners' response but also their awareness of the limitations that Grammarly holds on their L2 writing. In addition, the learners' selective acceptance can underscore the significance of employing both process-oriented and product-oriented approaches to teaching L2 writing. This approach emphasizes that students should use feedback as both a process and a product to improve their writing abilities and evaluate the efficacy of the feedback they receive (Lai, 2010). Having said that, the repeated exposure to Grammarly software enabled the learners to establish a knowledge and select appropriate linguistic elements (Ghufron & Rosyida, 2018; Huang & Renandya, 2020). This indicated that limited Grammarly feedback does not hinder progress but rather leads learners to apply it thoughtfully (Ranalli, 2018). Consequently, learners' purposeful usage of Grammarly fostered a sense of ownership over their writing, allowing them to independently assess and accept feedback and progressively supporting their confidence as writers. This finding agrees with previous studies that focused on the application of AWE (e.g., Hu, 2017; Huang & Renandya, 2020; Liao, 2016; Li et al., 2015; Ranalli, 2018; Wang et al., 2013).

However, the sole reliance on Grammarly may present challenges in assessing the overall improvement of writing in terms of both surface and meaning levels (e.g., Cavaleri & Dianati, 2016; Hu, 2017; Lai, 2010; Ranalli, 2018). That is to say, the automated writing evaluation programmes may be unable to identify meaningful writing aspects, resulting in inconsistencies and errors in the feedback they provide. Consequently, it is necessary to provide students with a variety of feedback options to encourage the improvement of a comprehensive writing skill that encompasses both content and accuracy (Lai, 2010; Hu, 2017), such as peers and teacher feedback.

Peer feedback then may have contributed to the change of the quality of L2 writing, as suggested by the decrease in the number of feedback items addressing both surface and meaning levels aspects. When they were providing feedback, peers appeared to provide it based on their level of expertise, with a particular emphasis on surface aspects. This prioritisation is in accordance with prior research

that indicates that peers, rather than teachers, prioritise surface-level aspects such as grammar and mechanics (e.g., Fan & Xu, 2020; Hanjani & Li, 2014; Wang, 2014) which may be due to L2 learners' limited exposure to academic feedback processes. However, the combination of peer feedback, AWE, and teacher feedback was most effective as it encouraged addressing more meaning-level aspects. This combination not only has the potential to enhance progress in L2 writing in both areas but also strengthened teacher and peer feedback simultaneously. That is, such combination plays a crucial role in connecting independent teacher feedback and independent peer feedback which acknowledges the importance of peer feedback in the feedback process (Fan & Xu, 2020; Wang, 2014), as it demonstrates the shared responsibility between language teachers and learners in improving learning outcomes (Jacobs et al., 1998; Yang et al., 2006). Therefore, relying solely on peer feedback alone to evaluate writing skills may become problematic. Teacher presence is still significant in the L2 writing and feedback process, as validated by previous researchers in this field (e.g., Ghani & Asgher, 2012; Kusumaningrum et al., 2019; Yang et al., 2006).

This current study found that teacher feedback plays a crucial role in reducing errors in L2 writing. The decreasing number of feedback items related to surface-level and meaning-level aspects, along with the diminishing rate of feedback uptake over time, demonstrate this. In other words, the teacher's focus shifted significantly, from surface feedback focus in tasks 1 and 2 to sufficient focus on meaning feedback focus in later tasks. In this context, the teacher consciously directed efforts to alert learners to areas where Grammarly and peers might overlook from the beginning of the intervention. By adopting a sociocultural perspective, this research saw L2 writing not only as a cognitive process, but also as a socially embedded activity, influenced by their interactions with scaffolders, including the teacher. Doing so equipped the learners with the means to navigate challenges encountered during L2 tasks (Kramsch, 2000; Pittard, 1999). Through this view, the teacher attempted to enhance the participants' cognitive abilities and awareness to effectively use and manage Grammarly and peer feedback with cautious by highlighting limitations.

However, relying solely on teacher feedback may not be advisable and could potentially affect the quality of her feedback. This is because relying solely on it may prioritize surface aspects over the text's meaning (Amrhein & Nassaji, 2010). Furthermore, it can lead to a decline in quality and efficacy because teachers may struggle to adequately address every aspect of L2 writing essays (Knoblauch & Brannin, 1981). Rather, teachers should give primary importance to providing feedback on the writing style and ideas, as long as these aspects can be challenging for other sources to recognise and improve upon (Diab, 2005; Ferris, 1997; Patchan et al., 2016). This approach ensures that learners actively participate in the writing process and understand their content and ideas. Besides, it protects them against blindly accepting feedback from teachers, which could have led to the production of artificial work devoid of reflection or meaning (Kepner, 1991).

To conclude, within the integrational model, which includes three sources of feedback, the students experienced a decrease in the number of errors in both the surface and meaning levels aspects of their L2 writing. Interestingly, the findings also suggested improvements to their L2 writing fluency. In this sense, they indicated that the students demonstrated the ability to generate longer essays with a reduced number of errors. That is to say, teacher's ability to provide important feedback on meaning-level aspects over time helped assist this improvement wherein the students could pay attention to the flow of their ideas and meanings. As a result, they developed into more fluent writers with enhanced clarity and quality. According to earlier studies (Marzban and Arabahmadi, 2013), providing feedback that takes into account students' needs on their work may improve the language and content of the text, as well as the fluency aspects (e.g., Tian & Zhou, 2020; Zhang & Hyland, 2022).

Chapter 6 The Conclusion

This research study investigated the use of three sources of feedback - automated, peers, and teacher - and how they can impact L2 learners' engagement and writing performance over time. To explain and explore these phenomena, this study followed a quasi-experimental design with a mixed-methods approach. The study was conducted at a Saudi Arabian university, with only one group involved and no control group needed. To fulfil its results, this research set three aims that correspond to its three questions. First, it examined the collaboration among the automated, peer, and teacher feedback sources, exploring the role of each source and whether the feedback items given by each source overlap or complement each other. Second, it analysed how the use of the feedback sources impacts the students' L2 writing performance over time. Third, it investigated the students' cognitive, behavioural, and affective engagement with the model, and identified the individual and contextual factors that influenced it.

Therefore, as the first research question of this study was to investigate the impact of the APT on reducing weaknesses in students' written work, a quantitative analysis to the students' writing drafts followed by an analysis to the pre- and post-tests were performed. So, changes in the students' performance at the surface and meaning levels were observed during three steps of Grammarly, peer, and teacher feedback. These changes were then compared throughout the four tasks of the writing process, and then integrated with the results of the pre- and post-tests. Doing so, the findings presented the students' uptake counts for the feedback items offered to them to determine whether their writing weaknesses gradually decreased or increased.

Also, as the second question investigated the nature of the APT sources' work, it explored the role of each source, the specific feedback provided by each source, whether it pertained to surface-level or meaning-level aspects, and whether the feedback given by each source complemented or duplicated the other over time. To accomplish this, a quantitative approach was used to analyse the students' writing drafts, employing the same procedures as in the previous question. Following that, a qualitative approach was followed to analyse the students' perceptions and opinions about the roles of each source through FGs and RJs instruments. Finally, the quantitative and qualitative data findings were combined and integrated to enhance the understanding of the collaboration work of APT in the L2 writing context.

Finally, the final research question of this study explored how students were engaged cognitively, behaviourally, and affectively throughout the APT process, both inside and outside the classroom. The investigation also aimed to understand the individual and contextual factors that influenced their level of engagement with the model. To do this, a combination of qualitative and quantitative

approaches was used. First, FGs, RJs, and observation instruments were employed and analysed, followed by an analysis to post-study engagement questionnaire instrument to support the qualitative results and address any related issues that may arise. The data findings were then integrated to complement the one obtained from a single source.

6.1 Summary of Key Findings

The findings and implications of this research study have the potential to significantly impact teaching practices and future research. As a result, they provide valuable information for both teachers and researchers. That is considering that these implications can greatly benefit research in language learning, L2 writing, and writing feedback fields.

To begin with, the findings of the first research question demonstrated that the use of Grammarly, peer feedback, and teacher feedback significantly reduced the number of errors in L2 writing. This was evident as the learners were able to address various types of errors through the different steps of the model. Importantly, the findings not only validated the feedback received from these sources, but also highlighted the reliability of the feedback items provided to the students. As such, it is important to note that the feedback items reduction over time did not exist in isolation, but were a result of the students' active engagement, awareness, and selection of items that were relevant to their writing context and intentions. This was presented through their varied uptake rates over time. Additionally, by employing the triangulation technique in this study, the results did not only demonstrate a reduction in errors in L2 writing performance within each step and across the four tasks, but before and after the semester as well. In this sense, going through different steps of feedback from various sources covering different areas of writing within a recursive L2 writing stages of planning, drafting, and redrafting showed that the students were gradually able to identify and tackle their writing weaknesses. Surprisingly, by the end of the semester, they were able to produce longer essays with fewer errors/weaknesses. I suppose that without the assistance in guided and scaffolded learning environments, including the mediation of various feedback modes, such cognitive growth might not have been possible.

In addition, the findings of the second research question showed that the three sources could work together harmoniously in the L2 writing context. This is supported by the idea that not only the outcomes of the feedback approach matter, but also the practice and nature of the feedback itself (Grabe & Kaplan, 1996; Zamel, 1983). Grammarly, as expected, helped address surface-level aspects which were instantly dealt with, such as punctuation, grammar, spelling, synonyms, and sentence structure. Similarly, features such as a user-friendly and language polishing assistant with fast and easy access to feedback were believed to be unique at the AWE tool. However, as several perspectives suggest, AWE alone cannot be relied upon in L2 writing classes (Hu, 2017; Huang &

Renandya, 2020; Lai, 2010; Li et al., 2015; Wang et al., 2013). The current research findings support this notion and emphasize the need for human feedback during the writing process because AWE may have inaccuracies and overlook the writer's meaning and intention.

Therefore, peer feedback was found to be very helpful in this research to complement Grammarly and teacher in decreasing the errors of L2 writing by providing diverse feedback. It was particularly effective in addressing the limitations of Grammarly by tackling more meaning-level aspects. Although the relationship between learners, their cultural beliefs, and variations in language proficiency influenced its usefulness, peer feedback was unique in creating an interactive and empowering environment. It allowed receivers to both be advised and taught, enhancing their attention to details, and contributing to their cognitive development as writers and reviewers. Added to that, peer feedback worked uniquely because the learners came from diverse qualities of education and experiences. In this sense, it fostered mutual inspiration through collaborative thinking, whether for generating ideas, adding, deleting, or refining existing ones during the feedback and writing processes. However, this study highlights the cautious perspective/challenges of relying solely on peer feedback (Ghani & Asgher, 2012; Miao & Zhen, 2006), which points out its limitations and emphasizes the need for the teacher feedback existence (See 4.2.2.1).

Thus, the findings emphasized that teacher feedback is better to be given in the final stage, after AWE and peer feedback, to be able to shift the focus from surface-level to meaning-level aspects. In this regard, teacher feedback was proven to be more valuable and of higher quality in meeting the learners' needs to reduce the weaknesses in the coherence and cohesion of their writing, which could not be addressed by other sources. As I have argued in this research, relying solely on teacher feedback could not be sufficient to achieve that, as the findings demonstrate that it places a heavy burden on the teacher to correct multiple aspects of writing at the beginning of the intervention. For example, as the teacher, I provided intensive feedback on both surface-level and meaning-level aspects to the learners at the beginning. This was due to the limitations of Grammarly, which the learners had not yet recognized, and the inadequate feedback from peers who were still unfamiliar with the model. These factors in turn prevented the teacher from fully providing unique feedback on content from the start (See 4.2.3.1.3). However, over time, these challenges were gradually overcome as the feedback items decreased, the students gained a better understanding of their own weaknesses, more awareness and selectivity in their use of AWE feedback, and the peers became more familiar and skilled in providing feedback.

The findings of the last research question indicated that the APT has influenced the learners' behavioural engagement in various ways. Firstly, it facilitated their communication with peers and teacher in order to understand and inquire about the feedback they received. Additionally, the APT influenced and facilitated their behavioural engagement through the frequent use of Grammarly for

revisions. This was not limited to post-Grammarly revisions, but also included revisions post feedback from peers and teacher, even when the teacher did not explicitly instruct them to do so. In doing so, they reflected an engagement with the process as they thought autonomously to ensure the quality of their revisions and to comprehend vague feedback from peers or teacher. Furthermore, their commitment to attending classes and submitting tasks indicated their behavioural engagement with the APT. The motivation factor may have affected both committed and non-committed students. While the former may have seen this intervention as an opportunity to learn and improve, the latter may have been influenced by responsibilities and commitments to other modules, resulting in a lack of motivation to continue attending the remaining APT tasks.

In addition, the uptake of the feedback items had a role in shaping the learners' behavioural engagement. They were driven by their awareness to be selective and make their own decisions about what to accept and reject from APT over time. Furthermore, the APT mediated an interactive and scaffolding environment for the learners wherein they welcomed questions and answers from each other. However, the learners' engagement is not always uninterrupted. It was distracted by various factors during their learning journey. These factors might have been related to the goals of learning. While some embraced the opportunity to learn social skills by working with different peer groups each week, others did not unless they worked with peers of the same/higher ZPD levels (Vygotsky, 1978). Additionally, their relationship with the group they were familiar with, or their "comfort zone," influenced their engagement with the model. Therefore, because these influential factors only represent a few cases and do not necessarily occur with all learners, we cannot always expect all learners to be engaged with the APT, especially when there are varied learners in one class. Instead, understanding the challenges and needs of learners in similar contexts to this study is key to facilitating a more effective application of the model.

This research also investigated the learners' cognitive engagement with APT. In this context, the findings indicated that the three sources have first facilitated learners' private speech/self-talk in their L1 which allowed them to process and think deeply and critically about the feedback they received. In this sense, APT feedback has shaped their mental efforts, either to internalize their writing weaknesses or to identify the errors. Moreover, attention was another aspect of this engagement, as learners demonstrated an attentive state in recognizing common mistakes. As a result, they were able to retain those mistakes in their working memory while revising their texts (Ellis, 2010). By doing so, APT facilitated paying attention not only to accidentally missed mistakes but also to mistakes those learners had not recognized earlier. That is plus the relationship between learners during feedback processes made peers aware of mistakes they may have missed when they found them in others' work, and vice versa. The findings also confirmed that the APT model mediated students' knowledge building through their cognitive engagement. In this vein, having students go through multiple steps of drafting and redrafting to enhance their writing has expanded their

understanding of what writing in English truly entails. That is, the process approach to writing enabled the teacher to shift the focus from teaching activities to learning activities. Over time, the learners learned that writing is a recursive process of planning, writing, and reviewing, rather than simply stringing words together – a concept that they were unfamiliar with in their previous semester (See 4.3.2.2.3). This understanding also extended to enhancing their writing styles, as learners became more aware of their own unique ideas and ways of expressing themselves in L2 essays. This way, the integration of varied sources mediated their cognitive engagement, providing an opportunity not only to use APT feedback blindly but also to facilitate critical thinking, attention, and knowledge construct.

Due to the overlapping and interrelation of the engagement dimensions, it has been found that cognitive engagement drives affective engagement, and in turn, affective engagement drives behavioural engagement (Ellis, 2010; Svalberg, 2009). In other words, as the learners' cognitive engagement improved, their affective engagement also improved, transitioning from negative emotions to positive emotions over time. To elaborate, the learners' previous unsatisfactory experience with L2 writing in the previous semester resulted in their limited knowledge about L2 writing, negatively influenced their initial affective engagement with the APT. This contextual factor, combined with the overlapping nature of dimensions in their early-stage performance, induced anxiety and diminished their confidence and interactions with the model. Their previous semester experience also heightened their concerns and boredom regarding the number of drafts required by the APT in the class, as they lacked language proficiency and a familiar approach to L2 writing. This highlights how a lack of cognitive interaction contributes to a lack of enjoyment during the initial tasks. That is to say that any harmful emotions that emerge during teaching can be modified involving understanding and acknowledging those emotions. In this case, more supportive and facilitating approach by the teacher, as well as encouraging more collaborative discussion among learners in the class are essential because challenging these difficulties in learning situations, even on a moderate scale, could attempt to improve learners' performance and confidence.

Indeed, as the intervention progressed, the learners' cognitive engagement improved, and the influencing factors decreased. Consequently, they became more satisfied with their L2 writing tasks and their confidence in their L2 writing ability grew. The regular practice and inclusive feedback helped them overcome their limited understanding of writing weaknesses and better prepare for their exams. By revisiting their drafts in class, they were able to identify and address their writing weaknesses, which gave them reassurance and helped them avoid them later. In addition, the learners described the APT as a "rewarding" experience that made L2 writing experience different for them. This increased confidence in their abilities and autonomous skills as the APT tasks came to an end. They expressed that they now believed they could take charge of their own writing progress in the future. This belief was not only due to the abilities they gained in L2 writing, but also because of

the confidence they gained in themselves through the APT. In doing so, the motivation may be the cause that led them to continue practicing the skills acquired from APT classes and set future goals to become researchers in their field, making them self-efficient to independently achieve this goal.

