

Prospective methodological considerations in L2 written feedback research

Ali Rastgou

Islamic Azad University, Shahrood Branch, Shahrood, Iran

Correspondence

Email: ali.r@alumni.unimelb.edu.au

Abstract

The current study draws on the findings in L2 written feedback research to propose some key empirical and methodological issues which can be considered in new feedback studies. It delineates the characteristics of feedback literate L2 writers to underline the pivotal role of student feedback literacy within a writing-to-learn framework, within which it then calls for empirical tolerance toward attaining L2 development. Rejecting a rigorous prescription for selecting a focused, semi-focused or unfocused WCF scope for a wide range of writing contexts, it introduces a proportional WCF scope arguing that the selection of target structures for feedback processing is a dynamic and context-specific decision-making process mediated by learner-specific and contextual affordances and constraints. In the same vein, it argues against the inclusion of a no-WCF group in future quantitative studies as research findings to date suggest little contribution for practice effect alone unless the inclusion is empirically justified for specific purposes. The study also calls for conducting equal-weight mixed-methods studies in L2 written feedback research and for employing well-defined interview protocols and open-ended questionnaires to gain clearer perspectives about the learners' writing experience and to better substantiate quantitative findings.

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Introduction

The topic of foreign/second language (L2) written feedback has compelled growing pedagogical and empirical attention over the past three decades with the advent of process approaches to L2 writing, which introduce L2 writer as a working agent in critical thinking, engaging with feedback, and structuring, communicating and reconstructing ideas. Within this learning-to-write framework, the L2 writer is essentially referred to as a feedback literate agent (Han & Xu, 2021; Molloy, Boud, & Henderson, 2020; Sutton, 2012) in academic settings with expanding competence in composing, engaging with feedback and rewriting. From the writing-to-learn perspective, however, this active agent is also capable of noticing, internalizing, restructuring and constructing linguistic knowledge while gradually consolidating the

knowledge through consistent engagement in the writing, feedback processing and rewriting practice (Bitchener, 2012; Hyland, 2011; Manchón, 2011; Manchón & Roca de Larios, 2011). This perspective endorses the viability of a process commencing with writing (initial output), attending to, noticing and comprehending immediate linguistic gaps (intake) through acting upon feedback (input), rewriting informed by feedback (modified output), storing linguistic information in the long-term memory for subsequent writing (uptake), and ultimately generating ideas on a novel topic (new output) (Bitchener & Storch, 2016; Gass, 1997; Williams, 2012). This evidently depicts a consequential shift from product writing, where a composition is generated as a single draft with little instruction about how it needs to be generated.

The current study highlights the importance of developing student feedback literacy and postulates some of its key implications in the process of linguistic knowledge construction. Given that the process of L2 writing and L2 development through writing demands time for consistent intervention and L2 writer's repeated engagement, it highlights the importance of conducting longitudinal studies in feedback research, where in light of the L2 writers' proficiency level and other potential variables, an extended number of issues related to form, meaning and organization are collectively addressed over a certain period of time. The study briefly reviews the extant literature concerning the control groups and discusses the possibility of excluding it in most future feedback studies. Instead, it invites the administration of more equal-weight quantitative/qualitative research in the field with well-developed interview protocols and open-ended questionnaires, which can offer valid explanations for the phenomena occurring in the course of L2 writing development and SLA.

Feedback Literacy and Feedback Engagement in a Process Approach to L2 Writing

Feedback literacy has become a principal constituent of academic literacy (Lea & Street, 1998), the overarching concept which acknowledges students' adjustment with innovative pedagogical strategies so that they develop "new educational identities", which can at times be demanding (Sutton, 2012, p. 31). In particular, Sutton operationalizes feedback literacy as the developed capacity of reading, interpreting and implementing feedback with its epistemological, ontological and practical dimensions (Sutton, 2012). The epistemological dimensions incorporate the summative justifications for an assigned grade and the formative feedback to mediate how a written production can be ameliorated in form and content. Formative feedback informs students about how to enhance clarity "through improving sentence structure and the staging of an argument" and how feedback "may be fed-forward into other, and possibly unrelated, assessments", i.e., generalization (p. 34). The ontological dimensions of feedback literacy pursue approaches to bolster writers' self-confidence and identity, lower their anxiety and improve them as beings in an educational context. To this end, feedback is presented to nurture writers as active agents well aware of its instrumentality in their development of self (being) and their education (knowing). The practical dimensions, on the other hand, address the extent to which writers can

feed forward, i.e., critically read, accurately interpret and judiciously employ, the feedback they receive during redrafting. Sutton contends that feed-forward skills, in particular correct interpretation, need to be instructed as students are not inherently acclimated to the genre, terminology and style. In consonance with Sutton's operationalization of feedback literacy, there are feedback frameworks in the context of L2 development which draw upon learners' engagement with feedback (e.g., Ellis, 2010; Zhang & Hyland, 2018). Ellis (2010), for instance, proposes a tripartite classification of student engagement with oral and written corrective feedback (CF) in light of CF type, individual differences and contextual variables. This classification embodies a cognitive dimension, i.e., "how learners attend to the CF they receive", a behavioral dimension, i.e., "whether and in what way learners uptake oral corrections or revise their written texts", and an affective dimension, i.e., "how learners respond attitudinally to the CF" (p. 342).

