Teachers' attempts at focused written corrective feedback in situ

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1. Introduction

Over the last two decades, there has been an exponential growth of research interest in written corrective feedback (WCF). Review studies about the topic have been published, (e.g., Kang & Han, 2015; Li & Vuono, 2019; Liu & Brown, 2015), and research has mostly addressed the effectiveness of WCF with regard to the strategies (i.e., direct, indirect or metalinguistic strategies – e.g., Ferris & Roberts, 2001; Shintani & Ellis, 2013) and scope of feedback (i.e., comprehensives or focused WCF – e.g., Frear & Chiu, 2015; Rahimi, 2019), the latter of which has received the most attention from researchers and practitioners. Comprehensive WCF refers to "correction of every error" (van Beuningen, De Jong, & Kuiken, 2012, p. 5), whereas focused WCF is feedback "targeted to specific error types or patterns" (Ferris, 2011, p. 30). One problem of comprehensive WCF is that as teachers respond to errors comprehensively, they tend to lose sight of other important aspects of student writing. Comprehensive WCF is also very likely to lead to cognitive and information overload, as informed by SLA perspectives, reducing attentional capacity to deal with WCF (Bitchener & Knoch, 2008; Sheen, Wright, & Moldawa, 2009). Research on comprehensive/focused WCF has been dominated by the experimental/quasi-experimental tradition, with low ecological validity and limited pedagogical relevance (Lee, 2020), and without sufficiently recognizing the complex issues that influence teacher WCF practices in authentic classrooms. To fill this gap, we adopt an ecological approach informed by a complexity perspective to investigate two secondary teachers' attempts at focused WCF in real classrooms in the Hong Kong EFL

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writing context. The study is also a response to the call by Atkinson and Tardy (2018), who underline the importance to "put WCF 'in situ'" (p. 91) – that is, to regard WCF as "just one part of a bigger picture in teaching writing" (p. 91). Before we elaborate on the theoretical framing, we first review relevant literature that motivates the study.

2. Background research

In the literature, good WCF practice often refers to a focused approach (e.g., Bitchener & Ferris, 2012; Ferris & Hedgcock, 2005; Lee, 2019). While comprehensive WCF is likely to suit advanced L2 writers who make few errors in writing, focused WCF is beneficial to developing L2 writers who tend to make a large number of written errors (Bitchener & Ferris, 2012). For these writers, some error categories are probably beyond their knowledge and understanding (Pienemann, 1998, 1989) and hence they are likely to find comprehensive WCF unmanageable. Conversely, with focused WCF, even low-proficiency EFL students can benefit from teacher WCF (Zheng & Yu, 2018). Since the primary goal of writing is meaning making (Byrnes, 2013), to help students achieve this goal teachers' feedback has to address writing problems in such dimensions as content, organization, and genre, in addition to WCF. Apart from being less demanding cognitively and more manageable for students, focused WCF can free teachers up to provide feedback on these macro issues in writing.

Research on focused WCF has concerned itself with a very limited range of error types, conducted quantitatively with mostly ESL tertiary students in (quasi-) experimental settings. The findings have demonstrated the value of focused WCF in enhancing accuracy of the target structure(s) (e.g., Bitchener & Knoch, 2008, 2009). The need to address a wide range of error types in authentic classrooms, however, has cast doubt on the applicability of focused WCF research findings. Granted that previous research tends to present comprehensive and focused WCF as polarized options, a reasonable question to ask is whether there exist other viable alternatives that meet student needs in authentic contexts. WCF research that reflects such (or related) real-world focuses, however, is scant, except in recent research on dynamic WCF (Evans, Hartshorn, & Strong-Krause, 2011; Kurzer, 2018), which involves comprehensive WCF on short paragraphs completed in about 10 min, resulting in WCF that is relatively focused simultaneously since the number of errors is likely to be limited by the short time taken to produce the writing. Dynamic WCF in prior research has mostly involved undergraduates in intensive English programs, which may not suit lower-proficiency EFL students who are learning to write in mainstream English language classes, where doing regular 10-minute paragraph writing may not be feasible, as in the present study. To better meet the needs of authentic classrooms, in the study we adopt a broader definition of focused WCF proposed by Ferris, Liu, Sinha, and Senna (2013) and Lee (2020), which refers to feedback on pre-selected error types, and/or those based on the needs of individual students, rather than the narrow definition of focused WCF that refers to feedback on "one or a few pre-selected structures" (Frear & Chiu, 2015, p. 24).