In general, the improvement in the learners' L2 writing and their engagement with it did not occur in isolation, nor it is solely the result of teaching. However, this process is facilitated by understanding how we learn to write in English, the social influences in the classroom, and incorporating an integrated approach to teach and feedback L2 writing, where the learners themselves are actively involved in the process and shared responsibilities with the teacher.

6.2 The Contributions of the Study

As discussed in Chapter 2, there were some previous studies that have examined the effectiveness of the APT model and have provided valuable information and insightful evidence (See 2.5). However, this study is original in its contribution as it is, to my knowledge, the first of its kind to investigate and explain the impact of the APT on the changes of both learners' engagement and L2 writing over time. Since the use of three sources of feedback to enhance the learning experience in L2 writing classrooms is still a relatively unexplored area, this research fills gaps in literature and makes several contributions based on its aims and findings.

First, in studies conducted by Shi (2021), Tian and Zhou (2020), Xu and Zhang (2023), and Zhang and Hyland (2022), a naturalistic case study approach was employed. However, this study is unique in applying the APT using a mixed-methods approach. It involves collecting data from both individual participants and the group as a whole within the scope of APT research. Furthermore, while the previous studies focused on Chinese participants at the university level, this study contributes to the understanding of how APT works in a completely new context. In other words, the participants in this study were Saudi adult female students in their preparatory year at the university level who were unfamiliar with the APT practice in L2 writing classrooms.

Furthermore, Xu and Zhang (2023) and Zhang and Hyland (2022) chose to implement the APT sources by staggering each one across different weeks, rather than integrating them into a single session. In contrast, this study deviates from that approach, taking inspiration from Shi (2021), and Tian and Zhou (2020) who emphasized the importance of incorporating the feedback process steps within a single session. As a result, the current research applied the model within each task encompassing three steps of feedback revisions per week - AWE, peer, and teacher - as a theoretical means of understanding how and why APT worked and changed students' English writing proficiency.

In terms of examining the engagement with the APT, previous studies have mainly focused on the students’ engagement with each source separately, rather than considering the impact of the

integrated APT process as a whole in one sitting (Shi, 2021; Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022). Doing so would not provide a complete understanding of the joint work/integration value of the three sources on engagement and subsequent writing performance. Thus, this study significantly contributes by delving deeper into each dimension of engagement as a separate entity with the APT as an integrated approach through classroom observation, RJs, and FGs at different stages, pre-post-tests, students' essay writing drafts, and post-study questionnaire. This comprehensive approach allows for the detection of how AWE, peer, and teacher feedback collectively facilitate cognitive, behavioural, and affective engagement in the L2 writing context.

Moreover, previous studies (Shi, 2021; Tian & Zhou, 2020; Zhang & Hyland, 2022) have conducted their research within online writing contexts, positioning the researchers as external observers detached from the authentic social and teaching environments. In this sense, the absence of researchers within the contexts introduces a lack of direct presence, which may obscure a comprehensive understanding of the phenomenon. The observation tool provided a means to capture nuanced reflective aspects especially in behaviour and cognitive engagement that might otherwise go unnoticed in the natural teaching environment (Han & Xu, 2021). That is to say, researchers could have better positioned themselves within the environments and offered first-hand observations and reflections. As a result, this study extended the theoretical understanding of the APT application through the roles of both researcher and teacher involved in face-to-face class. In turn, it provided deeper insights into the real impact of the model on the students' engagement.

Also, in the four mentioned studies, the design of the peer feedback activity primarily involved peers giving comprehensive feedback on the work of recipients. This feedback focused on the strengths and weaknesses of reflective writing forms, which mainly helped enhance the knowledge of recipients as "social agents" benefiting from peer feedback. This approach was suitable for learners beyond their second year, majoring in Academic English (e.g., Tian & Zhou, 2020; Zhang & Hyland, 2022), or postgraduate researchers (e.g., Xu & Zhang, 2023) who had previous experience with academic writing. However, this study differed in two important aspects. Firstly, both surface-level and meaning-level criteria were given equal importance in the research methodology, rather than providing general feedback. As the students in this study were unfamiliar with peer feedback, they were guided and encouraged to provide feedback using the adapted checklists (Jahin, 2012; Min, 2005) through engaging in oral L1 discussions to enhance their understanding of writing weaknesses. Secondly, the participant demographics were different, focusing on multilevel writers encountering Academic English writing for the first time in their preparatory year, which is mandatory for academic progression. Exploring how peer feedback influenced both the reviewers and recipients within the APT model offered a new window in this research to understand the collaborative dynamics, which benefits both the recipients and reviewers by identifying overlooked flaws or challenges (Xu & Zhang, 2023).

As it offered new window to the strengths of peer feedback on both the recipients and reviewers, it also informed the challenges of peer feedback in this context. Therefore, among the studies examined the APT (Tian & Zhou, 2020; Xu & Zhang, 2023; Zhang & Hyland, 2022), this study is valuable as it shed light on the dual nature of each source of feedback, including peer feedback within the APT, recognizing both its empowering potential and its inherent challenges. This area has been previously underexplored, primarily due to the use of online platforms for conducting peer feedback step (Shi, 2021; Tian & Zhou, 2020; Zhang & Hyland, 2022). In turn, it could encourage further investigation in similar contexts and participants.

Furthermore, while Shi (2021) and Tian and Zhou (2020) provided insightful evidence through their analysis of the students' essays drafts, this analysis was limited to the learners' decision-making during text revision and the rationale behind these decisions. However, in response to Tian and Zhou's (2020) call, further research is needed to investigate the changes in writing performance. Thus, the current study provided insights on the nature of the APT and its impact on writing performance over time, particularly in terms of surface and meaning aspects. In other words, this study stood out by prioritizing the use of students' essays drafts as a source, in addition to other data sources, for three main purposes: analysing changes in writing performance over time, evaluating the role of each feedback source in provision, and examining students' uptake of the feedback offered (See 3.5.1). Consequently, this study addressed key theoretical gaps: understanding how these sources improved L2 writing, how they worked collaboratively together, and how they raised the students' engagement.

Having said that, I could have chosen a different approach to this research, following the approaches of Shi (2021), Tian and Zhou (2020), and Zhang and Hyland (2022). They propose that APT can be investigated through case studies with a small number of individuals. However, if I had followed the case-study approach, I would have been able to investigate the students' engagement without considering what goes beyond their engagement. Rather, my aim was to investigate the phenomenon from a broader perspective and in a different way. That is, I aimed to examine the students' engagement and the outcomes of the students' L2 writing before, during, and after implementing the model. I also sought to understand the feedback approach itself in terms of how APT worked harmoniously or overlapped with each other. These are all essential areas that have not yet been explored.

Further, the different contexts and participants in Saudi Arabian settings are still relatively new to such practices, particularly that the participants tend to be novice writers since L2 writing is not commonly established from their early school years. Hence, the intervention in this context is very rich for research and speaks to a growing body that seeks the impact of this new model on those who are still developing as writers, unfamiliar with the teacher as only a part of the journey, and

unfamiliar with themselves as active members in L2 writing. These specific ideas are new, as learners in L2 writing classrooms used to be passive, with the teacher holding the main authority.

6.3 Limitations and Recommendations

Although this research study provided a comprehensive analysis and discussion of the APT's impact on learners' engagement and L2 writing performance, there were certain limitations that arose due to the originality of the topic being examined, the complexity and diversity of the research aims and components, and the time allocated for the study at the site. Therefore, methodological and pedagogical limitations are discussed in this part alongside recommendations for future research.

6.3.1 Methodological Limitations and Recommendations

While this study successfully conducted a comprehensive investigation of dynamic engagement in the L2 writing classroom through observation, the teacher's role of teaching and observing may have influenced specific details as the observants' reactions could not be captured via video recordings. This arose due to the common limited educational regulations on the privacy of female Saudi students that prohibit filming. Therefore, I would recommend future APT research to investigate L2 Saudi male students' context as it would allow researchers greater flexibility to film participants during class time and closely analyse learners' detailed reactions to APT. Hence, it could inform more details of the potential impact of the APT approach on L2 male students' engagement in an authentic educational setting.

Furthermore, the questionnaire data in this study only represented the experiences of 33 participants, which may limit its applicability to the entire population. Hence, there is a space for further studies to adopt other methodological instruments that fit larger context of learners, like multiple L2 classrooms, to measure learners' engagement with APT. Furthermore, by utilizing prior- and post-study questionnaires to gather perceptions and beliefs about the APT in L2 writing, we can gain a further comprehensive understanding of its impact on engagement.

Moreover, the current study's design precluded the inclusion of a control group, as it did not align with the research aims and questions. However, the current study was unable to establish a definitive impact of the APT on the L2 writing performance of the students, as there was no comparison between the control and experimental groups. As a result, if this study were to be carried out again, the APT intervention would be applied to two classes where one of the classes as an experimental group, with the other as a control group. This approach would enhance the claims made from the quantitative findings. I then recommend that future studies incorporate this

comparison when using the proposed model, as it would enable researchers to make definitive claims about the impact of the APT on students' L2 writing performance.

In addition, this research's limited sample size resulted in the inclusion of only 33 participants, potentially affecting the generalizability of the findings in broader contexts. Therefore, I advise future APT studies to better include a wider capacity of L2 students, whether in multiple classes or more, so that quantitative data can widely examine the effect of the APT in a more generalizable way.

6.3.2 Pedagogical Limitations and Recommendations

Variations in language levels and learning goals, the learners' relationships to each other, negative beliefs about peers, and past learning experiences can all be influencing factors to the APT application and its maximum usefulness. Therefore, potential research can consider minimising the effect of those factors by extending the duration of training sessions on how to use Grammarly and how to provide peer feedback. This approach could enhance the model's effectiveness and gradually lessen the influence of various factors.

Furthermore, the 11 learners represented in this study allowed me to shed light on areas and insights that applicable to teachers in various contexts which a large-scale survey might not capture; however, if all 33 participants in this study had shown a dedication to participating and submitting the APT tasks, this could have yielded a larger sample size and a more comprehensive understanding of the APT impact. As such, extending the duration of future APT studies to investigate this aspect over two semesters or more can be considered. By extending the period, students would have a better opportunity to complete a greater number of tasks so researchers can track the progress of as many learners as possible in writing performance over time without the added pressure of concurrent responsibilities. Otherwise, such responsibilities in a shorter period of time with the APT tasks could hinder learners’ motivation and the full submission of their tasks.

Based on my experience as a teacher and researcher in this project, I would also advise L2 writing teachers who are not researchers in a similar context to focus on improving their skills in using this model. This may help them overcome potential contextual and individual constraints. As a teacher/researcher, I had a good theoretical background in L2 writing and was knowledgeable about teaching approaches. This differed from non-researchers who may overlook important aspects such as learners' needs, differences in languages, goals, and emotions as these aspects can cause challenges during the APT applications. Neglecting them could make the model unachievable or lead to unsatisfactory outcomes. Therefore, I suggest that decision-makers or head directors organize professional training sessions to inform L2 writing teachers about critical learning issues and their expected roles and responsibilities before implementing unfamiliar approaches to L2 writing.

Not only are professional development trainings essential, but teachers' communities are also crucial for facilitating effective learning. This can be achieved through workshops or by exchanging learning theories and pedagogical development ideas in the field among teachers themselves. These communities can focus on teaching writing skills effectively and utilizing different sources, enabling teachers to maximize the value of their feedback. Most importantly, teachers need to notify each other that the learners themselves should be considered as part of the L2 writing process. Additionally, teachers at all levels should be made aware of the importance of raising students' awareness towards writing as a process and improvement opportunity. By doing so, students need to be encouraged to plan, draft, and redraft in a social context in order to learn and improve, rather than solely focusing on submitting their work for grading purposes. This can challenge the notion that L2 writing should be treated as a final product from the very beginning. Considering the variations in language levels, styles, and needs among learners in the classroom, teachers may need to provide more support and scaffolding to those of lower achieving level to provide them a higher chance to engage. It is also crucial for teachers to consider this variation to facilitate pair-work activities that can be beneficial for both parties instead of being harmful to either one.

Informed by the findings of this research, it is also crucial to prioritize learner engagement more than teaching itself to achieve desired outcomes. That is why we cannot separate the two concepts (engagement and writing outcomes) when investigating feedback effect, as one concept reflects the other. If we only focused on engagement and disregard what goes beyond that, we would not have a comprehensive understanding of the phenomenon. It instead would help us understand how engagement occurs and why it leads to specific outcomes. Having said that, teachers should observe the students' engagement not only on the external level, but also internally, proactively, critically, and collaboratively, reflecting their engagement behaviourally, cognitively, and affectively as individual entities.

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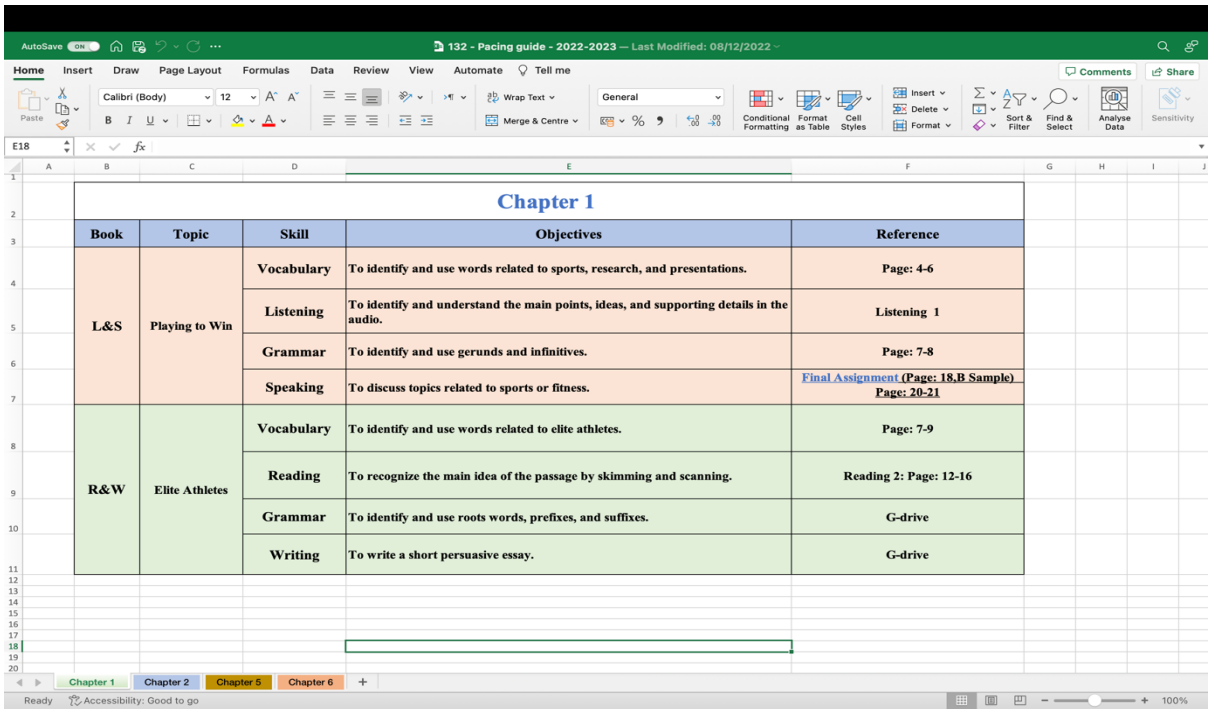
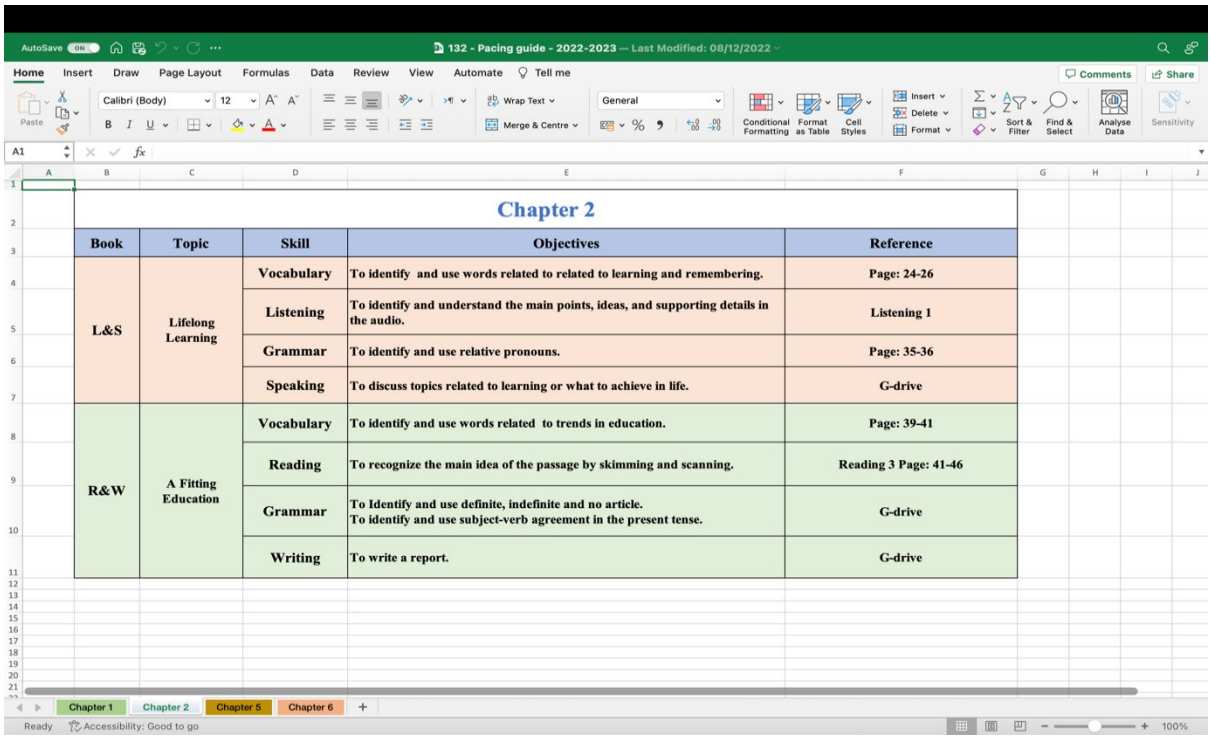
The Appendices