Numerous studies have investigated the characteristics of feedback literate students (e.g., Carless & Boud, 2018; Chong, 2021; Han & Xu, 2021; Li & Han, 2021; Molloy, Boud & Henderson, Yang & Zhang, 2023; 2020; Yu & Liu, 2021; Zhang & Mao, 2023). Carless and Boud (2018), for instance, maintain that feedback literate students appreciate feedback for improving their written work, identify varying manifestations and sources of feedback, utilize technology to access, collect and revisit feedback, develop judgmental capacities for both their own and peers' works, refine their self-appraisal capacities, sustain emotional control over critical feedback, elicit feedback from peers and teachers proactively, take prompt measures in response to feedback, draw inferences from various feedback experiences, and develop metacognitive feed-forward strategies.

Molloy, Boud and Henderson (2020) have developed a more intricate framework showcasing a comprehensive picture of feedback literate students. At the core of their classification are students not simply as compliant feedback recipients, but fully functioning agents who continue to engage with feedback and appreciate it as a didactic yardstick to improve their written work and learning strategies. Recognizing their educational needs, they reach the awareness that feedback must be acted upon to be constructive, although they are at liberty to disregard some of it, and that engagement with feedback progressively optimizes their own evaluative judgment. Moreover, they monitor their development and develop strategies to store feedback information to employ in future work. Thus, they are amenable to engaging with critical feedback, which they can solicit from external resources (e.g., online information, teachers, peers, experts, textbooks and references). They also exchange ideas formally or informally, individually, in pairs and in groups, via written, oral or digital modules or by means of exemplars, about each other's output productions. They develop feedback providing strategies to appraise others' works, offer them pedagogically instrumental information and learn to be open to both favorable and disapproving reactions. They tackle critical feedback even when it is perceived as

misrepresenting or punitive. Finally, they expand their information about the characteristics of well-written works and their knowledge of feedback terminology.

A pivotal implication of the exhaustive delineations about student feedback literacy is that engagement with feedback is integral to learning centered process writing. The studies above, which were mainly conducted in academic writing settings, have other empirical and methodological implications for written feedback studies conducted in L2 (e.g., EFL/ESL) settings and in writing courses aimed at preparing students for high-stakes writing examinations. These writing courses underline the importance of form-focused development, i.e., morphological, syntactic, lexical, orthographical and mechanical aspects of writing. The following research questions portray some of these implications, which incorporate epistemological, ontological and practical perspectives of feedback literacy (Sutton, 2012) in a foreign/second language context: How can L2 writing practitioners collaboratively design and administer feedback practices to develop L2 writers' linguistic knowledge as well as their feedback literacy? In what ways can L2 writers who are overwhelmed by the volume and criticality of feedback on form and content in the earlier stage of writing/rewriting practice, gradually attain emotional control and sustain it over the writing course to gain didactic benefits from feedback? How is a feedback literate L2 writer characterized in response to form-based feedback and in preparatory (pre-college, first-year, or IELTS and TOEFL) writing courses, which are contextually different from academic content courses? Given the gradual nature of L2 writing development, i.e., learning to write, and L2 development, i.e. SLA, via written modules, how can L2 written feedback study designs be optimized in light of duration and intervention to better reflect the influence of engagement with WCF and feedback on content and organization? How can L2 writing practitioners exploit the widespread availability of online resources to train strategic and metacognitive L2 writers as a potential alternative to or in tandem with WCF? How can L2 student writers' use of writing portfolio, exemplars and error logs facilitate error reduction and contribute to quality writing over a writing course? An underlying implication embedded in these proposed questions is a call for empirical tolerance: L2 student writers' linguistic development is not achieved overnight, a topic discussed in light of some of the written feedback studies in the following section.

Discrepancy between the Gradualness of L2 Development and Time 1 & 2 Comparisons in Feedback Studies

An intrinsic property of a process approach to L2 writing (e.g., Hattie & Timperley, 2007) is the gradualness of L2 development, the fact that L2 development occurs through and over time (Polio, 2017), and as such, longitudinal studies (Ortega & Iberri-Shea, 2005) are required to explore the contributions of written feedback in this developmental process. The gradual expansion and consolidation of L2 knowledge has been the core of theories of second language acquisition, as well. To illustrate, the skill acquisition theory (DeKeyser, 2007) expounds the pivotal contribution of prolonged, meaningful practice in the process of developing knowledge from a declarative stage

through to procedural and automatic knowledge. Likewise, the conceptual implementation of sociocultural theory (Vygotsky, 1978) in L2 development through engagement in L2 writing suggests that in order to attain optimum accuracy, the L2 writer needs to engage in a stepwise process of negotiation of form with an expert, which requires ample time and writing practice.