Despite the potential of focused WCF, influenced by the apprenticeship of observation (Lortie, 1975) many L2 (especially EFL) teachers adhere to comprehensive WCF as their modus operandi. While some teachers may prefer focused WCF, they find it hard to put their belief into practice due to contextual constraints and lack of training (Lee, 2008). Of the limited research on teachers' actual attempts to implement focused WCF in authentic classrooms, McMartin-Miller's (2014) study shows that putting the recommended focused WCF principle into practice can be a challenge. None of the three ESL instructors in her study were able to implement focused WCF fully in their classroom, with one teacher marking more errors than what is recommended in the literature, and the other two teachers marking errors comprehensively and selectively in a portion of student writing, respectively. The findings suggest that the teachers' WCF practices were "guided by the needs of their instructional context" and "beliefs about what contributes best to learning" (p. 32). Lee, Mak, and Burns (2016) investigated the feedback innovations undertaken by two secondary teachers in Hong Kong. One teacher was convinced of the value of focused WCF and adopted it; however, she found herself gradually reverting back to traditional comprehensive WCF for a greater "sense of comfort and security" (p. 256) since it was a practice embraced by most teachers in her school. These studies suggest that even though teachers may prefer focused WCF, they may depart from the recommended principles because of the challenges and contextual constraints they face. Some of these challenges are investigated in Lee (2019), whose survey of 90 primary and secondary English teachers in Hong Kong reveals teachers' numerous concerns about focused WCF, mostly regarding implementation issues such as how errors should be selected, how many, and what they should do about non-target errors – largely due to the lack of training. As noted by Ferris (2007), providing feedback is a very challenging task that requires skills honed through experience, as well as "solid principles, useful techniques, and thoughtful reflection and evaluation" (p. 179). As such, professional development in the form of training plays a pivotal role in equipping teachers with sound feedback strategies, guiding them to reflect and turn experience into insights for teaching (Lee, 2008), and bridging belief-practice gaps (see Montgomery & Baker, 2007). Innovation then hinges on the availability of training opportunities and teachers' engagement in professional development (Pessoa & Sebba, 2009). For example, the teachers in Lee (2010) enhanced their classroom practices upon attending a writing teacher education course and undertaking classroom inquiry (e.g., to find out how peer feedback can be used to help students improve learning), and the evidence of change significantly impacted teachers' beliefs and practices. As suggested by Guskey (1986), when teachers find evidence of improvement in student learning through their innovation, they acquire new beliefs and continue to translate them into practice. At the same time, helping teachers become more aware of their own feedback practices through training and encouraging reflective practice can help them enhance their practices (Lee & Yuan, 2020). For teachers, therefore, change is "an experientially based learning process" (Guskey, 2002, p. 384). Insofar as WCF innovation is concerned, as teachers attempt to implement focused WCF in a context dominated by comprehensive WCF, they need to be supported by training and to engage in critical reflection and continuing professional development to experience change firsthand. Against this backdrop the study investigates teachers' attempts at focused WCF, underpinned by an ecological approach that is informed by a complexity perspective.

3. An ecological approach informed by a complexity perspective

Ecology refers to the "study of the relationships between all the various organisms and their physical environment" (van Lier, 2002, p. 144), highlighting the interplay between human actions and their contexts. Such a relationship between humans and contexts is referred to as affordance (van Lier, 2004), which describes the "opportunities for action that exist in the environment" (Withagen, de Poel, Araújo, & Pepping, 2012, p. 251). When people wield agency over and establish relationships with and within the environment, affordances result. While a learning opportunity may be afforded by the environment, students have to be able to perceive it and have the motivation to act upon it (Gibson, 1979; Reed, 1993). Informed by the ecological perspective, the varied beliefs and abilities of learners as well as the mediating effects of other contextual factors, such as teachers' pedagogical practices and curriculum goals, can give rise to variations in students' use of feedback in the writing classrooms. Specifically, students' engagement with feedback, as well as the development of learner agency, rests upon teachers' construction of a feedback environment rich in affordances for learning. To allow affordances to be operationalized in a classroom ecology, quality feedback has to be "instructionally designed" (Henderson et al., 2019, p. 1406), which requires: (1) providing usable information for learners to act upon; (2) meeting the needs of different learners; (3) using a range of sources and modes; and (4) aligning learning outcomes of multiple tasks.

A complexity perspective is germane to research conducted in ecologically valid settings, where "all the different contributing elements interact and combine as part of a larger whole" (Pinner & Sampson, 2020, p. 3); it is characterized by unpredictability, nonlinearity, and dynamic interaction (Larsen-Freeman, 1997). The underlying tenet of a complexity perspective is that it is difficult to examine specific aspects of teaching and learning without taking into account the entire classroom as a system, since second language development is influenced by a host of interacting factors at play. Although WCF is a complex phenomenon, previous focused WCF research tends to decomplexify the nature and impact of WCF by isolating WCF from the rest of the classroom system through the manipulation of certain classroom conditions. Our study adopts complexity thinking (Larsen-Freeman, 1997) by zeroing in on "real situations and real people in the real world" (Pinner & Sampson, 2020, p. 2) to unveil students' learning of writing as teachers attempt to put focused WCF into practice. Within the complexity paradigm, the provision of teacher WCF is dependent on, connected with, and influenced by a myriad of elements that interact dynamically in the classroom system; in a similar vein, students' response to teacher WCF is influenced by an array of interacting factors, such as their proficiency levels and motivations in the classroom system.