Appendix A The Weekly Plan for Teaching Academic English at ELI-PNU



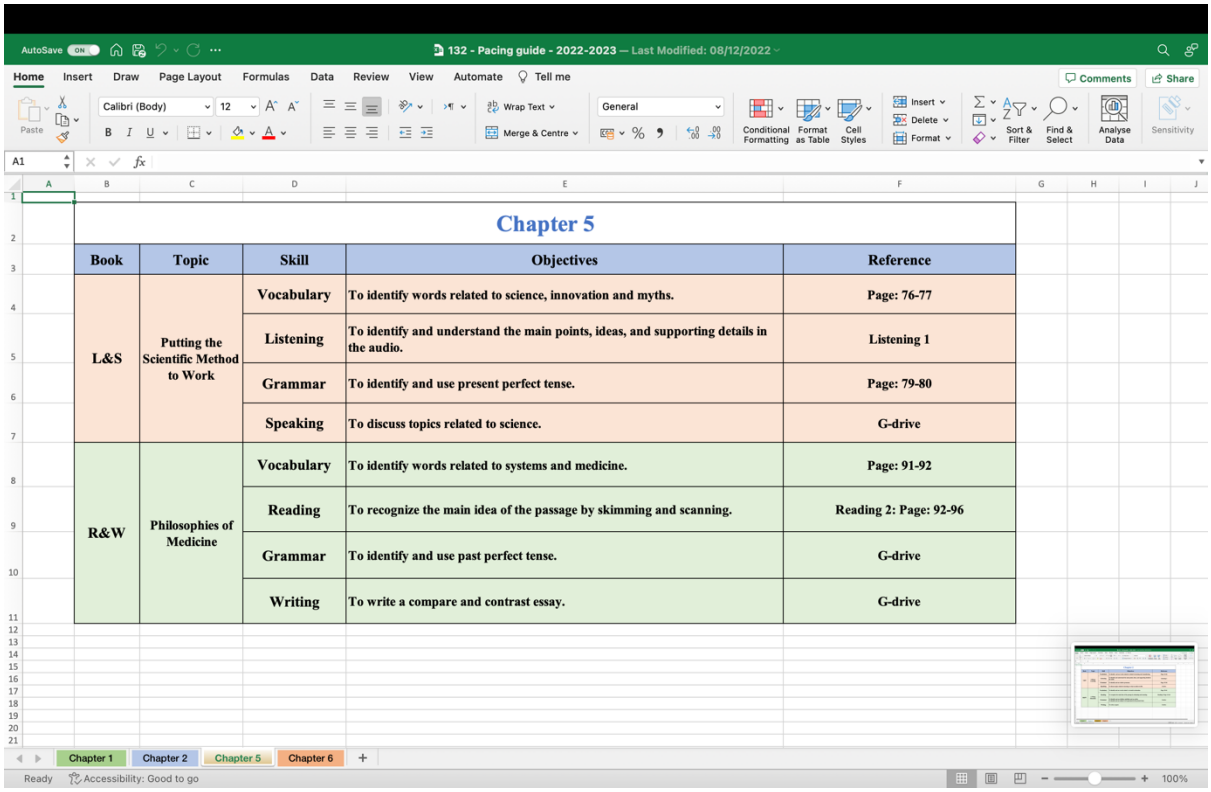
Chapter 1

Book	Topic	Skill	Objectives	Reference
L&S	Playing to Win	Vocabulary	To identify and use words related to sports, research, and presentations.	Page: 4-6
		Listening	To identify and understand the main points, ideas, and supporting details in the audio.	Listening 1
		Grammar	To identify and use gerunds and infinitives.	Page: 7-8
		Speaking	To discuss topics related to sports or fitness.	Final Assignment (Page: 18,B Sample) Page: 20-21
R&W	Elite Athletes	Vocabulary	To identify and use words related to elite athletes.	Page: 7-9
		Reading	To recognize the main idea of the passage by skimming and scanning.	Reading 2: Page: 12-16
		Grammar	To identify and use roots words, prefixes, and suffixes.	G-drive
		Writing	To write a short persuasive essay.	G-drive



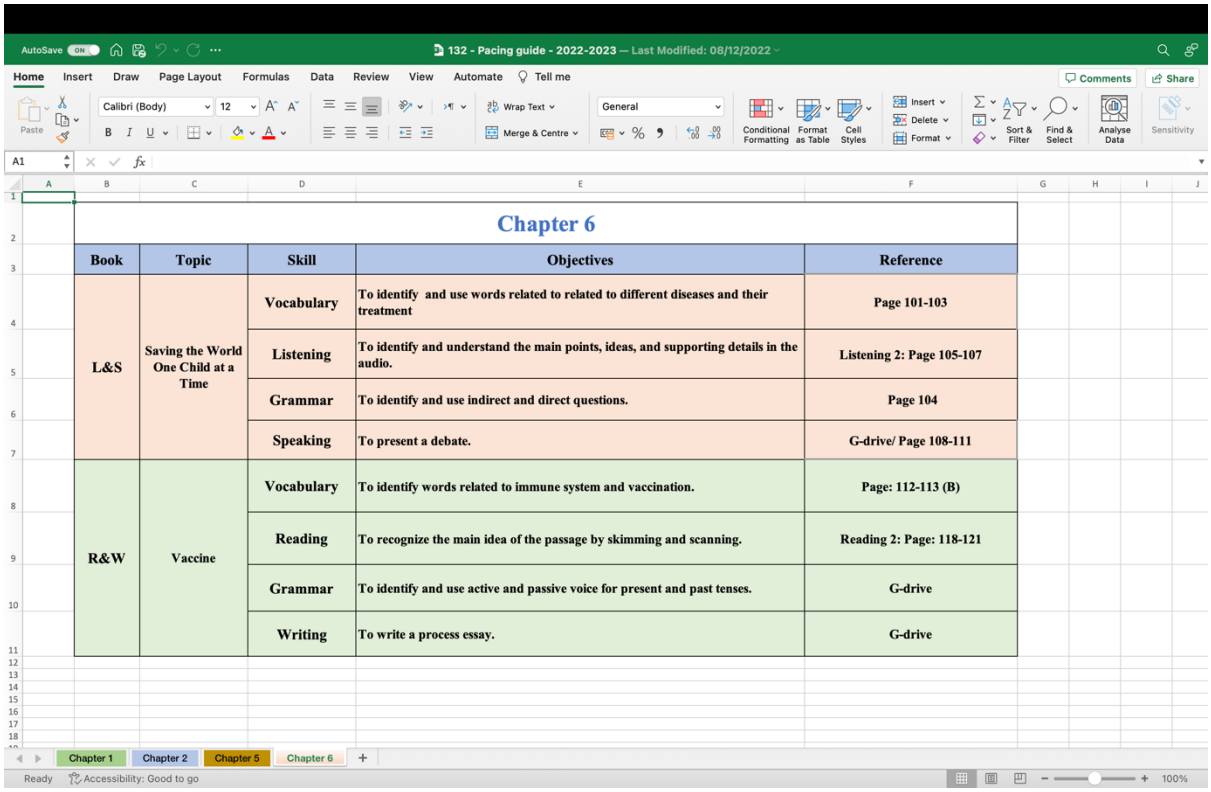
Chapter 2

Book	Topic	Skill	Objectives	Reference
L&S	Lifelong Learning	Vocabulary	To identify and use words related to related to learning and remembering.	Page: 24-26
		Listening	To identify and understand the main points, ideas, and supporting details in the audio.	Listening 1
		Grammar	To identify and use relative pronouns.	Page: 35-36
		Speaking	To discuss topics related to learning or what to achieve in life.	G-drive
R&W	A Fitting Education	Vocabulary	To identify and use words related to trends in education.	Page: 39-41
		Reading	To recognize the main idea of the passage by skimming and scanning.	Reading 3 Page: 41-46
		Grammar	To Identify and use definite, indefinite and no article. To identify and use subject-verb agreement in the present tense.	G-drive
		Writing	To write a report.	G-drive



Chapter 5

Book	Topic	Skill	Objectives	Reference
L&S	Putting the Scientific Method to Work	Vocabulary	To identify words related to science, innovation and myths.	Page: 76-77
		Listening	To identify and understand the main points, ideas, and supporting details in the audio.	Listening 1
		Grammar	To identify and use present perfect tense.	Page: 79-80
		Speaking	To discuss topics related to science.	G-drive
R&W	Philosophies of Medicine	Vocabulary	To identify words related to systems and medicine.	Page: 91-92
		Reading	To recognize the main idea of the passage by skimming and scanning.	Reading 2: Page: 92-96
		Grammar	To identify and use past perfect tense.	G-drive
		Writing	To write a compare and contrast essay.	G-drive



Chapter 6

Book	Topic	Skill	Objectives	Reference
L&S	Saving the World One Child at a Time	Vocabulary	To identify and use words related to related to different diseases and their treatment	Page 101-103
		Listening	To identify and understand the main points, ideas, and supporting details in the audio.	Listening 2: Page 105-107
		Grammar	To identify and use indirect and direct questions.	Page 104
		Speaking	To present a debate.	G-drive/ Page 108-111
R&W	Vaccine	Vocabulary	To identify words related to immune system and vaccination.	Page: 112-113 (B)
		Reading	To recognize the main idea of the passage by skimming and scanning.	Reading 2: Page: 118-121
		Grammar	To identify and use active and passive voice for present and past tenses.	G-drive
		Writing	To write a process essay.	G-drive

Appendix B A Snapshot of The Class Capacity at ELI/PNU

Appendix C The Inspired Peers' Training Sheets

C.1 The Form Developed by Min (2005)

1. Read the first sentence. What is the topic? What is the controlling idea? Circle them. Is the topic sentence a statement of opinion, intent, a combination of both, or just simple fact? If it is a statement of fact, help the writer rewrite it so that it becomes a real topic sentence (i.e., a statement of opinion, intent, or a combination of both).
2. After reading the topic sentence, what do you expect to read in the following sentences?
3. Now read the following two or three sentences. Did the writer write according to your expectation(s)? If not, what did the writer write instead? Do you think that writer was sidetracked? Go back to the bridge (second sentence). Did the author choose a word that is not the controlling idea to develop? Did the author talk about an idea more general than or in contrast to the controlling idea? If none of these applies, reread the topic sentence to make sure that you understand the writer's intention.
4. Read the examples. How many examples are there? Are they well balanced (in terms of sentence length and depth of discussion)? Are they relevant to the controlling idea in the topic sentence? If not, explain to the writer why they are irrelevant. Also work with the writer to think of more things to talk about if the examples are too general or to delete some of the redundant sentences.
5. Read the last few sentences in the paragraph. Is there a restatement at the end of the paragraph? If not, work with the writer on a concluding sentence.
6. What did you learn from reading this paragraph, either in language use or content? Is there anything nice you want to say about this paragraph? Are there any grammatical errors or inappropriate word usage?

C.2 The Form Developed by Jahin (2012)

Appendix 3: Peer-Review Form Used by Experimental Group Participants in Peer Reviewing Sessions

Remember that the purpose of a peer review is to provide your classmate with honest but helpful reactions and responses as the reader of this essay. Read the essay tonight and answer these questions as completely as possible. Tomorrow you will discuss the ideas in this essay with your partner. Be sure to discuss specific ways in which the essay can be improved. Everyone will have a chance to revise this essay from their partner's suggestions. Remember, you are reading and discussing how well the IDEAS are presented in this essay. DO NOT spend time talking about the GRAMMAR!

1. What do you like the best about the ideas in this essay? Be specific. (precise vocabulary, cohesive/linked ideas, clear/easy to follow, convincing, effective reasoning, well-developed ideas, attention-grabbing introduction, strong conclusion, intriguing style, well-supported topic sentences, understandable transitions, etc.)
2. Underline the writer's position statement of opinion. Discuss with your partner whether this is accurate.
3. How many reasons and supporting proof are provided? Do all of these reasons logically support the writer's opinion? Explain. How well do these reasons persuade you that the author's opinion is the correct one?
4. Are there any ideas in the essay that are not clear or that you find confusing?
5. Write a 'C' next to these and discuss them tomorrow with the writer.
6. Are there any ideas in the essay that need further development? About which parts of the essay would you like more information? Write a 'D' next to these areas and discuss them with your partner tomorrow.
7. How effective is the conclusion? Does it satisfy you as a reader?
8. Write down three specific suggestions you have for how the reader could most improve this essay.
9. When you are finished with these points, ask the writer what areas of this essay he or she would like you to comment on.
10. What are your overall thoughts about this essay?

Appendix 4: Checklist of Rubrics Used by Raters of Participants' Written Essays

A "6" essay will:

- respond fully to the writing prompt.
- state a clear thesis (main idea).
- provide strong support for or clearly illustrate that thesis through specific reasons, examples, and/or details.
- have a logical and effective organization.
- develop its ideas thoroughly.
- be grammatically clear and correct throughout.
- use words and stylistic techniques appropriately.
- demonstrate variety in sentence structure and vocabulary.

A "5" essay will:

- respond to the essay prompt, but may not address all aspects of the task with equal effectiveness.
- have a thesis.
- be sufficiently developed (e.g., four or five fully developed paragraphs).

- provide specific reasons, examples, and details to support or illustrate its thesis.
- have an overall effective organization.
- be grammatically clear and correct throughout most of the essay.
- demonstrate some variety in sentence structure and vocabulary.

A "4" essay will:

- respond to the essay prompt, but may omit some aspects of the task.
- have a thesis, but it may be unclear or insufficiently focused.
- be adequately developed (e.g., four solid paragraphs).
- use some reasons, details, and/or examples to support or illustrate its thesis.
- have a reasonable organization, though it may not be the most effective or logical approach.
- demonstrate less fluency with grammar and usage with errors that occasionally cloud meaning.
- have less variety in sentence structure and a more limited vocabulary.

A "3" essay will have one or more of the following flaws. It may:

- respond only to part of the prompt.
- not have a clear thesis.
- be underdeveloped (e.g., only two or three short paragraphs).
- not provide relevant or sufficient support for its thesis.
- have a weak or illogical organization.
- use words and phrases inappropriately.
- have a number of grammatical errors, some of which lead to confusion regarding meaning.
- demonstrate a lack of variety in sentence structure and/or vocabulary.

A "2" essay will have one or more of the following serious weaknesses. It may:

- lack a clear thesis or focus.
- not develop its ideas (e.g., only two short paragraphs).
- provide little or no reasons, details, or specific examples to support its ideas.
- offer support that is irrelevant.
- be poorly organized (no clear organizational strategy).
- have serious and frequent grammatical errors, often leading to confusion regarding meaning.

A "1" essay may have one or more of the following characteristics. It may:

- be incoherent.
- be seriously underdeveloped (e.g., only one paragraph).
- have serious and persistent grammatical errors.
- use words and grammatical structures incorrectly and inappropriately.

A "0" will be given to an essay that:

- is blank.
- does not respond to the writing prompt given (discusses a different topic).
- simply copies the writing prompt instead of responding to it.
- is written in a foreign language.
- is a series of random keystrokes.

Appendix D The Adapted Peer Feedback Checklist (Task 4)

Week 6: Process Essay Writing

Reviewer's name: ..... Receiver's name: .....