By the same token, an empirical implication of the gradual nature of L2 development is that single-shot WCF studies are less likely to extend on written feedback research, in particular, in the case of extended WCF scope (see the next section). Although van Beuningen, De Jong, & Kuiken (2012) found that a single-shot WCF session proved effective in enhancing overall accuracy gain and retaining it after four weeks, other studies failed to confirm accuracy gain following a single unfocused WCF episode. For instance, in Truscott and Hsu (2008), the lower-proficiency participants who received only one round of unfocused WCF neither improved significantly from Time 1 to Time 2, nor outperformed the experimental group. In effect, except in the case of comparing post-test and delayed post-test compositions, comparing performances in two consecutively written compositions with meager writing engagement between the two composing times will likely yield little or inconclusive information about the contributions of feedback in accuracy gain.

This type of comparison is the principal methodological conundrum in Robb, Ross and Shortreed's (1986) investigation. In this highly cited study, although 134 Japanese EFL freshmen composed five 250-word essays, received unfocused (direct and indirect) WCF, and rewrote four of them, no typical pre-test/post-test comparison (of Time 1 and 5) was reported. Instead, performances at Times 3 and 4 were compared, which suggested no significant improvement or even deterioration. However, the ratios of error-free T-units to total T-units in the pretest (Time 1) and Script 4 (Time 5) were .343 and .426 for the Correction Group, and .312 and .419 for the Marginal Group, respectively, data which were not statistically compared. Similar results were obtained regarding fluency (measured by the number of total words written and total clauses) and complexity (ratio of additional clauses to total words written as well as additional clauses), with likely significant improvement in most cases (see *Results* in Robb et al., 1986). By contrast, in most studies with consistent feedback intervention between Time 1 and 2, significant overall accuracy gain has been reported (e.g., Chandler, 2003; Ferris, 2006; Hartshorn et al., 2010; Rahimi, 2021).

An under-researched question in this respect is how many writing/feedback processing/rewriting episodes are required for L2 writers of varying proficiency levels to significantly improve in various error categories as some are less treatable than others (Ferris, 1999). Although most focused WCF studies demonstrated that some error categories, such as definite article in English, are likely to be treated following a single-shot feedback session, research is needed to explore accuracy gain in distinct categories when an array of grammatical categories (e.g., tenses, subject-verb agreement, prepositions, articles) are simultaneously given feedback. Other studies

may wish to explore why some grammatical categories are not easily treated or what feedback practices or contextual strategies facilitate their treatment and more consistent accurate use in subsequent writing attempts. The next section explores some of the factors which inform the selection of an appropriate WCF scope.

The Complexity of Decision Making about WCF Scope: Justifying Proportional WCF

This section raises issues with overstating the classification of WCF scope into focused, semi-focused and unfocused arguing that this tripartite categorization diverts L2 writing researchers' and practitioners' attention from the key conditions which inform an appropriate selection of target structures. It concludes that WCF should be compatible with the L2 writers' competence in deep processing of feedback within the course of L2 writing practice. First, it reviews the literature on WCF scope and the concept of error category.

Controversies in the Operationalization of Focused, Semi-focused and Unfocused WCF

L2 writing practitioners often ponder whether to rectify all form-based errors or target selected error categories, and if so, why and in what ways, an area which has recently received critical empirical attention (e.g., Bitchener & Storch, 2016; Ferris, 2010; Lee, 2019; 2021; Liu & Brown, 2015; Mao & Lee, 2020; Rahimi, 2021). The incompatibility between the large number of specific grammatical features that students may generate inaccurately and the often limited number of writing/rewriting sessions in many L2 programs may prompt L2 writing teachers to address as many issues in form, meaning and organization as possible in a given L2 writing program. On the other hand, L2 writers, in particular those at lower-proficiency levels, may make a vast array of grammatical errors during communicating meaning but may not be (meta-)cognitively ready to process WCF targeting all those error categories, i.e., unfocused or comprehensive WCF. Therefore, the teacher may find the arduous task of correcting all grammatical errors futile (Gu nette, 2007; 2012). Likewise, L2 writers sometimes find teachers' corrections and codes overwhelming, disheartening, or indecipherable (Bitchener & Ferris, 2012; Ferris, 2018) despite their general enthusiasm to learn from amendments of all their errors (as in Bonilla, Steendam & Buyse, 2017). Empirically, various approaches to WCF scope have been scrutinized. While some studies endorse the efficacy of a focused approach, i.e., the correction of one or two structures in a composition (e.g., Bitchener & Knoch, 2008; 2009) or a limited number of structures to rectify in each composition (e.g., Bitchener, Young & Cameroon, 2005; Lee, 2019; Sheen, Wright & Moldawa, 2009), others recommend a mid-focused WCF approach (e.g., Bitchener & Ferris, 2012; Rahimi, 2021), an extended WCF scope (e.g., Rastgou, Storch & Knoch, 2020), or an unfocused approach (e.g., Bonilla et al., 2017; Bonilla, van Steendam, Speelman & Buyse, 2018; Chandler, 2003; Hartshorn et al., 2010; Rahimi, 2021).