4. The study

4.1. Research questions

To conduct WCF research in situ, we set out to investigate two Hong Kong secondary teachers' attempts to implement focused WCF in their writing classrooms over a 10-month academic year, aiming to answer the following research questions (RQs):

1. How do teachers attempt to implement focused WCF within the writing classroom?
2. In the classrooms that adopt focused WCF, how do students perform in terms of written accuracy and revision?

4.2. Context and participants

The study was conducted in two English classrooms of an English-medium secondary school in Hong Kong (School A) that admits students with above average academic ability. Two English teachers, Jane and Steve (pseudonyms), were recruited through the first author's personal contact. Born and educated in Hong Kong, they speak Cantonese as their native language. Both teachers started teaching English at School A immediately after obtaining a bachelor's degree from local universities and have a master's degree in English education. At the time of the study, the teachers had been teaching English for 10 and 12 years respectively. The study was conducted in the teachers' Grade 9 (G9) (i.e., Secondary 3) classes (32 students in Jane's and 31 in Steve's class – with Steve's students generally of higher English proficiency). All the students participated in the study by taking the pre- and post-study writing tests (see "Data collection" below), except that one student in Steve's class was absent during the pre-study test and thus his data for the writing tests were excluded. Six students, S1, S2 and S3 in Jane's class and S4, S5 and S6 in Steve's class, representing high, middle, and low English proficiency levels respectively, were selected by the teachers as focal students for detailed investigation.

In their early years of teaching, Jane and Steve adopted a traditional writing approach, where students started writing after brief brainstorming on a topic, collecting single drafts and marking errors comprehensively. Students would correct the marked errors without revising content and organization. Despite teachers' efforts in comprehensive WCF, students' writing grades in the high-stakes university-entrance English examination were consistently the lowest compared with grades in other language skills. This prompted Alice, the English department head, to undertake innovation with a view to improving student writing. First, pre-writing instruction was strengthened with all teachers engaging in text deconstruction (using sample texts) to familiarize students with typical features of target genres. Second, being aware that process writing had been advocated both in the local curriculum guide and the L2 writing literature for a long time, Alice began to introduce multiple drafting. However, teachers practiced multiple drafting in only two writing tasks (out of eight) in each school year; because of the examination-oriented culture in Hong Kong, Alice believed that single drafting should be the staple approach, which could give students regular writing practice that approximated to examination writing.

Despite these innovations, Jane and Steve saw little progress in students' writing, including written accuracy even though comprehensive WCF was adopted. For the multiple-draft tasks, students mostly copied the first draft by correcting the marked errors, a problem which prompted Steve to find ways to improve his teacher feedback. Jane attributed her students' lack of progress to the tenuous link between instruction and feedback and the need to further strengthen writing pedagogy to support student learning. With the blessing of Alice and the school principal, Steve and Jane decided to participate in our project that investigated teachers' focused WCF attempts in situ; the two teachers believed that comprehensive WCF was too time-consuming and were strongly motivated to experiment with focused WCF to find out if less focus on language errors could free up time to address the aforementioned concerns and to help improve student learning and writing.

Before data collection, the participating teachers, together with other colleagues including Alice, attended two three-hour workshops delivered by the first author. The workshops were designed as professional development activities to enable the participants to examine the pros and cons of comprehensive WCF and focused WCF, specifically the why, what, and how of focused WCF in the writing classroom, as well as the implications of focused WCF for feedback, assessment, and instruction. Instead of adopting the definition of focused WCF used in some previous experimental studies that refers narrowly to feedback on "one or a few pre-selected structures" (Frear & Chiu, 2015, p. 24), which was queried by the participating teachers themselves, the workshops used a broader definition proposed by Ferris et al. (2013) and Lee (2020), where focused WCF refers to feedback on pre-selected error types, and/or those based on the needs of individual students. While the first researcher highlighted salient findings from previous WCF research, she emphasized the importance for the teachers to jointly discuss a context-specific approach to WCF innovation and to adopt focused WCF flexibly, taking into account their students' needs. The focus was primarily on teachers' own critical reflection on their WCF practices rather than providing a panacea through a prescriptive approach. After the study began, the project team continued to support the teachers in a nonintrusive manner, responding to their queries and requests for help through school visits, email exchanges, and providing feedback on their self-designed pedagogical materials. The research was not designed as an intervention study; nor was it our intention to prescribe specific approaches through the workshops.