Statements for Peer feedback				What are the nice things you want to say about this writing	Other comments you want to add
1. The essay has 3 sections (introduction – body – conclusion).					
2. The introduction has a hook.					
3. The introduction has background information.					
4. The introduction has thesis statement.					
5. Body paragraph has a topic sentence.					
6. Body paragraph has supporting details.					
7. Body paragraph has a concluding sentence.					
8. The conclusion rewrites the thesis statement.					
9. The conclusion summarizes the argument.					
10. There are appropriate and good use of grammar					
11. A wide range and variety of vocabulary					
12. Appropriate words spellings					
13. Appropriate punctuations (comma, periods, capitalisation, spaces)					
14. Good use of conjunctions and linking words.					
15. The essay has a good academic language					
16. The length of the essay is acceptable					

Appendix E The Marking Scheme Developed by the ELI-PNU

WRITING RUBRIC – ALL TRACKS

Categories	Band – 1	Band – 0.75	Band – 0.50	Band – 0.25	Band - 0
Impact and Appropriacy: *Did the learner's include relevant content meaningful register about the topic?*	All content is FULLY on topic and relevant. Writing is clearly developed in an appropriate register.	Content is MOSTLY (75%) on topic. Writing is generally developed in an appropriate register.	Content is PARTIALLY (50%) on topic. Writing lacks development in the appropriate register.	Content illustrates lack of understanding of the topic. Too little communication to assess.	Content is completely off topic. Writing is not relevant to the topic AT ALL.
Task Achievement: *Did the learner fully complete the task?*	Word count met or exceeded. All writing instruction and prompts are FULLY answered and task completed successfully.	Word count met by (75%). Writing instruction and prompts are MOSTLY (75%) answered and task generally completed.	Word count met by (50%). Writing instruction and prompts are only PARTIALLY (50%) answered and task not fully completed.	Word count met by (50%). Writing instruction and prompts are only PARTIALLY (50%) answered and task not fully completed.	Word count irrelevant. NONE of the writing prompts are answered. Learner demonstrates NO understanding of task.
Organization and Cohesion: *Did the learner express her ideas clearly and connect them together effectively?*	Content FULLY connects the writing in a logical sequence that exhibits skilful use of transitional words / phrases and ideas.	Content MOSTLY (75%) connects the writing in a logical sequence that exhibits good use of transitional words / phrases and ideas.	Content only PARTIALLY (50%) addresses sequencing in the writing with unclear use of transitional words / phrases and ideas.	Content illustrates lack of sequencing in the writing that jumps from one idea to the nest, with too little connection or use of transitional words / phrases.	Content does not illustrate sequencing of writing, with no use of transitional words / phrases and ideas.
Grammar and Mechanics: *Did the learner use a good range of grammar structures, punctuation markers and capitalization accurately?*	Content FULLY demonstrates few if any errors in the rules of grammar, punctuation and capitalization taught at this level. All sentences are well structured and have a varied structure and length.	Content MOSTLY (75%) demonstrates few if any errors in the rules of grammar, punctuation and capitalization taught at this level. Most sentences are well structured and have a varied structure and length.	Content only PARTIALLY (50%) demonstrates correct use of the rules of grammar, punctuation and capitalization taught at this level. Sentences are not well structured.	Content illustrates many inaccuracies in the use of the rules of grammar, punctuation and capitalization taught at this level. Sentences are difficult to understand.	Content demonstrates no understanding of the rules of grammar, punctuation and capitalization, as well as sentence structure taught at this level.
Vocabulary and Spelling: *Did the learner use a good range of vocabulary items and spell them correctly?*	Content FULLY uses a wide variety of the vocabulary taught at this level with few errors. Spelling is consistently correct with very few errors.	Content MOSTLY (75%) uses a wide variety of the vocabulary taught at this level with few errors. Spelling is standard with some errors.	Content only PARTIALLY (50%) uses the vocabulary taught at this level with consistent errors. Spelling is inadequate with errors.	Content illustrates poor range of vocabulary with frequent errors. Spelling is consistently incorrect with very few errors.	Content demonstrates no understanding of appropriate vocabulary. Spelling is mostly incorrect and make the writing unclear and difficult to read.

Prepared by: ELI Curriculum Unit

September 13, 2022

Appendix F Pre-Test and Post-Test Prompts

The pre-test

Write a paragraph about an unforgettable memory with your family.

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The post-Test

Write a paragraph about your dream job.

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Appendix G Focus Groups (English Version)

Study Title: A Proposed Model of Automated, Peer, and Teacher Feedback and Its Impact on The L2 Learners' Engagement and Writing Performance Over Time.

ERGO number: **77655**

CONSENT FORM

I, the participant, hereby acknowledge that I have read and understood the information in this letter, and I am willing to participate in this research. I give the researcher the right to transcribe, audio record and use my responses in this study and for any further research related to these data.

Signature: …… Date: ……

G.1 1st Focus group (General)

Affective engagement

1. What are your objectives in learning to write in English? What do you hope to accomplish?
2. Can you express your feelings when you read the feedback you previously received from teacher?

Cognitive Engagement

1. What did the comments you received about your writing focus on?
2. What kind of feedback did you get? Direct/indirect? Written/oral?
3. Did you seek clarification or assistance from your teacher to understand any of the unclear comments? Why (or why not)?
4. Do you think the feedback was useful in helping you improve your writing? Was it simple to understand and apply? give me examples.
5. Have you ever attempted to obtain input from a computer on your writing? If so, how did you find it? If no, why?
6. Have you ever attempted to show your writing to someone outside of the classrooms? If so, how did you find it? if no, why?
7. What are your thoughts on the roles of grammar, content, coherence, and mechanics in English writing?

Behavioural Engagement

1. Can you describe what you do immediately after receiving your writing?
2. When you read your teacher's comments, what are the major aspects you look at?
3. Can you explain how you managed the feedback that you received?

4. After the feedback, did you have to redraft your essay?

Writing Improvement

1. Do you think your writing is getting better because of your teacher's feedback only? Why?
2. How did you get ready for the final written exams/drafts?
3. Is there anything else you'd like to add about your previous experience with English writing classes?

G.2 2nd Focus Group

Affective Engagement

1. What are your thoughts on the feedback model on your English writing?
2. Can you describe your feelings when you read the input from the three sources?
3. Were you motivated to improve your writing after each source of feedback?
4. How did you see the discussion with your classmates motivated you to do so?
5. Are you interested in participating in this feedback model once more in future English classes? what would you change or add?
6. What have you learned as reviewer and a receiver of feedback in this model?

Behavioural Engagement

1. What did you do upon receiving the feedback?
2. How did you use the feedback from the three sources to improve your draft?
3. What are your strategies did you use to revise your writing?

Cognitive Engagement

1. What kind of feedback/comments did you receive from each source? What are they? Give me examples?
2. To what extent do you believe the feedback provided was enough to improve your writing? Was it clear and easy to apply?
3. How did you understand the feedback on your writing, including feedback on grammar, content, cohesion, and mechanics?

Writing improvement

1. Can you tell me how using this model to revise your drafts affected your English writing?
2. How has your knowledge of the writing task changed?
3. Did you see writing as a recursive process is more beneficial for your improvement and knowledge? What did you learn from this belief?
4. Did you think your writing change each class? Could you tell me more?
5. Is there anything you would like to add about your experience in the model?
6. What suggestions would you make to improve this model?

G.3 3rd Focus Group

Behavioural, Cognitive, and Affective engagement:

1. First, in general, what do you think of this new experiment to improve your academic writing in English?
2. What type of feedback did you get from each source?
    a. Grammar, content, ideas? Can you provide me with examples?
3. How each source was unique in providing different feedback from the rest? Examples
    a. Was the feedback comprehensive? How did you understand that?
4. What did you do first when receiving feedback from each of the three sources?
    a. For example, what strategies or techniques did you use to implement feedback in your writing?
    b. Did you use any external sources after the teacher's feedback to improve your writing before final submission?
5. To what extent was the feedback sufficient to improve writing skill from each source? How clear they were to uptake? Examples?
6. What motivated or demotivated you to modify and develop your writing after obtaining feedback from every source?
    a. Did the discussion with your classmates motivate you to uptake or reject feedback? Why?
7. Explain your first feelings when you read the feedback from each of the three sources?
    a. How satisfied were you with the feedback you received to improve your writing as desired?
8. Explain what you learned through your experience as recipients of others' comments and reviewers?
    a. To what extent did the checklists train you on how to give feedback?
9. Would you like to participate in an experience like this again in future English classes?
    a. If you answered yes, how is it different from traditional teaching methods?
    b. What would you like to suggest?
    c. if not, what would you change or add if you were the teacher so that it would be better implemented?

Beautiful! So, regarding the development of your writing, let us conclude our discussion with your opinion about:

L2 writing development:

1. How has your concept of English writing skill changed?
    a. Was it a recursive process that requires redrafting? Or linear?
    b. Why do you think it is more useful or non-useful for improving your writing?
2. What gradually improved in your writing with each task due to the use of the 3 sources?

a. Can you explain to me more about how your writing changed in the first week from the final, for example?

3. Is there anything you would like to add or suggest about your experience with this teaching method?

4. Our discussion has ended, but a final question is: If you were in my place as a teacher and researcher in academic writing in English, what message would you like to convey through today's discussion to teachers and researchers in this field?

Appendix H Focus Group (Arabic Version)

نموذج موافقة تفصيلي للمشاركة في الدراسة البحثية

عنوان المشروع: نموذج مقترح لمراجعة الكتابة باللغة الانجليزية من خلال التصحيح الآلي ومراجعة الزملاء ومراجعة المعلم واثرها في مهارات الكتابة لدى متعلمي اللغة الثانية واندماجهم معها

رقم الموافقة الاخلاقية: ٧٧٦٥٥

نموذج الموافقة

أقرّ أنا، المشارك، بموجب هذا النموذج باطلاعي على المعلومات الواردة في هذه الرسالة واستيعابها، وأرغب في المشاركة في هذا البحث. أمنح الباحثة الحق في نسخ إجاباتي عن هذه الدراسة، وتسجيلها صوتيا وأي بحث آخر يتعلق بهذه البيانات،واستخدامها.

التاريخ ..... التوقيع .....

H.1 أسئلة المجموعة المركزة الاولى

الاسبوع الاول (اسئلة عامة)

شكرا لكم جميعا على حضوركم اليوم. انا الباحثة سهام الشريف. أبحث في الملاحظات الكتابية الأكاديمية في اللغة الانجليزية وأحتاج إلى معرفة تجربتك السابقة في فصول الكتابة الأكاديمية باللغة الانجليزية. وأفضل طريقة للقيام بذلك هي التحدث إليكم كونكم مررتم بدروس متعددة للكتابة الإنجليزية في الفصل الدراسي السابق. لذلك ، في مناقشتنا اليوم ، نريد فقط التحدث عن تجربتكم حول هذه المهارة ، وما فعلتوه وتلقيتوه ، وما تعلمتوه ، وما يعجبكم وما لا يعجبكم ، كل ذلك للمساعدة في تحسين تجربتكم للدروس القادمة فيما يخص الكتابة الاكاديمية باللغة الانجليزية.

انا أقوم بهذه المناقشة لجمع المعلومات منكم ، لذا آمل أن تشعروا بالراحة لمشاركتي ما فكرتم فيه حقا حول تجاربكم السابقة في الكتابة الإنجليزية. من فضلكم ، لا تشعروا بالخجل ، أريد أن أسمع منكم جميعا عن تجربتكم وأفكاركم. أنتم الخبراء لأنكم كنتم في هذه التجربة لبضعة أشهر منذ بداية العام الدراسي، لذلك أنا هنا لأتعلم منكم. أود التنويه بأنه لا توجد إجابات صحيحة أو خاطئة ، أريد ببساطة أن أسمع منكم فقط. لدي بعض الأسئلة لكم ولكن لا تترددوا أيضا في إضافة أشياء أخرى تشعروا أنها مهمة ونحن نمضي قدما.

خلال مناقشتنا، سوف أقوم بتدوين بعض أفكاركم وكلماتكم، ولكني لن أستطيع كتابة كل كلمة، لذا سأقوم بتسجيل المناقشة حتى لا يفوتني أي شيء يقال. فمن فضلكم، لا تقلقوا بشأن هذا لأن مناقشتنا سرية للغاية وأنا فقط من سأستمع إلى التسجيل لاحقا.

أثناء المناقشة، يرجى السماح للجميع بمشاركة وجهات نظرهم، ولكن يجب أن لانقاطع حديث بعضنا البعض حتى يكون التسجيل واضحا. ما عليكم سوى التحدث عندما يكون لديكم ما تقولوه ، فلن يتم توجيه كل سؤال لكل فرد ولكن هذه المجموعة لخلق الحوار والنقاش وليس للحصول على اجابات فردية على كل سؤال. لذلك لكم كل الحق في المشاركة والتحدث متي مااردتم.

تذكروا أننا نريد أن نسمع جميع وجهات النظر. لا بأس تماما من الاختلاف مع الآخرين إذا كانت لديكم آراء مختلفة ولكن يرجى أيضا احترام وجهات نظر الآخرين. أيضا ، يجب أن يكون كل ما تسمعه اليوم سريا وأرجو ان لاتتم مشاركته مع أشخاص خارج المجموعة. ستستمر هذه المناقشة حوالي ساعة واحدة.

هل هناك أي أسئلة قبل أن نبدأ؟

دعوني أتعرف بأسمائكم الأولى؟

من كم سنة وانتم تتعلمون اللغة الانجليزية؟

حابة اعرف اش أهم أهدافكم من تعلم مهارة الكتابة باللغة الإنجليزية قبل بداية الكورس؟

طيب، خلونا نتناقش شوي عن خبرتكم الماضية في فصول الكتابة باللغة الانجليزية

التفاعل العاطفي المعرفي والسلوكي

1. فالبداية، اشرحوا لي كيف كان مستواكم في الكتابة بنهاية الترم الماضي؟
2. كيف تشوفون مستواكم بعد نهاية الترم الماضي مختلف عن المستوى المتوقع والمأمول ؟
   a. اش هو المستوى اللي كنتو متأملين الوصول اليه و تحقيقه بنهاية الترم الماضي فيما يخص مهارات الكتابة الاكاديمية بالانجليزي؟
3. اش كان نوع طريقة التدريس للكتابة باللغة الانجليزية حسب خبرتكم المعمول به؟
   a. هل كانت فقط الاستاذة اللي تشرح؟ اوكانت الاستاذة والطلاب؟ تفاعلية, محاضرة, الخ.

b. مانوع الجهد اللي تبذلونه انتم كطلاب في الكلاس؟
c. مانوع المواضيع الكتابية التي تم تعلمها خلال الترم الماضي؟ انواع البراغرافات
4. من كان المسؤول الوحيد في الفصل عن مراجعة كتاباتكم وتقديم الملاحظات لكم؟
5. حول ماذا تمحورت اقتراحات المعلمة بخصوص كتاباتكم؟
a. القواعد فقط، المحتوى، علامات الترقيم، الافكارالخ
b. مباشرة /غير مباشرة ؟ شفهية/ مكتوبة؟ يعني مثلا هل كانت الاستاذة تعمل .....
1. اشرحوا لي اول شي تقومون به فور حصولكم على الملاحظات على كتابتكم؟
a. هل تقراوها فقط؟ تدونينها ؟ او هل تقومين بالبحث عن مصادر لتحسينها او لتطويرها الخ؟
6. كيف كان شعوركم عند قراءة ملاحظات المعلمة ومقترحاتها حيال ما كتبتي؟
a. هل كان من السهل فهم تلك الملاحظات وتطبيقها؟
b. هل من الممكن تزويدي ببعض الأمثلة من تلك الملاحظات؟
7. في حال كان هناك اي صعوبة، هل سبق وأن طلبتوا من معلمتكم المزيد من التوضيح أو المساعدة في فهم الملاحظات غير الواضحة؟
a. لماذا نعم (أو لماذا لا؟)
8. بمن استعنتم؟
a. هل سبق وأن استخدمتم ببعض مواقع أو تطبيقات التصحيح الآلي للكتابة (مثل: قرامرلي) لتطوير كتابتك؟
b. لو لا لماذا؟ لو نعم لماذا؟ وماهو رأيك وتقييمك للتجربة؟
c. هل سبق وأن عرضتم كتاباتكم على زميل من داخل او خارج الفصل المدرسي؟
d. إذا كانت الإجابة بنعم، فما هو رأيكم؟
e. هل ساهمت الملاحظات التي تلقيتها في تحسين أسلوب كتاباتكم؟
f. وإذا كانت الإجابة بلا، فما السبب في ذلك؟
9. هل طُلب منكم إعادة الكتابة على ضوء الملاحظات التي حصلتم عليها وتسليمها مرة أخرى؟
b. اذا الاجابة لا ، اجل كيف كنتم تستعدون لإختبار الكتابة أو تسليم كتاباتكم للدرجة النهائية؟

حسنا ، ختاماً اود ان اعرف افكاركم فيما يتعلق بتحسين كتابتك من حيث:

التطور الكتابي

1. هل تعتقدون بأن ملاحظات المعلمة لوحدها كافية لتحسين كتاباتكم؟
a. ولماذا؟
2. اش تتوقعون طريقة التدريس الافضل اللي ممكن تطور كتاباتكم في المستقبل؟
a. مثلا لوعندكم طريقة ذاتية لمذاكرة الكتابة وتتمنون تطبيقها في الكلاس، ماهي؟
3. هل هناك ما تودون قوله فيما يتعلق بتجربتكم السابقة في دراسة مادة الكتابة باللغة الإنجليزية؟

H.2 اسئلة المجموعة المركزة الثانية

الاسبوع الخامس

شكرا لكم جميعا على حضوركم اليوم. حديثنا السابق كان عن خبرتكم الماضية في فصول الكتابة الاكاديمية بالانجليزية والذي كان رائعا ومثريا حقا. لذلك ، في مناقشتنا اليوم ، اريد فقط التحدث عن تجربتكم حول الفصول الحالية اللي أديرها انا لكم حتى هذه اللحظة في مهارة الكتابة ، ما فعلتوه وتلقيتوه ، وما تعلمتوه ، وما يعجبكم وما لا يعجبكم ، كل ذلك للمساعدة في تحسين تجربتكم للفصول القادمة فيما يخص الكتابة الاكاديمية باللغة الانجليزية.