As regards operationalization, unfocused or comprehensive, semi-focused or mid-focused, and focused or selective approaches to WCF scope have been defined differently in different studies (Mao & Lee, 2020). For example, Sheen et al. (2009) call a group who received WCF on four error features (i.e., articles, copula, prepositions, and regular past tense) an unfocused group, while it is now agreed that this narrow selection is rather focused, and that unfocused WCF refers to the correction of (virtually) all grammatical and perhaps other form-related errors. In contrast, Rahimi (2021) draws on Ferris and Roberts' (2001) classification of errors into five broad categories, namely, verb errors, noun ending errors, article errors, wrong words, and sentence structure and introduces their word + sentence groups mainly as focused groups, although it is generally agreed that focused WCF addresses one or two narrow features (e.g., simple present tense), not broad grammatical categories. On the other hand, while Lee (2013) endorses a middle position, where several grammatical categories are addressed, Lee (2019) narrows down the middle position toward a focused WCF approach, whereby "only a few error types are targeted for WCF in each piece of writing" (p. 530) because, as she contends, the approach is less puzzling, less threatening and more goal-oriented, which accommodates additional time for feedback on content and organization, and facilitates learning as L2 writers can attend to specifically designated grammatical categories in each composition. The practice, nevertheless, has been criticized for its low ecological validity (Storch, 2010) and the fact that L2 writing teachers do not normally neglect the opportunity of rectifying errors from various categories. In sum, the terms *error*, *grammatical category* or *error category* have been operationalized controversially, which further muddles decisions concerning appropriate WCF scope.

Operationalizing Error Category

Prior to asking "How many features can optimally be treated in a research study (and, by extension, during a writing language courses), and which ones?" (Ferris, 2010, p. 196), a crucial question to consider is how an error category should be operationalized. Should teachers take into account *broad* categories (e.g., 5 categories, as noted above) (Ferris & Roberts, 2001) or *specific* categories (e.g., 15, 23 or 27 features identified by Ferris, 2006; Chandler, 2003; and Bitchener et al., 2005, respectively)? Due to the complexity of some categories, some have even introduced subsets of specific grammatical features (e.g., *the* only as a definite article, as in Bitchener et al., 2005; or *regular* simple past verbs, as in Frear & Chiu, 2015). Ferris (2010) notes that specific features are more suitable to be considered as target structures than broad categories. First, the reason for this preference is illustrated, and then some key questions associated with grammatical features are posed for future studies.

To begin with, the inclusion of broad grammatical categories (e.g., adverbs) at the expense of excluding other broad categories (e.g., word order) in a, say, mid-focused approach is likely to pose didactic concerns and biased empirical expectations because while correcting some functions of the target structures might be processable for lower-proficiency L2 writers, other more complex functions might not. For example,

in the case of adverbs, different functions can be addressed (or remain deliberately unaddressed): form (ly-ending adverbs vs. adverbs without -ly), confusing -ly ending adjectives with adverbs (e.g., lively), position of adverbs (e.g., at the beginning/end of the clause; before the main verb, before adjectives and other adverbs, after copula, between the first and second parts of a verb, inverted adverbs), types and sequencing (adverbs of frequency, state, place, time), uncommon constructions (e.g., long+ly), inaccurate choices (*very + colder), adverbial phrases (e.g., in a friendly manner), and so forth. Evidently, amendments concerning some of these aspects are more puzzling leading to minimal learning for the students who are less ready to process them. While these students may not be cognitively ready to process and extrapolate the rule based on corrections concerning, for instance, inverted adverbs, they might be cognitively ready to process amendments concerning a basic form of word order, such as noun + noun (e.g., *library school). The same applies to other broad categories, such as tense, passive voice and articles. Even for apparently straightforward grammatical categories, writing teachers need to consider the difficulty level of context-specific subsets within each category. For instance, when addressing *subject-verb agreement* and *plurality* – two apparently simple/treatable categories for lower-proficiency L2 writers, teachers should note that some errors in these categories (e.g., *one of the most important reason is ...) are more complex than others (e.g., *two reason). While in the case of the former the teacher may find written metalinguistic information or follow-up oral conferencing beneficial, in the latter he may only add *s* to reason (direct WCF) or code it (indirect WCF). In sum, L2 writing practitioners and researchers need to take into account the differential complexity levels of the same grammatical categories for different groups of L2 writers over a particular timespan.

Other issues concerning WCF domain still remain to be investigated. For instance, if several structures are to be addressed, should the selection of target structures be based on the teacher's intuition about the gravity of errors, or should target structures be negotiated with students? If certain categories are to be addressed, should priorities be given to salient surface-level/word-level (local) errors, sentence structure/syntactic errors, global errors, i.e., incomprehensible segments, or a compromise between them? If so, how should a pedagogically instrumental compromise be reached? More importantly, when new structures are targeted, should recurring errors in the old categories still be targeted or should they be disregarded? Given the large number of grammatical categories, what ratio of errors should be addressed? The following section aims to highlight some of the conditions which inform decisions about appropriate scope of WCF.

Conditions Mediating the Selection of an Appropriate WCF Scope

Various empirical studies suggest that offering WCF to different proportions of errors can lead to overall grammatical accuracy. For instance, in most highly focused WCF studies (e.g., Bitchener & Knoch, 2008; 2009; Sheen, 2007), given that only one or two grammatical features have been addressed, a single-shot feedback session has proved effective in their accurate use even in the absence of rewriting. Nonetheless, as

targeting only one or two grammatical features is not a typical feedback practice (Ferris, 2010), it is critical to explore the variables which mediate the efficacy of feedback on a wider range of grammatical features. A review of WCF studies reveals that four main conditions seem to contribute to accuracy gain more than others: a) students' metalinguistic information; b) the number of compositions to be written over a certain timespan, c) the proficiency level of L2 writers, and d) rewriting engagement. First, the two recent studies by Bonilla and her colleagues (2017; 2018) suggest that L2 student writers with high metalinguistic knowledge are likely to benefit from unfocused WCF even when they are engaged in a limited writing and rewriting process and are not necessarily high-proficiency writers. L2 writers of high metalinguistic knowledge in these studies are operationalized as university students of English and English Teaching in an EFL context who receive several years of high school English instruction with substantial grammar practice via different modules, in comparison with university students of other disciplines, as in Shintani and Ellis (2013) and Shintani, Ellis and Suzuki (2014). Nevertheless, future studies may wish to further explore the correlation between L2 writers' metalinguistic knowledge and WCF scope or seek approaches which enhance students' metalinguistic knowledge in a writing or language course.

The next two conditions – the larger number of compositions written (Rastgou et al., 2020) and higher proficiency – are likely to integrate and maximize the efficacy of WCF. To begin with, low- to mid-intermediate students need to write (and rewrite) a larger number of compositions than their higher proficiency counterparts as there are various grammatical categories to engage with. For example, in Ferris' (2006) study, the lower-intermediate students significantly improved in overall grammatical accuracy, but not in each of the 15 grammatical features distinctively, when they wrote four compositions and rewrote each one twice (a total of 12 tasks). In Rastgou et al.'s (2020) study, two groups of low- to mid-intermediate students (WCF Group and WCF + content/organization Group) who wrote and rewrote eight interim compositions between the pretest and posttest and engaged with WCF on ten grammatical categories significantly improved in overall grammatical accuracy. In Rahimi's (2021) study, where the mid-intermediate students wrote and rewrote five lengthy compositions (550+ words), the two semi-focused groups outperformed their unfocused counterparts in sentence and word categories, while the unfocused groups outperformed others in overall accuracy. Similar results were attained in Chandler's (2003) study, where high-intermediate and advanced students wrote and rewrote five 1,200-word autobiographies in two separate studies, and in Hartshorn et al.'s (2010) study, where advanced L2 writers wrote numerous short paragraphs and rewrote them to the point of error eradication. In both of these unfocused WCF studies, the high-proficiency student writers were engaged with substantial writing and rewriting informed by WCF to gain significant accuracy gain. In sum, with a larger number of error categories to tackle, students need to (re)write more or lengthier compositions to have repeated opportunities to engage with teacher feedback and reappraise their hypotheses about how L2 grammatical rules work in written contexts.

Fourth, in all the studies reviewed under the three conditions above and numerous other studies, rewriting has played a vital role in L2 writers noticing and understanding their linguistic gaps and formulating and testing their linguistic hypotheses. Even though this may not be the case in focused WCF studies, where without mandatory rewriting, the L2 writers managed to use the target structures more accurately, some studies (e.g., Sheen et al., 2009) propose the likelihood that even in the case of focused WCF, rewriting passages might trigger overall self-correction, i.e., student attention to non-target structures in addition to the target ones, an area which is worth further investigation. For instance, does focused WCF (e.g., only on relative clauses) trigger the attention of higher proficiency L2 writers to not only erroneous relative clauses but also other grammatical categories during rewriting or does it result in the fossilization of non-target erroneous structures as a result of rewriting? In the case of focused WCF, does a self-correction note (a written reminder to higher-proficiency students to correct other grammatical issues) play a role in overall error reduction? What are the best strategies to remind, encourage, or oblige L2 writers of varying proficiency levels to self-correct inaccurate (non-target) structures which they identify? The main objective of such inquiries is to pursue less onerous yet efficacious correction routes.

On the other hand, when a wider variety of structures are addressed, without mandatory rewriting, students may simply have a fleeting glimpse at the feedback and discard their compositions (Guénette, 2012). The aforementioned unfocused or semi-focused WCF studies reported that rewriting played a key role in the expansion and consolidation of grammatical knowledge. In sum, it can be synthesized that rewriting must be an indispensable component of any writing program because L2 writing practitioners often address aspects of form, development of idea, clarity, reasoning, cohesion and coherence, and organization in compositions, where rewriting can better warrant attention and lead to an improved draft in terms of accuracy and quality (see Chandler, 2003 and Rahimi, 2021).