انا أقوم بهذه المناقشة لجمع المعلومات منكم ، لذا آمل أن تشعروا بالراحة لمشاركتنا ما تفكروا به حقا حول تجربتكم الحالية في الكتابة الإنجليزية. من فضلكم ، لا تشعروا بالخجل ، أريد أن أسمع منكم جميعا عن تجربتكم وأفكاركم الحالية. أنتم الخبراء لأنكم في هذه التجربة لبضعة اسابيع منذ بداية العام الدراسي، لذلك أنا هنا لأتعلم منكم. لذا أود التنويه بأنه لا توجد إجابات صحيحة أو خاطئة ، وحديثنا هنا لن يتأثر اطلاقا بالدرجات الفصلية والنهائية . لذا اريدكم ان تتحدثوا بأريحية و أريد ببساطة أن أسمع منكم فقط. لدي بعض الأسئلة لك ولكن لا تترددو أيضا في إضافة أشياء أخرى تشعرو أنها مهمة ونحن نمضي قدما.

خلال مناقشتنا، سوف أقوم بتدوين بعض أفكاركم وكلماتكم، ولكني لن أستطيع كتابة كل كلمة، لذا سأقوم بتسجيل المناقشة حتى لا يفوتني أي شيء يقال. فمن فضلكم، لا تقلقوا بشأن هذا لأن مناقشتنا سرية للغاية وأنا فقط من سأستمع إلى التسجيل لاحقا.

أثناء المناقشة، يرجى السماح للجميع بمشاركة وجهات نظرهم، ولكن يجب أن لانقاطع حديث بعضنا البعض حتى يكون التسجيل واضحا. ما عليكم سوى التحدث عندما يكون لديكم ما تقولوه ، فلن يتم توجيه كل سؤال لكل فرد ولكن هذه المجموعة لخلق الحوار والنقاش وليس للحصول على اجابات فردية على كل سؤال. لذلك لكم كل الحق في المشاركة والتحدث متي مااردتم.

تذكروا أننا نريد أن نسمع جميع وجهات النظر. لا بأس تماما من الاختلاف مع الآخرين إذا كانت لديكم آراء مختلفة ولكن يرجى أيضا احترام وجهات نظر الآخرين. أيضا ، يجب أن يكون كل ما تسمعوه اليوم سريا وأرجو ان لاتتم مشاركته مع أشخاص خارج المجموعة. ستستمر هذه المناقشة حوالي ساعة واحدة.

هل هناك أي أسئلة قبل أن نبدأ؟

دعونا أولا نتعرف على مشاعركم وأفكاركم حول تجربة الفصول الحالية لتطوير الكتابة الاكاديمية:

التفاعل العاطفي:

1. من خلال الدروس الجديدة اللي تمرون فيها، اش تعريفكم لمعنى تقديم الملاحظات على الكتابة الاكاديمية؟
   a. مثلا كيف تغيرت نظرتكم للمعنى الحقيقي لكلمة تصحيح وتحسين الكتابة؟
2. اوصفوا لي شعوركم الحالي قبل الفصول الحالية للكتابة الاكاديمية؟ وخلال كل فصل؟ وبعد كل فصل؟

حسنا ، هذا فيما يتعلق بمشاعركم. أحتاج أيضا إلى التعرف بعمق على حسكم الإدراكي والذهني تجاه هذه التجربة:

التفاعل المعرفي:

1. اولا اود معرفة ماذا فهمتم من الملاحظات المقدمة من كل مصدر؟
2. ماهو الاجراء الذي قمتم به لفهم هذه الملاحظات في كتابتكم؟
   a. هل كان هنالك مجهود ذهني لفهم وتوضيح الخطأ ؟ وتحسين الكتابة؟
3. هل يتم استيعاب الملاحظات وقراءتها بتمعن؟
   a. هل يتم محاولة فهم الصعب منها؟ من كل مصدر اقصد
4. الى اي مدى كان دمج الملاحظات من المصادر الثلاثة مفيد ومكمل لبعضه؟
   a. يعني الى اي مدي كان دمج قرامرلي في اعطاء ملاحظات كتابية مع ملاحظات المعلمة مفيد ومكمل لها ؟
   b. اش رايكم حتى هذه اللحظة في دمج ملاحظات الزملاء في اعطاء ملاحظات كتابية مع ملاحظات المعلمة مفيد مكمل لها ؟
   c. اش رايكم حتى هذه اللحظة في وضع ملاحظات المعلمة اخر مرحلة بعد قرامرلي وملاحظات الزملاء ؟ الى اي مدى هذا مفيد ومكمل؟
   d. هل كانت الملاحظات المقدمة من كل مصدر مكررة؟ اعطوني امثلة
5. اشرحوا لي كيف تحسنت اول نسخة كتبتوها بالمقارنة مع النسخة النهائية لرصد الدرجة؟
6. هل ساعدتكم الملاحظات الكثيرة في معرفة اخطائكم وتجنبها في الدروس القادمة؟ ؟

طيب، حابة اعرف ردة فعلكم سلوكيا على هذه التجربة في بعض الاسئلة:

التفاعل السلوكي:

1. اشرحوا لي اول ردة فعل لكم فور حصولكم على الملاحظات من الثلاث مصادر على كتابتكم؟

a. من قرامرلي؟
b. الزملاء؟
c. المعلمة؟

2. اش الشي الرئيسي اللي ركزتو عليه في الملاحظات المقدمة من هذه المصادر؟
   a. من قرامرلي؟
   b. طيب من الزملاء؟
   c. طيب من المعلمة؟
3. هل استخدمتو اي مصادر خارجية للتأكد ان شغلكم جاهز للتسليم؟
   a. كيف تم ترتيب وتحسين كتابتكم للتسليم النهائي؟
   b. هل المصادر الثلاثة ساهمت في تحضيركم جيدا للتسليم النهائي والحصول على الدرجة المتوقعة؟ ليش لا او نعم برأيكم؟

<u>اخيرا، على سيرة تحسين الكتابة:</u>

التطور الكتابي

1. الى اي مدى شايفين طريقة المصادر الثلاثة كافية في تحسين الكتابة عندكم باللغة الانجليزية؟
2. كيف متوقعين مستواكم الكتابي ومعرفتكم بالكتابة الاكاديمية في نهاية الترم الدراسي ان شالله؟
3. هل هناك اي اضافة او سؤال بخصوص الدروس او المحاضرات اللي تخص مهارة الكتابة ؟

H.3 اسئلة المجموعة المركزة الاخيرة

(الاسبوع الاخير)

شكرا لكم جميعا على حضوركم اليوم. واشكركم شكر خاص على كل مابذلتوه من جهود خلال الفصل الدراسي معي لتحسين وتطوير مهارة الكتابة الاكاديمية بالانجليزية. حديثنا السابق كان عن رأيكم واندماجكم في منتصف الترم فيما يخص فصول الكتابة الاكاديمية بالانجليزية والذي كان حوارا رائعا ومثريا حقا. لذلك ، في مناقشتنا وحوارنا النهائي اليوم ، سوف أختتم المقابلات بالتحدث عن تجربتكم النهائية حول الفصول الدراسية للكتابة الانجليزية ، ما فعلتوه وتلقيتوه ، وما تعلمتوه ، وما يعجبكم وما لا يعجبكم ، كل ذلك للمساعدة في تحسين تجربتكم للفصول القادمة في الجامعات السعودية فيما يخص الكتابة الاكاديمية باللغة الانجليزية.

انا أقوم بهذه المناقشة لجمع المعلومات منكم ، لذا آمل أن تشعروا بالراحة لمشاركتنا ما تفكروا به حقا حول تجربتكم الحالية في الكتابة الإنجليزية. من فضلكم ، لا تشعروا بالخجل ، أريد أن أسمع منكم جميعا عن تجربتكم وأفكاركم الأخيرة. أنتم الخبراء لأنكم في هذه التجربة لبضعة أشهر منذ بداية العام الدراسي، لذلك أنا هنا لأتعلم منكم. لذا أود التنويه بأنه لا توجد إجابات صحيحة أو خاطئة ، وحديثنا هنا لن يتأثر اطلاقا بالدرجات الفصلية والنهائية . لذا اريدكم ان تتحدثوا بأريحية و أريد ببساطة أن أسمع منكم فقط فأنا لدي بعض الأسئلة لكم ولكن لا تترددوا أيضا في إضافة أشياء أخرى تشعروا أنها مهمة ونحن نمضي قدما.

خلال مناقشتنا، سوف أقوم بتدوين بعض أفكاركم وكلماتكم، ولكني لن أستطيع كتابة كل كلمة، لذا سأقوم بتسجيل المناقشة حتى لا يفوتني أي شيء يقال. فمن فضلكم، لا تقلقوا بشأن هذا لأن مناقشتنا سرية للغاية وأنا الوحيدة فقط من سأستمع إلى التسجيل لاحقا.

أثناء المناقشة، يرجى السماح للجميع بمشاركة وجهات نظرهم، ولكن يجب أن لانقاطع حديث بعضنا البعض حتى يكون التسجيل واضحا. ما عليك سوى التحدث عندما يكون لديك ما تقوله ، ففي هذه المناقشة، لن يتم توجيه كل سؤال لكل فرد ولكن هذه المجموعة لخلق الحوار والنقاش وليس للحصول على اجابات فردية على كل سؤال. لذلك لك كل الحق في المشاركة والتحدث متي ماارادت.

تذكر أنني أريد أن أسمع جميع وجهات النظر بدون استثناء. لا بأس تماما من الاختلاف مع الآخرين إذا كانت لديكم آراء مختلفة بل على العكس انا أشجع ان يكون هناك اراء مختلفة. لذا يرجى احترام وجهات نظر الآخرين. أيضا ، يجب أن يكون كل ما تسمعه اليوم سريا وأرجو ان لاتتم مشاركته مع أشخاص خارج المجموعة. ستستمر هذه المناقشة حوالي ساعة واحدة.

هل هناك أي أسئلة قبل أن نبدأ؟

كما تعودنا سوف نفتتح الحوار ببعض الاسئلة عن مشاعركم وافكاركم حيال التجربة الحالية للكتابة الاكاديمية.

التفاعل العاطفي والسلوكي والمعرفي

1. أولا، بشكل عام مارأيكم باالتجربة الجديدة هذه لتحسين كتابتكم الاكاديمية باللغة الإنجليزية؟
2. مانوع الملاحظات التي حصلتن عليها من كل مصدر ؟
    a. قواعد، محتوى، افكار؟ هل من الممكن تزويدي بأمثلة؟
3. الى اي درجة كان كل مصدر متميز في تقديم ملاحظات مختلفة عن الباقي؟ امثلة
    a. هل كانت الملاحظات شاملة كيف فهمتو ذلك؟
4. ماالذي قمتم بفعله اولا عند تلقي التصحيح من كل مصدر من المصادر الثلاثة؟
    a. مثلا اش الاستراتيجيات اوالطرق التي استخدمتوها لتنفيذ الملاحظات في كتاباتك؟
    b. هل استخدمتن اي مصادر خارجية بعد ملاحظات المعلمة لتحسين كتابتكن قبل التسليم النهائي؟
5. الى اي مدى كانت الملاحظات كافية لتحسين مهارة الكتابة من كل مصدر؟ كيف كانت واضحة من ناحية التطبيق؟امثلة؟
6. مالدافع او المانع لكن لتعديل وتطوير كتاباتكم بعد الحصول على الملاحظات من كل مصدر؟ مالسبب؟
    a. هل كان النقاش مع زميلاتكم في الفصل دافعاً للقيام ببعض التعديلات؟ لماذا؟
7. اشرحو لي شعوركم الاول عندما قرأتوا الملاحظات من كل مصدر من المصادر الثلاثة؟
    a. مامدى رضاكن عن الملاحظات التي حصلتن عليها لتحسين كتابتكن بالشكل المرغوب؟
8. اشرحوا لي ماذا تعلمتن من خلال تجربتكم كمتلقيات لملاحظات الاخرين ومراجعات لملاحظاتكن الخاصة ؟
    a. الى اي مدى استفدتن من جلسات التدريب لكيفية اعطاء الملاحظات؟
9. هل ترغبن في المشاركة مستقبلاً في تجربة كهذه مرة أخرى في فصول اللغة الإنجليزية المستقبلية؟
    a. اذا اجبتي بنعم، ماالمختلف فيها عن الطريقة التقليدية؟
    b. مالذي تودين اقتراحه؟
    c. اذا لا، مالذي تقومين بتغييره أو إضافته لو كنتي مكان المعلمة حتى يتم تنفيذه بشكل افضل؟

جميل! اذن فيما يخص تطور كتابتكن، خلونا نختم حوارنا برأيكم عن:

التطور الكتابي

1. كيف تغير مفهومك لمهارة الكتابة الانجليزية؟
    a. هل كانت عملية متداخلة؟ تتطلب مراجعة وليست خطية؟

b. لماذا باعتقادك هو أكثر فائدة لتحسين كتابتكم ؟

2. مالذي تحسن في كتابتكم تدريجيا مع كل محاضرة بسبب استخدام ال3 مصادر؟

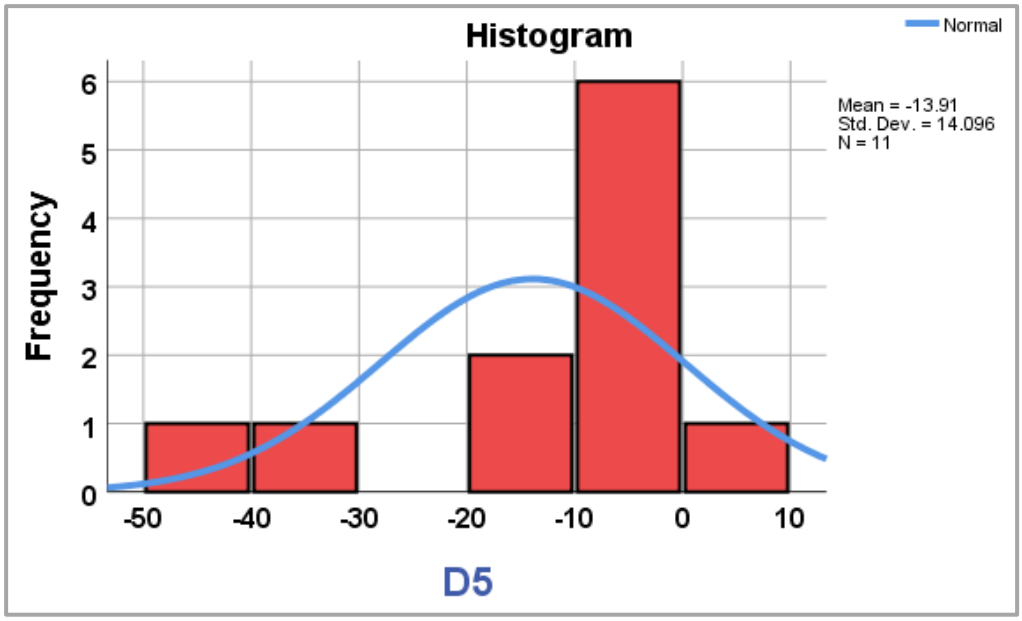
a. هل يمكن أن تشرحي لي أكثر كيف تغيرت كتابتك في الاسبوع الاول عن الخامس مثلا؟