Characteristics of Proportional WCF and Proportional Written Feedback

In view of the conditions discussed above, an appropriate WCF scope can be referred to as proportional WCF, a flexible scope roughly tailored to the immediate and growing linguistic caliber and constraints of a group of L2 writers, characterized by their proficiency level, which informs what structures they are fairly familiar with, and by the number of compositions they are supposed to write and rewrite over a writing course. Proportional WCF is fairly dynamic and context-specific but aims to consistently address as many grammatical structures as possible without maintaining a static midpoint ground. To respond to the linguistic needs of lower-proficiency L2 writers, it directly or indirectly addresses several familiar target structures or selected aspects of those structures over an extended number of writing/rewriting sessions. The scope expands in keeping with higher proficiency newly achieved and increasing writing/rewriting opportunities to address most or all erroneous structures for higher proficiency students over time. This way, it is incremental in that when new target

structures are to be amended, errors related to older target structures are still rectified, coded or reminded. Proportional WCF also provides praise by accounting for conspicuous improvement and success in accurate use of structures identified in independent writing tasks, which is manifested by a sincere, encouraging remark or checkmark directly pinpointing designated accurate uses. It can also be suggested that unattended segments, i.e., non-target categories, should not remain utterly unattended, and instead, L2 writers should be trained to self-initiate amendments during revisions. For instance, if aspects of global or sentence-level errors (e.g., ambiguous sentences or clauses) are not targeted, a sentence error can be bracketed and coded RW (i.e., rewrite this segment) for the student to revise it for the purpose of clarity. In the case of non-target but recurring surface-level errors, L2 writers can gently be reminded of error recurrence, and encouraged to self-correct errors upon identifying any during rewriting.

However, a comprehensive model of written feedback (e.g., Hattie & Timperley, 2007; Mandouit & Hattie, 2023) is not restricted to proportional WCF, but seeks a comprehensive model of proportional written feedback, where dimensions of language as well as fluency, complexity, content and organization are addressed. Feedback research should continue to investigate the extent to which lexical, orthographical and mechanical issues, in particular those which impede comprehensibility, can be addressed without overwhelming L2 writers. A comprehensive model of written feedback explores how form-based errors should be amended without detriment to complexity and fluency in L2 writing, preferably with balanced growth in CAF (complexity, accuracy and fluency) or multi-competence (Bitchener, 2012). Optimum written feedback is still more overarching by giving substantial attention, and perhaps priority, to the issues of content, meaning and organization. Quantitative and qualitative findings in Rastgou et al.'s (2020) and Rastgou's (2022) studies, respectively, suggested evidence for balanced development in aspects of CAF, content and organization. The results showed that simultaneous consistent feedback on content, organization and selected grammatical structures resulted in significant improvement in overall grammatical accuracy, content, organization, fluency, construction of students' metacognitive knowledge, and construction of construct knowledge (i.e., what is meant by content, organization, writing pace, writing flow, etc.), whereas consistent WCF alone led only to significant improvement in overall grammatical accuracy. Further studies need to explore conditions for multi-competence and multilateral development, i.e., L2 writing development and L2 development in writing courses. Evidently, in such feedback frameworks, there is little room for a writing → rewriting or writing 1 → writing 2 processes, which exclude the WCF processing phase.

The Case of No-WCF Group in Empirical Studies of Process Writing

In numerous written feedback studies, the principles of the process writing approach have been employed to explore the best feedback practices which may facilitate L2

(writing) development. Concerning form-focused feedback, in particular, WCF studies over the past two decades have sought to explain what feedback types (e.g., direct or indirect WCF with or without metalinguistic information or classroom conferencing) are more effective, what writing processes should be followed (e.g., writing → feedback processing; writing → rewriting; writing → feedback processing → rewriting), or what WCF scope should be employed to benefit L2 writers. A large number of these writing/feedback studies justifiably compared their findings of feedback efficacy against a no-feedback group to control for the effect of writing practice, i.e., to investigate whether student engagement in writing practice without external feedback would lead to accuracy gain. However, the results in none of these studies suggest a distinct advantage concerning accuracy, content and organization for the no-feedback group in comparison with the performance of a parallel feedback group. For instance, in none of the focused WCF studies (e.g., Bitchener & Knoch 2008; 2009; Bitchener et al., 2005; Diab, 2015; Sheen, 2007; Shintani & Ellis, 2013; Shintani, Ellis & Suzuki, 2014) did the no-feedback group improve in grammatical accuracy, whereas the feedback groups significantly improved from pretest to posttest in most of the studies. Neither did the no-WCF group in studies which compared focused and unfocused WCF scopes (e.g., Ellis, Sheen, Murakami & Takashima, 2008; Frear & Chiu, 2015; Sheen et al., 2009) prove any significant performance in accuracy or other dimensions. Similarly, a review of other empirical studies (e.g., Bonilla et al., 2017; 2018; Rahimi, 2021; Rastgou et al., 2020; Truscott & Hsu, 2008; van Beuningen et al., 2012) showed no significant improvement in the performance of the no-WCF groups in overall grammatical accuracy, specific structures, content, organization, or in lexical, orthographical and mechanical dimensions.