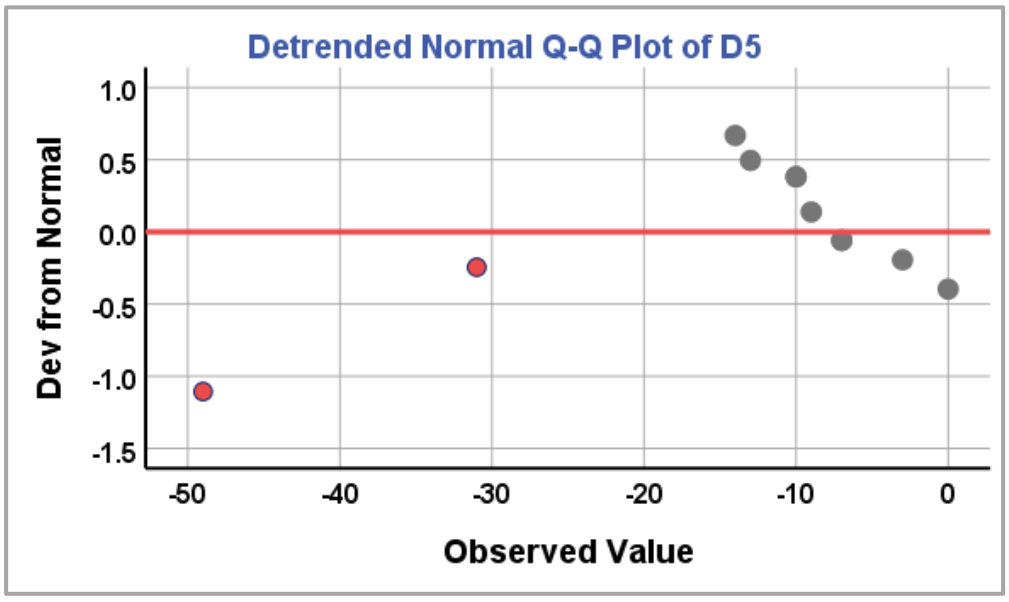
3. هل هناك أي شيء ترغبن في إضافته او اقتراحه حول تجربتكم في طريقة التدريس هذه؟

4. حوارنا انتهى الحمدلله، لكن نقطة اخيرة : لو كنت مكاني معلمة وباحثة في الكتابة الاكاديمية بالانجليزي، في دقيقة واحدة مالرسالة التي تود ان تنقلها من خلال حوار اليوم للمعلمين والباحثين في هذا المجال ؟

Appendix I The Normality Tests Results (Descriptive Statistics for Differences (D5) between the number of Errors in pre-and post-tests)

Student	Total Errors		D-5
	Pre-test	Post-test	Total Difference
1	14	5	-9
2	52	3	-49
3	13	6	-7
4	13	13	0
5	16	6	-10
6	20	7	-13
7	42	11	-31
8	12	2	-10
9	19	5	-14
10	7	0	-7
11	10	7	-3


Histogram
Normal
Mean = -13.91
Std. Dev. = 14.096
N = 11
Frequency
0
1
2
3
4
5
6
-50
-40
-30
-20
-10
0
10
D5


Detrended Normal Q-Q Plot of D5
Dev from Normal
1.0
0.5
0.0
-0.5
-1.0
-1.5
-50
-40
-30
-20
-10
0
Observed Value

Appendix J The Detailed Descriptive Statistics for Variables Separately

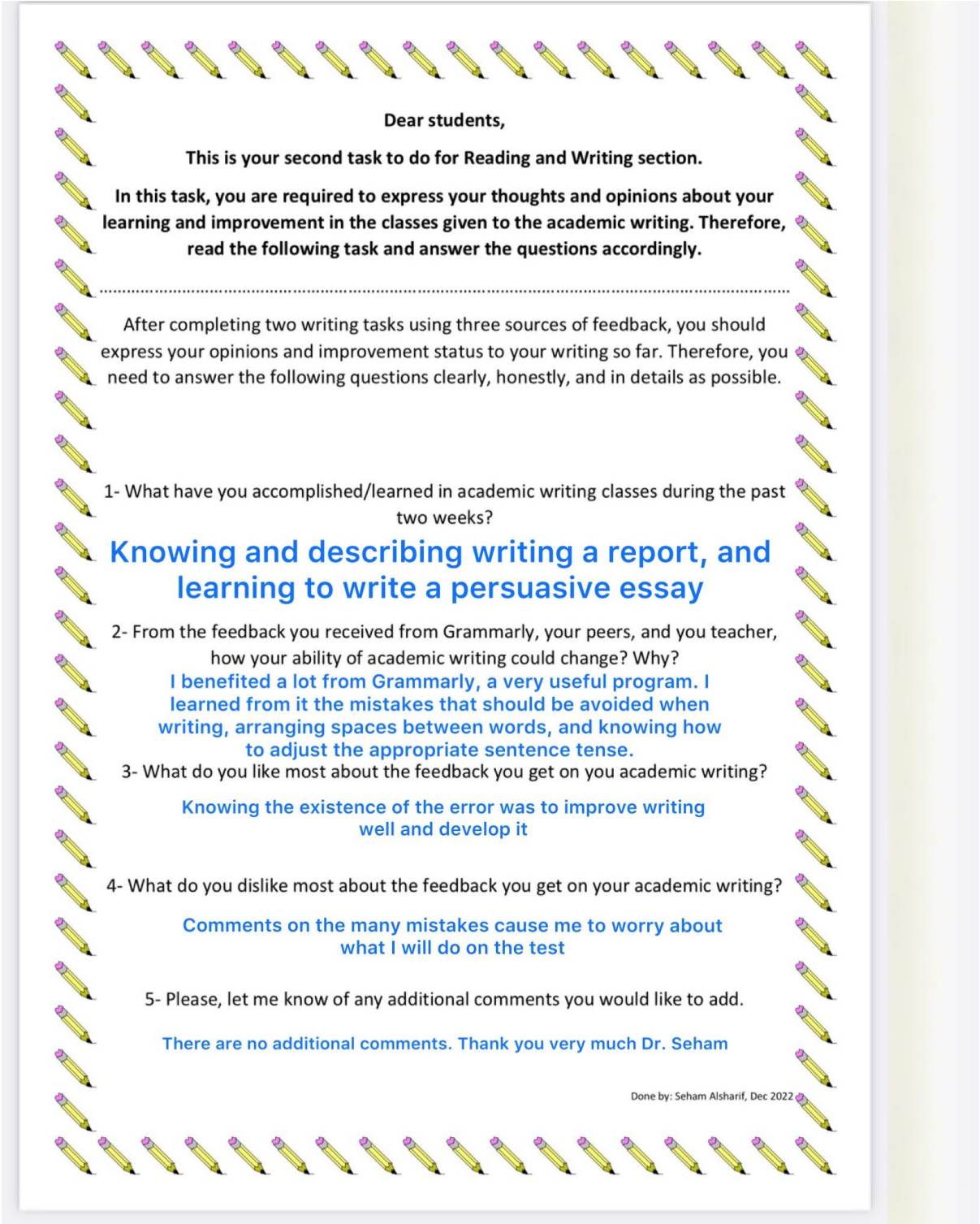
Descriptive Statistics

	N	Mean		Std. Deviation	Skewness	
	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error
Mechanics_1	11	**14.09**	3.243	**10.756**	**1.690**	.661
Grammar_1	11	4.27	1.121	3.717	**.780**	.661
Meaning_Preserving_1	11	.82	.296	.982	**1.204**	.661
Meaning_Related_1	11	.64	.244	.809	**.847**	.661
Total_1	11	**19.82**	4.255	**14.113**	**1.732**	.661
Valid N (listwise)	11					

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Mechanics_2	11	3.55	2.544	**.358**	.661	**-1.112**
Grammar_2	11	1.45	1.695	**.622**	.661	**-1.549**
Meaning_Preserving_2	11	.27	.647	**2.420**	.661	**5.510**
Meaning_Related_2	11	.64	.924	**1.834**	.661	**3.934**
Total_2	11	5.91	3.727	**.470**	.661	**.326**
Valid N (listwise)	11					

Appendix K A Sample of The First Reflective Journal Task



Dear students,

This is your second task to do for Reading and Writing section.

In this task, you are required to express your thoughts and opinions about your learning and improvement in the classes given to the academic writing. Therefore, read the following task and answer the questions accordingly.

.....

After completing two writing tasks using three sources of feedback, you should express your opinions and improvement status to your writing so far. Therefore, you need to answer the following questions clearly, honestly, and in details as possible.

1- What have you accomplished/learned in academic writing classes during the past two weeks?

Knowing and describing writing a report, and learning to write a persuasive essay

2- From the feedback you received from Grammarly, your peers, and you teacher, how your ability of academic writing could change? Why?

I benefited a lot from Grammarly, a very useful program. I learned from it the mistakes that should be avoided when writing, arranging spaces between words, and knowing how to adjust the appropriate sentence tense.

3- What do you like most about the feedback you get on you academic writing?

Knowing the existence of the error was to improve writing well and develop it

4- What do you dislike most about the feedback you get on your academic writing?

Comments on the many mistakes cause me to worry about what I will do on the test

5- Please, let me know of any additional comments you would like to add.

There are no additional comments. Thank you very much Dr. Seham

Done by: Seham Alsharif, Dec 2022

Appendix L A Sample of The Second Reflective Journal Task

Draw two faces that indicate your feelings toward your academic writing BEFORE and AFTER this semester. Then, explain these two faces.

Appendix M Observation Sheet Used During APT sessions

Learner Name: _____ **Seating Plan:**
Date: _____
Week: _____
Time: _____

Grammarly Feedback Stage

Time	Notes

Peer feedback Stage

Time	Notes

Researcher's Reflective observations

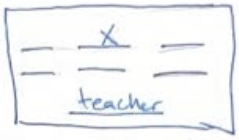
_____
_____
_____
_____

M.1 A Sample of the Classroom Observation Notes Taken During APT Sessions (Week 8)

Observation Sheet

Learner Name: learner4 (Dana)
Date:
Week: week 8
Time: ~~8:30 to 10:30~~

Seating Plan:



Grammarly Feedback Stage

Time	Notes
9:10	*She starts to work on Grammarly. She reads carefully. *She turned to her peer asking: Is it okay to write "every one" separately! ⇒ Grammarly's suggestion. *She leaned toward her peer to show her the feedback.
9:17	*She is asking "guys, Grammarly gives me a comma! ⇒ "person's". Her peers later explained that this is a postrophe!
9:25	*She continues working with concentration.

Peer feedback Stage

Time	Notes
9:35	*She asks her peer about the checklist information.
9:38	*She is asking: Is this the body paragraph? ⇒ "referring to her peers' writing"
9:48	*She tells her peer: you have a nice work.
9:50	*She submitted her work to teacher.

During the session, Dana was helping her peers in answering different questions such as: words' spellings and Grammarly's use. She is one of the students who attended all APT sessions and submitted her full drafts.

She is quiet student and rarely asking the teacher for help. she prefers to approach her peers most of the time..

Appendix N The Developed Coding Scheme Adapted from Tian and Zhou (2020)

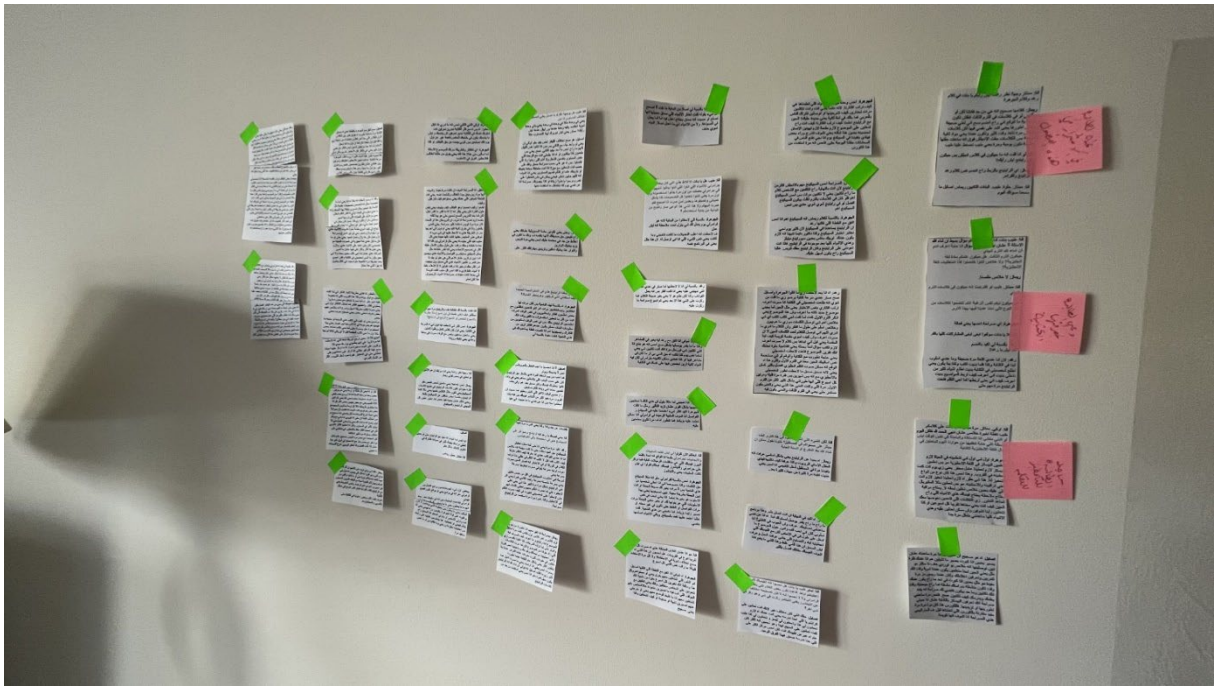
Feedback Categories **Macro-levels**	**Micro-level Categories**	**Discourse Levels**	**Examples**
Surface-level feedback	Meaning-preserving	Lexical	Word choice: "Are able to" -> "can". "*However,"* -> "*but*". Wordy lexical: (After you call for help, start <u>immediately</u> because you don't want to waste any time) -> Remove "*immediately*".
		Sentence	Unclear sentence: (The last step, You will repeat all the last three steps until the person comes back to life) -> *Unclear sentence.* Wordy sentence: "Sounds of breathing" -> "breathing sounds". Incomplete sentence: (What do you know about CPR? is a lifesaving technique useful in many emergencies) -> I*ncomplete sentence.* Passive voice: (The virus <u>will be studied</u> in a laboratory to determine its unique characteristics) -> Passive voice misuse. Combining sentence: (In other languages, French was 82 million. While Japanese 3, which is the lowest) -> *Combine these two clauses.* Misplaced phrase: (Why <u>we should</u> not banded this kind of sport?) -> *should we*

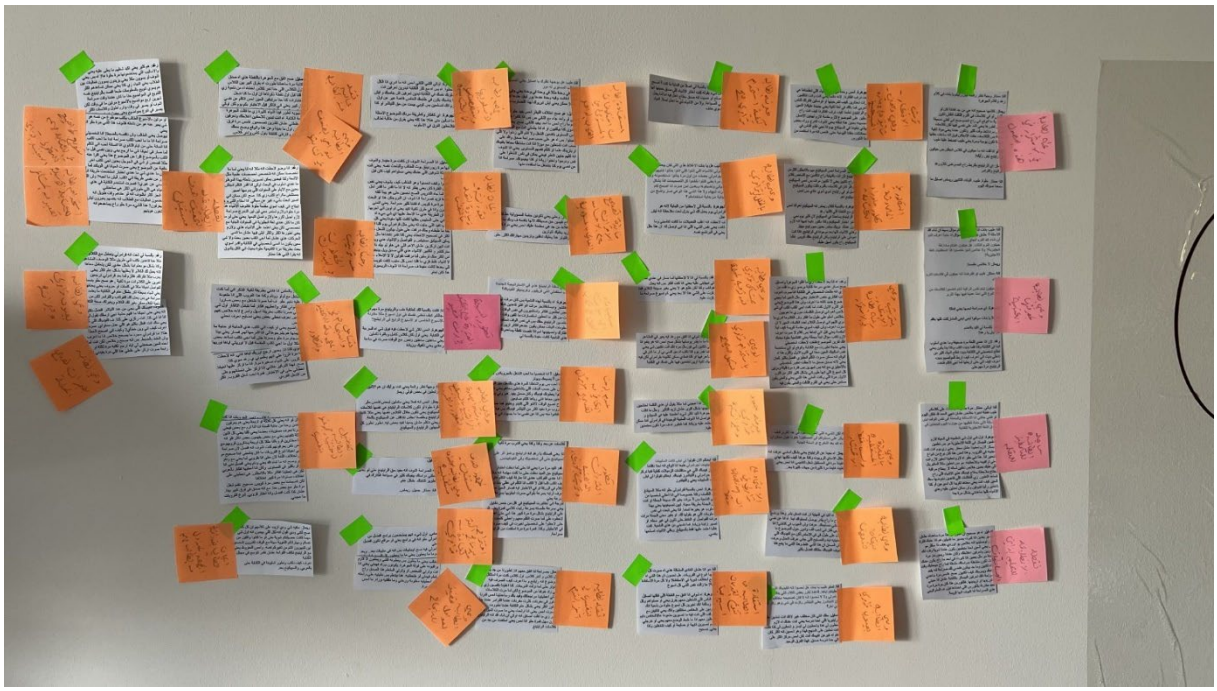
		Paragraph	(Place your hands on his chest again and repeat the cycle of 30 chest compressions, followed by rescue breaths, continue the cycle. In conclusion, the cardiac resuscitation process consists of seven stages) -> "¶ *In conclusion"* intricate text. *"Your opinion should be placed in the intro"*. (Peer Feedback)
	Grammar		Faulty tense: In the table, the percentage of people who learning English was 1.5 billion in the world) -> *is.* Determiner use: "Best" -> "The best" "a shorter" -> "shorter" Misuse of determiner Conjunction use: "The reason is because" -> "the reason is that". "And is repetitive here, use comma instead when listing many things". Misuse of quantifier: "Another" -> "there are other .." Missing verbs: "This sentence is broken and needs verb". Incorrect verb phrasing: "laying" -> "lying". "do" -> "make". Verb forms: "followed" -> "follow". "banded" -> "ban". Wrong or missing preposition: "Of least" -> "at least" "Trained to CPR" -> "Trained in CPR".