While for approximately two decades, there were contentious debates over the validity of WCF studies without a real control group (e.g., Bruton, 2010; Chandler, 2004; 2009; Ferris, 1999; 2004; 2010; Guénette, 2007; Mohebbi, 2021; Truscott, 1996; 1999; 2004; 2009; 2010), the inclusion of a no-feedback group is now less likely to be justified given the general failure of L2 writers engaged exclusively in the writing practice in significant accuracy gain, ethical considerations concerning the engagement of L2 writers in (re)writing without feedback, and L2 writing practitioners' sense of commitment and their responsibility in compliance with curricular feedback guidelines. In addition, perspective studies (e.g., Diab, 2005; Ferris, 1997; 2018; Ferris, Liu, Sinha & Senna., 2012; Hedgcock & Lefkowitz, 1994; 1996; Hyland, 2003; Lee, 2005; 2008; Manchón & Roca de Larios, 2011; McMartin-Miller, 2014; Montgomery & Baker, 2007; Rastgou, 2022) which explore students' opinions about their feedback experiences indicate their immense enthusiasm to engage in and learn from teacher feedback.

Rather, in line with empirical studies of feedback literacy as well as oral feedback, it can be suggested that future quantitative studies not include a no-WCF group but compare various feedback qualities, types, durations, proportions, etc. in light of L2

writers' proficiency, as in Chandler (2003), Coyle and Roca de Larios (2014), Hartshorn et al. (2010). In fact, the inclusion of a no-feedback group needs to be justified. For instance, a study may aim to particularly focus on student engagement with (re)writing practice alone to track improvement, stagnation or variability in the accurate use of certain grammatical categories over time. Higher proficiency L2 writers in another study may be given no WCF but instead regular instruction on how to utilize various online resources optimally toward the enhancement of grammatical range, complexity and accuracy together. Students with higher metalinguistic information might be trained to self-identify their erroneous structures or incomprehensible clauses and sentences during both writing and rewriting process, look for evidence online to verify the accuracy of their structures, and successfully replace them with accurate or unambiguous segments during rewriting. Other studies may explore the effect of error notification on students' consciousness-raising and attention to recently instructed grammatical categories. Such questions illustrate no-feedback assignments to explore the efficacy of a given strategy rather than to act as a control group against feedback groups.

Designing Mixed-methods Studies in Written Feedback Research

The administration of mixed-methods studies, where the interpretations and inferences are made based on the integration of the results from both quantitative and qualitative methodologies, has been burgeoning in various disciplines, and perhaps at a slower rate in L2 written feedback research. The use of the combined paradigms can explain different layers of the same phenomenon. While quantitative research shows causal associations between two or more variables, qualitative research sheds light on why those associations exist.

Drawing on Greene, Caracelli & Graham (1989), Riazi and Candlin (2014) delineate five objectives of conducting mixed-methods studies: triangulation, initiation, complementarity, development and expansion. *Triangulation* refers to deliberately conducting two or more data collection methods to find the extent to which the two results corroborate. For instance, while the quantitative (QUAN) findings of a study show significant accuracy gain instigated by a particular feedback practice, in the qualitative (QUAL) phase, a cohort of the participants are asked if they found the feedback practice instrumental or essential. The two datasets in tandem can explain the extent to which the feedback efficiency is substantiated. Riazi and Candlin explain that when the results in the quantitative and qualitative phases are found contradictory rather than corroborative, the researcher may remodel the research questions in one methodology in view of the results attained from the other and collect further data to unravel the discrepancy. This newly designed research is called *initiation*.

While Riazi and Candlin contend that triangulation is the predominant reason for conducting mixed-methods studies in second language writing research, *complementarity* can offer more epistemological insight about the reasons for the

occurrence (and the genuine meaning) of certain phenomena, as construed by those who experience them. Different data types (e.g., numerical versus interpretive) can be elicited to explore different layers of the same phenomenon via different research questions. To illustrate, it may be found that focused WCF (e.g., on simple past tense) in a study has triggered student-initiated self-correction of errors in some other grammatical features, as well. A follow-up qualitative study, even when designed impromptu, can explore how L2 writers would proceed through revision, what would trigger them to explore other error categories, and how they would manage to amend other errors without teacher feedback or request. Transparency of responses improves when students are asked to give relevant examples from their individualized scripts (see the next section). Only through conducting a follow-up equal-weight qualitative study can we discover how L2 writers would attain such a hypothetical accomplishment.

Another function of a mixed-methods study explained by Riazi and Candlin is *development*, whereby the results of a study are utilized to develop another study. For instance, a think-aloud protocol with a cohort of expert L2 writing practitioners could lead to the emergence of effective methods of feedback provision. The results could then be employed to design an interview with them about best feedback types, scopes and sequencing. An example offered by Riazi and Candlin is designing an in-depth case study with an attitudinal pattern emerging from the analysis of participants' perspectives about an experience. In contrast, a mixed-methods study can be designed for the purposes of *expansion*, i.e., to expand the breadth and the depth of an experiment. Most commonly, the quantitative phase can be designed to compare and analyze the outcomes, whereas the qualitative phase can be designed to explore the process of implementation. To illustrate, an L2 written feedback study informed by the sociocultural theory may adopt a mixed-methods design with some one-on-one sessions with an L2 writer. The process phase can explore the process of drawing the L2 writer's attention to the occurrence of an error, L2 writer's failing to identify the error, teacher's specifying the approximate location or type of error, teacher's provision of further evidence before directly correcting the error. The outcome phase can study the efficacy of adopting the zone of proximal development in furthering accuracy in the L2 writer.

The quantitative and qualitative datasets in mixed methods studies can be collected consecutively (sequential design) or simultaneously (concurrent design) with either equal statuses for both datasets or with one dataset dominant over the other (Creswell, 2003). This can result in the creation of at least nine types of mixed-methods studies, as follows: 1) QUAN → QUAL; 2) QUAL → QUAN; 3) QUAN → qual; 4) quan → QUAL; 5) QUAL → quan; 6) qual → QUAN; 7) QUAN + QUAL; 8) QUAN + qual; 9) QUAL + quan. Uppercases show higher status, and lowercases show lower status. While the arrows show a sequential design, the plus signs show a concurrent design. Further equal-weight mixed-methods studies are needed to explore the influence of written

feedback in the process of L2 (writing) development. Some examples of mixed methods designs include QUAN → QUAL designs reported in the same article by Bonilla et al.'s (2017) and separately in Rastgou et al.'s (2020) and Rastgou's (2022) studies. Chandler (2003) and Semke (1984) conducted QUAN → qual studies, with surprisingly far fewer references to the qualitative phases despite their enlightenments on fluency in Chandler's study and on the complexity of feedback in Semke's studies.

Interviews and Questionnaires in Qualitative and Mixed-methods Feedback Studies

Two widely used instruments in L2 written feedback studies are interviews and questionnaires. While interviews are typically used in qualitative studies, questionnaires can be employed as either a quantitative data elicitation instrument, as in Likert scales, or a qualitative one, as in open-ended questionnaires. The two are sometimes combined allowing the respondents to select an option, where the ratios of (dis)agreement are given numerical values, and to explain why they agree or disagree with a statement. In doing so, the explanation section is often so elucidating that the questionnaire alone can be classified as an instrument with a quan → QUAL design. The elucidation is twofold: 1) explanation (e.g., about engagement in writing and implementing feedback) for the purposes of triangulation and complementarity; 2) validation of the Likert Scale selections, especially when the respondent's selection (e.g., showing agreement) clashes with the explanation (e.g., suggesting disagreement) for obvious or unexplained reasons, in which case the explanation is construed as a more trustworthy response invalidating the Likert Scale selection. It is highly recommended that students be asked to explain their reasons for (dis)agreement. For instance, after L2 writers receive feedback on content and/or language in the quantitative phase of a study, an item in the questionnaire can probe the extent to which they perceive improvement in fluency. A close scrutiny of the explanations can reveal how they interpret the concept of fluency and pace in L2 writing, how and why their conceptualizations diverge (construct knowledge) in light of feedback, what strategies they develop to maintain fluency (metacognitive knowledge), what feedback types facilitate fluency, and whether the fluency/pace is achieved at the cost of or in conjunction with the other two constructs. Barely does a percentage report on (dis)agreement with a questionnaire item on fluently provide response to the illustrated issues above to throw light on the concept of fluency in L2 writing. An appended mandatory follow-up question like "Explain why you agree or disagree with examples from your compositions" can substantiate data about growth in a construct.


To optimize the data elicitation process, data quality, validity and reliability in the case of retrospective interviews, it is suggested that L2 writers keep their written works, which include the prompt, number of script and draft, writing date and duration, in addition to the feedback for the purposes of error-tracking and development-tracking and for research purposes. This portfolio can be reviewed each session in class or at home. In addition, a supplementary error log or tally sheet (Hartshorn et al., 2010)

can be developed for more conscious attention to problematic areas. For research purposes, they should be asked to review their portfolio, mark specific sections of their compositions which they intend to comment about, and bring their compositions to the interview session. For instance, they can have a collection of teacher comments or feedback points that they appreciate because they have learned their underlying rules and successfully applied them in future compositions. They can show these successful extrapolations in later compositions while responding to interview questions. Likewise, there are often samples of problematic categories, recurring errors, and ineffective, ambiguous, confusing or demotivating feedback points or codes in their scripts, which they can be asked to collect and raise in upcoming interviews and suggest alternative feedback strategies. This way, the portfolio is an instrument for stimulated recall during retrospections (Dörnyei, 2007). The student comments facilitate later tracking and analysis of the issues in corresponding compositions so that a transparent picture of the issues and of the trajectory of L2 (writing) development can be constructed.

Conclusion

This study attempted to shed methodological light on some of the key issues in feedback research as a benchmark for framing further qualitative and quantitative studies in L2 writing, so that more detailed, profound and validated explanations on the role of written feedback in L2 (writing) development can be attained. Numerous other theoretical and methodological topics, such as L2 writing–SLA interface, knowledge consolidation in the process of L2 writing, teacher feedback literacy, multimodal and task-based writing, etc. remain to be investigated. Can written feedback studies lead us to present a comprehensive model of L2 writing development and of writing-based second language acquisition, independent from the current SLA theories and hypotheses about language learning (see Harklau, 2002)? Future written feedback research hopes to find empirical evidence for this overarching conceptual inquiry.

ORCID

 <http://orcid.org/0000-0002-5189-2446>

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