			Pronoun use: Accidents can happen anytime and anywhere when you don't expect <u>it</u> -> *them* Singular or plural forms: “six language” -> “six languages”. Subject-verb agreement: “The heart stop” -> “The heart stops” Part of speech: “ “Japanese” -> “Japan” “safety” -> “safe”
	Mechanics		Spelling: “proform” -> “perform”. Punctuation: “A comma is needed in compound sentence (e.g., however,)” “A full stop is needed at the end of the sentence”. Short forms: “can’t” -> “cannot” “6” -> “six”. Word count: “*The student did not reach the minimum limit of the word count which is 120 words at least*”. (Teacher feedback) Formatting: “this essay” -> “This essay” - capitalisation issue “wouldn’ t” -> “wouldn’t” - additional space
Meaning-level feedback	Meaning related	Lexical	“*where* “-> “*were*”. “*Tough* is not the appropriate word here”. (Teacher Feedback) “band” -> “banned”.
		Sentence	“In body paragraph 2, what do you mean by saying *a cure is a cancer patient*?”

			(Although using precautions is essential.) -> "Add an independent clause here".
		Paragraph	"There is no thesis sentence in the introduction!" (Peer feedback) "You need to add more supporting details in body paragraph 1". (Teacher feedback)

Appendix O The Coding Process for Qualitative Data





Appendix P The Coding Book of the Qualitative Data Exported from MAXQDA

Code System	Frequency
Code System	**421**
Theme: Distress/Negative attitude	**28**
Avoiding peer feedback (+) (+)	2
Embarrassment (+) (+)	3
Anxiety/Fear/Worries from poor levels in writing	13
Avoiding teacher's questioning	2
Complaining	1
Puzzling (+)	4
Frustration	1
Exam marks worries	2
Theme: Approaching peers and teacher	**4**
Asking teacher outside the class for explanation	1
Asking peers	3
Theme: Private speech	**69**
Talking to herself/Evaluating the feedback	7
Reading the corrections aloud (+)	13
Ability to identify mistakes/Thinking out loud	12
Seeking explanation	21
Verbal collaboration	2
Aware of the error but cannot identify it	5
Reasoning (+)	9
Theme: Attention	**27**
High alertness (+) (+) (+) (+)	19
Noticing possible and repeated mistakes by APT	7
Learning from mistakes	1
Theme: Readiness/scaffolding (+) (+)	**44**
Helping peers	3

Answering quires/Listen to queries	7
Lean toward peers to answer	2
Readiness	2
Interest (+) (+) (+) (+) (+)	10
Encouragement (+) (+)	15
Different groups weekly	2
Different learning goals	2
Unfamiliar peers/outside comfort zone	1
Theme: Commitment	**4**
Attending all classes	3
Not committed to some writing tasks	1
Theme: User-Friendly	**10**
Grammarly raises confidence in writing	1
Easiness of Grammarly use	3
Grammarly's direct feedback/correction	2
Grammarly explains the mistakes	2
Grammarly raise confidence in writing	2
Theme: Language Polishing	**12**
Grammarly for grammar, punctuation, clarity	2
Grammarly for words and grammar	2
Grammarly for sentences and grammar	2
Punctuation marks	3
Grammarly for punctuations	3
Theme: Grammarly Contextual Limitations	**10**
Suggesting other automated feedback	1
Grammarly does not understand feelings	2
Grammarly does not understand context/meanings	2
Grammarly's high risk to full dependability	1
Grammarly does not work with sentences	4
Theme: Grammarly's Inaccuracy	**4**

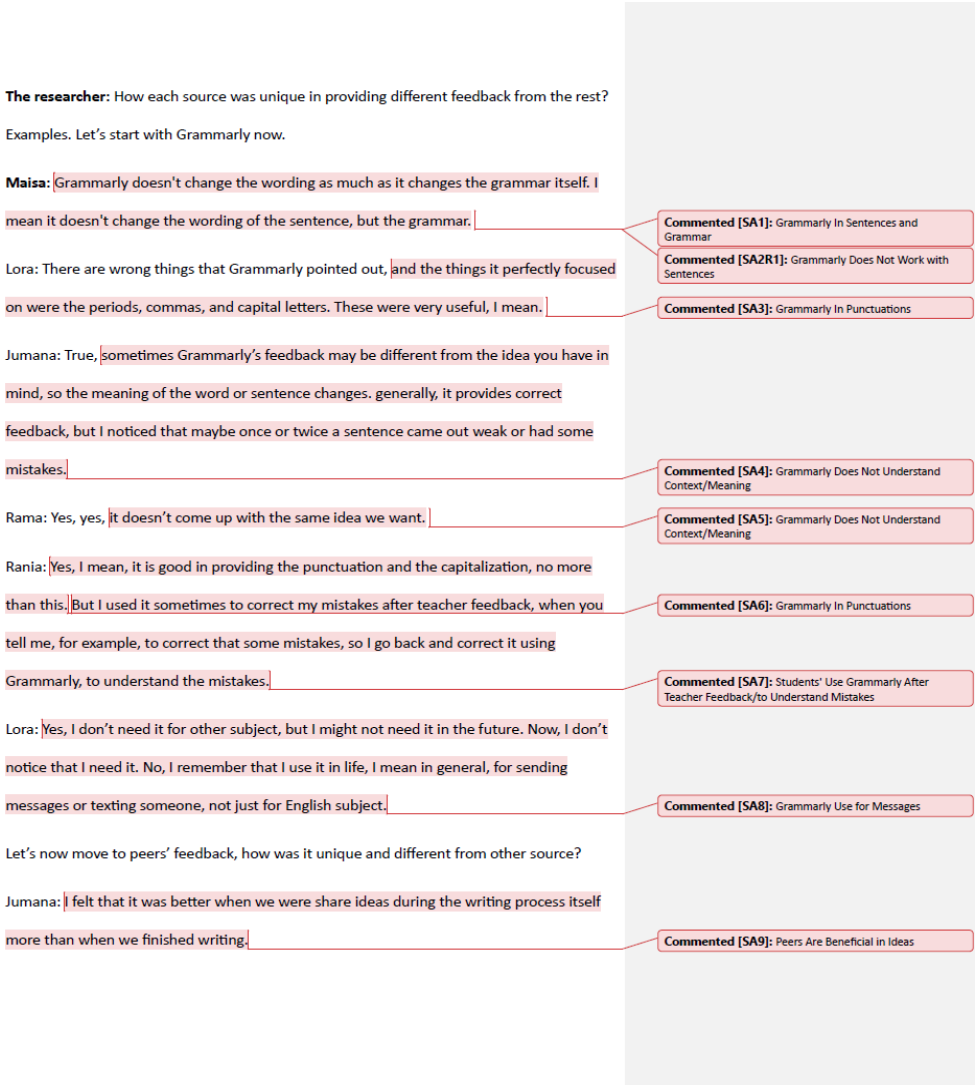
Occasional incorrectness of Grammarly	2
Deleting words and letters	1
Technical glitches	1
Theme: Teacher's Feedback Positioning	**18**
Teacher feedback was clear	5
Teacher feedback meets students' needs	4
Teacher feedback follows the marking criteria	1
Teacher's role in facilitating Grammarly use	1
Teacher feedback improves exam marks	1
Teacher feedback for missing/final issues	1
Colored comments from teacher were helpful	2
Appreciation to teacher efforts	3
Theme: Teacher Content Focused Feedback	**5**
Teacher feedback in understanding registers	1
Teacher feedback in understanding content structure	1
Teacher feedback in understanding cohesion and coherence	1
Teacher feedback improves vocabulary	1
Teacher feedback improves conclusion structure/content	1
Theme: Teacher’s exhaustive feedback	**3**
Teacher feedback is very detailed	3
Theme: Peers' Uselessness	**11**
Peers feedback is not beneficial	5
Students' belief that peers are not knowledgeable	2
Group-work depends on harmony	1
Different levels prevent usefulness	3
Theme: Peers’ Interactive Empowerment	**6**
Weekly group changing is good	1
Group-work encourages advising and teaching	1
Group-work helps observe missing points	2
Peer Feedback encourages remembering the mistakes	1

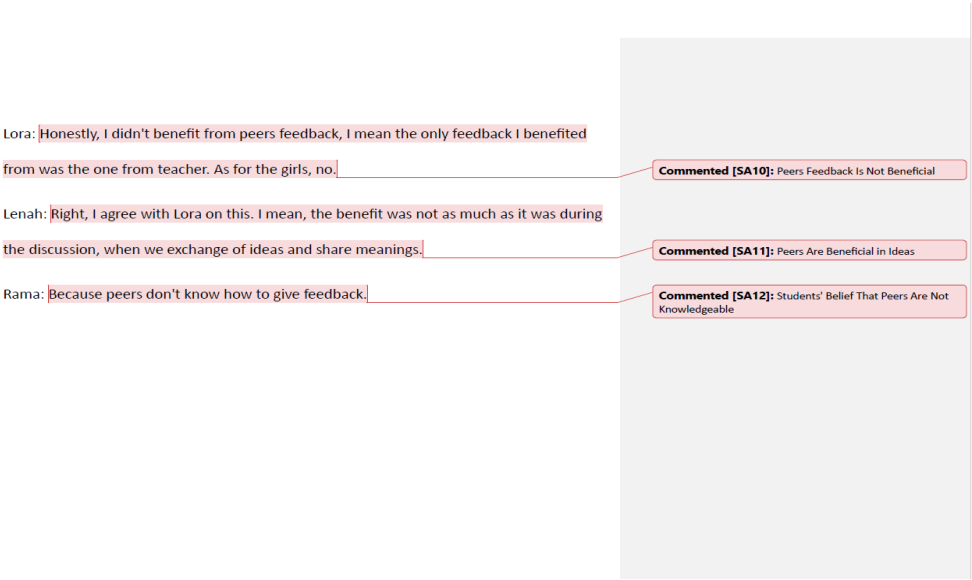
Peer feedback increases a sense of responsibility	1
Theme: Peers' Exchange of Ideas	**5**
Peers are beneficial in ideas	1
Peer work benefits in translating ideas	1
Peer work benefits in discussion	3
Theme: Previous Semester Challenges	**39**
Students' suggestions	3
Students' needs to choose the writing topics	1
Students' needs to an extended time in writing	1
Students' needs to feedback and guidance	1
Students' needs to learning writing conventions	1
Students' needs to different feedback sources	1
Students' needs to feedback quality	2
Students' needs to dedication and practice	3
The original preparatory year struggle	2
The bad class arrangement	1
Teacher's lack of experience	2
Lack of creativity and recurrence of writing process	1
Improvement needs patience	1
Lack of benefits	3
Absence of learning resources	3
Lack of individual performance	2
Teacher's ignorance to students' mistakes in writing	3
Students' disinvolvement in writing task	2
Self-study for exam	1
Insufficient preparation for exam	1
Sentence memorization for exam	4
Theme: Knowledge Construct to L2 Writing	**63**
Recognition of writing process	3
Students' awareness to their responsibility in learning (+)	2

Increased writing knowledge	1
Feedback quality	4
Understanding writing elements	3
Students' understanding to her writing personality	4
Understanding writing conceptions	1
Writing improvement	4
Students' new perception to writing	1
Realizing conclusion importance in writing	1
Knowing the writing basics	3
Knowing the importance of practice	10
Knowing organization and opinions in writing	1
Knowing content structure building	1
Knowing the importance of brainstorming and planning	6
Cohesion knowledge	2
Knowing paragraph structure and sentence reduction	6
Learning clarity in writing	3
Writing genre comprehension	6
Recognizing the development/difference	1
Theme: Learners' Autonomy	**13**
Students' interest in continuing apt class (+)	4
Students' interest to practice writing in future	2
APT encourages continuing learning	1
APT promotes autonomy	1
Students' future goals	2
APT taught techniques in improving speaking skill	3
Theme: Learners' Positivity/Confidence	**37**
Learners' confidence toward their performance	8
Ability to self-evaluate (+)	7
Regulation/Well-preparation strategies (+)	11
Comfort	3

Enjoyment (+) (+) (+)	8
Theme: Frequent Use of Grammarly	**9**
Grammarly's use after teacher feedback/to understand mistakes	6
Grammarly's use after teacher feedback/ to enhance writing quality	1
Grammarly's use after peers feedback	1
Grammarly's use for messages	1

P.1 An Example for Coding a Transcript for Grammarly and Peers Roles in Focus Group 3





Appendix Q The Consent Form to Participate in The Study (English and Arabic Versions)

Study title: A Proposed Model of Automated, Peer, and Teacher Feedback and Its Role in Engagement and Writing Performance Changes

Researcher name: Seham Ali Alsharif

ERGO number: 77655

Please initial the box(es) if you agree with the statement(s):

Statements	Please Initial Here
I have read and understood the information sheet (29 August 2022 /version no 1. of participant information sheet) and have had the opportunity to ask questions about the study.	
I agree to take part in this research project and agree for my data to be used for the purpose of this study.	
I agree to the use of my written drafts in the research project.	
I understand my participation is voluntary and I may withdraw (at any time) for any reason without my participation rights being affected.	
I understand that my answers to the research materials will not affect my official grades of the module.	
I understand that my personal details, such as names, phone numbers and email addresses, will not be revealed to people outside the project.	
I understand that my words may be quoted in publications, reports, web pages, and other research outputs without showing my personal identities.	
I understand that taking part in the study involves audio recording which will be transcribed and then destroyed for the purposes set out in the participation information sheet.	
I understand that I must keep the research information confidential.	
I give permission for keeping the materials that I provide to be deposited to the University of Southampton OneDrive held by Seham Alsharif as described in the participant information sheet so it can be used for future research and learning.	

Optional - please only initial the box(es) you wish to agree to:

Statements	Please Initial Here
I have been given the opportunity to ask questions about the project.	
I agree to take part in the discussion groups for the purposes set out in the participation information sheet	
Other researchers may have access to these data only if they agree to preserve the confidentiality of the information.	
Other researchers may use my words in publications, reports, web pages, and other research output only if they agree to preserve the confidentiality of the information.	

Name of participant ……
Signature of participant…… Date ……..

Name of researcher ……
Signature of researcher …… Date ……..

نموذج موافقة تفصيلي للمشاركة في الدراسة البحثية

عنوان المشروع: نموذج مقترح لمراجعة الكتابة باللغة الانجليزية من خلال التصحيح الآلي ومراجعة الزملاء ومراجعة المعلم واثرها في مهارات الكتابة لدى متعلمي اللغة الثانية واندماجهم معها

رقم الموافقة الاخلاقية :٧٧٦٥٥

يُرجى وضع علامة في المربعات المناسبة	**من فضلك ضع اسمك هنا إذا كنت توافق**
المشاركة	
- اطلعت على ورقة معلومات المشروع واستوعبتها.	
- أتيحت لي الفرصة لطرح أسئلة عن المشروع.	
- أوافق على المشاركة في المشروع.	
- أعلم أن مشاركتي تطوعية.	
- أستطيع الانسحاب من الدراسة في أي وقت، ولست مضطرًا إلى تقديم أي مبررات بشأن عدم رغبتي في المشاركة.	
- أعلم أن إجاباتي عن بنود الاستبانة أو أسئلة المناقشة لن تؤثر في درجات مسوداتي الرسمية.	
استخدام المعلومات التي أقدمها لغرض هذا المشروع فقط	
- أعلم أن بياناتي الشخصية، مثل رقم الهاتف والعنوان، لن يتم الكشف عنها لأحد خارج نطاق المشروع.	
- أعلم أنه قد يتم اقتباس عباراتي في المنشورات والتقارير وصفحات الويب وغيرها من مخرجات البحث دون إظهار هويتي الشخصية.	
- أعلم أنه لن يتم استخدام اسمي الحقيقي في المنشورات أو غيرها من مخرجات البحث.	
- أوافق على نسخ مشاركتي بمشروع البحث وتسجيلها صوتيًا.	
- أوافق على استخدام مسودات التنقيح الخاصة بي في مشروع البحث.	
استخدام المعلومات التي أقدمها خارج نطاق هذا المشروع	
- لا يمكن للباحثين الآخرين الوصول إلى هذه البيانات إلا إذا وافقوا على الحفاظ على سرية البيانات.	
- لا يستطيع الباحثون الآخرون استخدام عباراتي في المنشورات والتقارير وصفحات الويب وغيرها من مخرجات البحث إلا إذا وافقوا على الحفاظ على سرية المعلومات.	
إذن يمكننا استخدام المعلومات التي تقدمها بشكل قانوني	
- أوافق على التنازل عن حقوق الطبع والنسخ والنشر التي أمتلكها في أي مواد متعلقة بهذا المشروع لصالح الباحثة، سهام الشريف.	

اختياري - يُرجى تحديد المربع (المربعات) الأولي فقط الذي ترغب في الموافقة عليه:

يُرجى وضع علامة في المربعات المناسبة	**من فضلك ضع اسمك هنا إذا كنت توافق**
- لقد أتيحت لي الفرصة لطرح أسئلة حول المشروع.	
- أوافق على المشاركة في مجموعات المناقشة للأغراض المنصوص عليها في ورقة معلومات المشاركة	
- قد لا يتمكن باحثون آخرون من الوصول إلى هذه البيانات إلا إذا وافقوا على الحفاظ على سرية المعلومات. .	
- قد يستخدم باحثون آخرون كلماتي في المنشورات والتقارير وصفحات الويب ومخرجات البحث الأخرى فقط إذا وافقوا على الحفاظ على سرية المعلومات.	

اسم المشارك: .....

التوقيع: .....

التاريخ: .....

الباحث: .....

التوقيع: .....

التاريخ: .....

Appendix R The Post-Study Engagement Questionnaire (Arabic Version)

UNIVERSITY OF Southampton

عنوان المشروع: مقترح لمراجعة الكتابة باللغة الانجليزية من خلال التصحيح الآلي ومراجعة الزملاء ومراجعة المعلم واثرها في مهارات الكتابة لدى متعلمي اللغة الثانية واندماجهم:

عزيزتي المشاركة

أنا سهام الشريف، باحثة دكتوراة في جامعة ساوثهامبتون بالمملكة المتحدة و بحثي هذا ممول من الملحقية الثقافية السعودية في لندن. ينصب تركيز دراستي على فهم كيف للطالب أن يستفيد من الملاحظات التي يحصل عليها من ثلاث مصادر مختلفة على ثلاث مراحل وهي تطبيق قرامرلي و الزملاء والمعلم لتحسين مهارة الكتابة ورفع مستوى الاندماج في محاضرات مادة اللغة الانجليزية.

ولمساعدتي في المشاركة في بحثي، أحتاج منك الإجابة على أسئلة الاستبانة الواردة أدناه .علماً بأن جميع المعلومات التي سيتم الحصول عليها لن تستخدم إلا لغرض هذه الدراسة فقط. ولن يتم الإفصاح عن هويتك وسيتم الحفاظ على سرية المعلومات وحذفها بعد الانتهاء من الدراسة.

سأكون في غاية الامتنان إن سمحت لي بالحصول على مشاركتك بكل صدق في هذا الاستبيان ليتسنى لي فهم فاعلية مصادر الملاحظات الثلاثة المختلفة وبالتالي اقتراح طرق لتحسين وتطوير مهارة الكتابة لدى الطالبات أمثالك ورفع مستوى اندماجهن في مادة الكتابة باللغة الانجليزية. لذا أرجو منك الاجابة على الأسئلة والعبارات الآتية بأكبر قدر ممكن من الصراحة والدقة .فأنا بحاجة إلى إجابات صادقة منك على بحثي وفي حال كان لديك أي استفسارات ، يمكنك التواصل معي عبر البريد الإلكتروني الوارد أدناه.

تحياتي
الباحثة
سهام الشريف
الإلكتروني البريد:
saa3n19@soton.ac.uk

نموذج الموافقة

أقرّ أنا، المشارك، بموجب هذا النموذج باطلاعي على المعلومات الواردة في هذه الرسالة واستيعابها، وأرغب في المشاركة في هذا البحث وبموجب ذلك أمنح الباحثة الحق في نسخ إجاباتي عن هذه الدراسة، وأي بحث آخر يتعلق بهذه البيانات واستخدامها.

التوقيع ..... التاريخ .....

UNIVERSITY OF Southampton

أولاً: البيانات الديموغرافية للمبحوثين

البيانات الخاصة بالشخص الذي يعبئ الاستبانة

العمر	
المؤهل العلمي	
عدد السنوات التي درست اللغة الانجليزية فيها	
الدرجة التي حصلت عليها في اللغة الانجليزية للفصل الدراسي السابق	

ثانياً: اسئلة الاستبيان

الرجاء اختيار الاجابة التي تعكس رأيك تماما من خلال خوضك لتجربة استخدام المصادر الثلاثة من خلال التعبير عن درجة موافقتك على توفر السمة فيك: أوافق بشدة، أوافق، الى حد ما، معارض، معارض بشدة

البيان	أوافق بشدة	أوافق	الى حد ما	معارض	معارض بشدة
الاندماج الذهني					
ساعدتني استراتيجية ثلاث مصادر (قرامرلي والزميلات والمعلمة) لمراجعة كتابتي في فهم اخطائي في مهارة الكتابة					
قادتني هذه الاستراتيجية الى أن أفكر ملياً في أخطائي وكيفية تحسينها					
كنت أتأكد من مدى فهمي للملاحظات بعد تلقيها من خلال طرح عدة اسئلة في ذهني وانا بمفردي					
أصبحت مدركة لمهارات اخرى لم اعرفها مسبقا مثل مهارة العصف الذهني وصياغة الأفكار و مراجعتها					
كانت الملاحظات المقدمة من قرامرلي والزملاء والمعلمة شاملة تجمع بين القواعد والمفردات و المحتوى والمعنى					
كانت استراتيجية الثلاث مصادر مكملة لبعضها في فهم نقاط ضعفي في الكتابة وتحسينها					
كنت اجتهد مليا لتحسين جميع نقاط ضعفي في الكتابة الانجليزية					
زودتني الثلاث مصادر بملاحظات دقيقة وصحيحةلتحسين كتابتي					
ساهمت الثلاث مصادر في جعل مجمل الملاحظات التي تلقيتها واضحة ومفهومة لتحسين كتابتي					
خلال مراجعتي لكتابتي وعلى ضوء الاقتراحات المقدمة من قرامرلي و الزملاء والمعلمةكنت انتقائية للملاحظات ذات الصلة باخطائي					
ساعدتني أوراق العمل المستخدمة لتقديم ملاحظات لزميلتي في فهم نقاط الضعف في كتابتها وتعديلها					
كانت الملاحظات التي أتلقاها من كل مصدر (قرامرلي أو الزميلات أو المعلمة) مكررة لملاحظات المصدر الاخر					
الملاحظات التي حصلت عليها من قرامرلي كانت بحاجة للمزيد من التوضيح					
خلال مراجعتي لكتابتي وعلى ضوء الاقتراحات المقدمة من قرامرلي، أصبحت واعية لمحدودية قرامرلي في التصحيح الالي لكتابتي					
الملاحظات التي حصلت عليها من زميلتي كانت بحاجة للمزيد من التوضيح					

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الملاحظات التي حصلت عليها من المعلمة كانت بحاجة للمزيد من التوضيح					
الاندماج العاطفي					
أرى بأن دمج ثلاث مصادر فكرة ابداعية ومحفزة للاندماج في عملية الكتابة وتحسينها					
حفزتني هذه الاستراتيجية معنويا لأستكشاف نقاط ضعفي في الكتابة بالانجليزية وتحسينها					
جعلتني هذه الاستراتيجية احظى بثقة أعلى لمناقشة أخطاء زميلتي					
أرى بأن دمج ثلاث مصادر لمراجعة الكتابة يستنزف وقت وطاقة					
زودتني الملاحظات التي حصلت عليها من قرامرلي بالثقة الكافية لمراجعة كتابتي مع زميلتي بعد ذلك					
خلال هذه الاستراتيجية، كنت أرحب بأن تقرأ زميلتي كتابتي ونتناقش في أخطائي الكتابية					
الملاحظات التي تلقيتها من المعلمة زادت من ثقتي في كتابتي في الاختبارات					
خلال هذه الاستراتيجية، كنت أشعر بالأحراج عندما تقرأ زميلتي كتابتي					
ثبطت ملاحظات المعلمة من عزيمتي لمراجعة كتابتي بالانجليزية					
جعلتني هذه الاستراتيجية أشعر بالمسؤولية تجاه تطوير كتابتي					
خلال هذه الاستراتيجية، كنت أستمتع بتلقي الملاحظات على كتابتي					
خلال هذه الاستراتيجية، كنت أشعر بالحيرة تجاه تلقي الملاحظات على كتابتي					
أرى بأن هذه الاستراتيجية لمراجعة كتابتي خلقت بيئة أفضل لتعليم وتطوير الكتابة باللغة الانجليزية					
الاندماج السلوكي					
خلال هذه الاستراتيجية، كنت أنصت جيدا لملاحظات زميلتي.					
خلال هذه الاستراتيجية، كنت أنصت جيدا لملاحضات معلمتي الشفهية والمكتوبة					
عند تلقي الملاحظات، كنت فقط أدّعي العمل عليها أمام المعلمة.					
قللت هذه الاستراتيجية من مثابرتي واهتمامي تجاه تحسين كتابتي باللغة الانجليزية.					
قللت هذه الاستراتيجية من اندماجي في النقاش وطرح الاسئلة التي تدور في ذهني مع المعلمة حول كتابتي.					
قللت هذه الاستراتيجية من اندماجي في النقاش وطرح الاسئلة و الافكار مع زميلاتي حول كتابتها.					
ساعدتني هذه الاستراتيجية في البحث عن طرق اخرى لتجويد كتابتي من ناحية القواعد.					
ساعدتني هذه الاستراتيجية في البحث عن طرق اخرى لتجويد كتابتي من ناحية المفردات.					
ساعدتني هذه الاستراتيجية في البحث عن طرق لتجويد كتابتي من ناحية المحتوى والافكار.					
ألهمتني الملاحظات التي تلقيتها من قرامرلي والزميلات والمعلمة بأن أفكر في طرق و استراتيجيات لتحسين كتابتي.					

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جعلتني هذه الاستراتيجية اندمج سلوكيا في عملية الكتابة من خلال طرح الاسئلة للمعلمة او الزميلات لفهم اخطائي وتحسينها.					
جعلتني هذه الاستراتيجية اندمج سلوكيا في عملية الكتابة من خلال المناقشة مع الزميلات والمعلمة عن مالايجول في ذهني وايصاله بشكل اوضح.					
كنت أضح بعين الإعتبار جميع الملاحظات التي اتلقاها من المصادر الثلاثة (قرامرلي والزملاء والمعلمة).					
كنت أضع بعين الاعتبار بعض الملاحظات التي اتلقاها من المصادر الثلاثة والتي غالبا تكون ذات قيمة وصلة بتحسين كتابتي.					
ساهمت هذه الاستراتيجية في تطوير كتابتي بشكل ملحوظ عن ماكانت عليه في المسودة الاولى في اول محاضرة.					

شكراً جزيلا على مشاركتك ووقتك.

دمت بخير

Appendix S The Post-Study Engagement Questionnaire (English Version)

Consent Form for Anonymous Surveys for Adult Participants

Study Title: A Proposed Model of Automated, Peer, and Teacher (APT) Feedback and Its Impact on L2 Learners' Engagement and Writing Performance Changes over time

Researcher(s): Seham Alsharif

University email: saa3n19@soton.ac.uk

Ethics/ERGO no: 68645

Version and date: 09/01/2023

Dear Participant,
My name is Seham Alsharif. I am studying for a PhD degree at the University of Southampton, UK. The focus of my study is how second language learners' engagement and writing improvement could change with the using of three sources of L2 writing feedback they receive from automated tool, peers, and teacher. To help recruit participants for my study, I need your response to the consent form and survey questions that are given below. All the information that is obtained will be used solely for this current study. Your identity will not be disclosed to anyone, and the information will be kept confidential and deleted after the completion of the study. You have the right to withdraw from this study at any stage of data collection. If you do, all the information that you have provided will be excluded from the study. However, I would really appreciate it if you could be a part of this study that aims to enhance our understanding of the effectiveness of the three different sources of feedback and to suggest ways of improvement. I will never be able to do this without the help of the learners (i.e. you). This research is funded by the Saudi Cultural Bureau in London.
Please read the following questions and statements and answer them as openly and as accurately as you can. I need your honest response for my research. If you have any questions at any stage, please feel free to contact me using the email given below.

Best regards,
Seham Alsharif
The researcher
Email: saa3n19@soton.ac.uk

CONSENT FORM

I, the participant, hereby acknowledge that I have read and understood the information in this letter, and I am willing to participate in this research. I give the researcher the right to transcribe, audio record and use my responses in this study and for any further research related to these data.

Signature: …… Date: ……

The Post-Study Questionnaire

Please select the answer that best describes your response to the following. Please answer based upon your experiences, and NOT as you think you should answer. I rely on your honest responses.

Behavioural Engagement					
Items	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. When I worked with my peer, I listened very carefully to her feedback.					
2. I listened very carefully to my teacher's oral feedback in class.					
3.When I received feedback, I just acted as if I was working on improving my errors in front of the teacher.					
4. this model reduced my intention to work hard to be a better writer.					
5. It reduced my participation in discussions and my intention to ask questions to my teacher.					
6. It reduced my participation in discussions and my intention to ask questions to my peers.					
7. It assisted me in identifying ways for repairing mechanical and grammatical errors.					
8. It assisted me in identifying ways for repairing vocabulary errors.					

9. It assisted me in identifying ways for repairing content errors.					
10. It inspired me to think about other ways to improve my writing.					
11. It made me ask questions to the teacher or peers to understand my mistakes and rectify them.					
12. It made me discuss what was on my mind with my peers and the teacher, and to communicate it more clearly.					
13. I take into consideration all feedback I receive from the three sources.					
14. I solely focus on and value relevant feedback when revising my drafts.					
15. It greatly improved my writing compared to my first draft.					

Cognitive Engagement					
Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The three sources enhanced my ability to comprehend my writing deficiencies.					
2. It prompted me to engage in a critical reflection regarding improving my writing performance.					
3. It made me engage through a self-inquiry process to ensure a comprehension of its content.					
4. It cultivated my knowledge of various English writing skills, including idea generation, drafting, and reviewing.					
5. It emphasised different stages of revisions encompassing aspects such as mechanics, grammar, vocabulary, and content.					
6. It was inclusive about improving writing weaknesses.					
7. I strived to comprehend and improve my deficiencies in writing.					
8. It provided me with precise and well-placed feedback.					
9. Generally, it made the feedback I received lucid and comprehensible, facilitating the refinement of my errors.					

10. During the process of revising my drafts, I possessed the knowledge of what to incorporate and omit from the received feedback.					
11. The peer feedback worksheets helped me understand weaknesses in peers' writings and improve them.					
12. The feedback I obtained from each source duplicated the other sources.					
13. The feedback I received from Grammarly needed further clarification.					
14. In consideration of the feedback from Grammarly, I became aware of its potential limitations.					
15. The feedback I received from peers needed further clarification.					
16. The feedback I received from the teacher needed further clarification.					

Affective Engagement					
Items	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1.I believe that integrating three sources of feedback was creative and engaging about improving writing.					
2. I felt I received the social support to be a better writer.					
3.I was more confident about discussing my peer's mistakes.					
4. I believe that this model consumed time and effort.					
5. The feedback I got from Grammarly gave me enough confidence to review my writing with my peers afterwards.					
6. I was willing to let peers read and discuss my writing deficiencies.					
7. The feedback I received from the teacher increased my confidence in my writing.					
8. I felt embarrassed after getting feedback from my peer on my writing.					
9. The teacher's feedback undermined my writing confidence.					
10. I feel that I have become more responsible about my writing improvement					

11. I enjoyed getting feedback on my writing in class.					
12. I found myself uncertain regarding the feedback I received from the APT model.					
13. The three sources created a good learning environment.					