4.3. Data collection

The 10-month study spanned one school year (comprising two terms) and relied on multiple data sources gathered from the two participating teachers, their students, and the English department head (See Table 1 for the data collection timeline). All data collection was performed by the second author. Teacher data included individual interviews and classroom observations. For each teacher, three semi-structured interviews were conducted (pre-, mid-, and post-study) in English and audio-recorded, lasting about 40 min each. While the first interview investigated their prior practice in teaching writing and giving feedback, the second and third probed their attempts at focused WCF and perceived impact on student writing. During the study, four writing tasks (double-draft) were completed by students in each class (covering the same topics and genres - see Table 1 for the genres), and classroom observations were conducted in Jane's class for Writing Tasks 1 and 3 and in Steve's class for Writing Tasks 2 and 4 (four lessons observed for each task). The classroom observations were video-recorded with detailed field notes taken.

Student data comprised pre- and post-study individual interviews with the six focal students, pre- and post-study writing tests administered to all the 63 students taught by Jane and Steve, and the focal students' marked texts from ongoing writing tasks, as well as the feedback forms received from the teachers. The interviews were conducted in the local language, Cantonese, to ensure students could express themselves comfortably, and audio-recorded, with each lasting about 30 min. While the first interview investigated their

Table 1
Data collection timeline.

Time		Data Collection
Before Semester 1		Pre-study teacher interviews
		Interview with English department head
	Week 1	Pre-study in-class writing tests
	Week 3	Pre-study focal student interviews
Semester 1	Week 5–9	Writing Task 1: Story writing
		Classroom observations in Jane's class
		Six focal students' drafts and teacher feedback
	Week 14–18	Writing Task 2: Leaflet writing
		Classroom observations in Steve's class
		Six focal students' drafts and teacher feedback
Before Semester 2		Mid-study teacher interviews
	Week 5–10	Writing Task 3: Writing a debate speech
		Classroom observations in Jane's class
		Six focal students' drafts and teacher feedback
Semester 2	Week 12–16	Writing Task 4: Letter writing
		Classroom observation in Steve's class
		Six focal students' drafts and teacher feedback
	Week 18	Post-study in-class writing tests
		Post-study focal student interviews
After Semester 2		Post-study teacher interviews

experiences with writing and written feedback including WCF, the second focused on their perceptions of focused WCF and other feedback, and teaching and learning in the classroom. Students' performance in written accuracy was investigated by impromptu, timed (40 min) pre- and post-study picture writing tests administered to all students in class. Also, students' drafts (with teacher feedback) for two ongoing writing tasks (Tasks 1 and 3 - as complete data were obtained from these two tasks only) and teacher feedback forms were collected to explore the teachers' WCF, their students' response to WCF, and other feedback – i.e., revision behavior.

In addition, Alice was interviewed before the project started. The interview, lasting about 30 min, was conducted in English and audio-recorded. Alice was asked about English teaching, learning, and assessment of the English subject at School A, and her own attitude toward focused WCF.

4.4. Data analysis

Data analysis was performed by the second author, with rigorous discussion and critical challenges from the other researchers to facilitate data interpretation and to enhance trustworthiness of the findings. The interviews were transcribed verbatim (with Cantonese transcripts from students translated into English) and read line by line repeatedly for open coding (Strauss & Corbin, 1990). During this process, a wide range of codes emerged from the interviews and the open codes were organized into categories through axial coding (see Appendix A for an example). The video-recorded lessons were transcribed selectively and reviewed a few times with reference to the field notes so as to make sense about how focused WCF was situated in the instructional context.

The marked student texts from the focal students and related teacher feedback forms were first examined for teacher WCF and other comments to throw light on teachers' feedback practice (WCF and feedback on other areas). Next, we compared the second drafts with the first ones to track textual changes made by the focal students in response to teacher written feedback (including WCF) on student texts, as well as those initiated by themselves. The focus was on the students' attempts rather than successful revision. We counted the total number of WCF items and the number of revisions students had made, and their self-initiated language revisions. We did the same to non-language aspects (such as content and organization), counting the total number of teacher comments and students' revisions, and their self-initiated revisions. The analysis was performed by the second author and a graduate student majoring in English, with an intercoder reliability rate of 93.6 %, which was based on percent agreement – i.e., the proportion of coding decisions that reached agreement out of all coding decisions made by the two coders in the study.

For the pre- and post-study picture writing tests, error analysis was performed, with a focus on the total number of errors per student for the target items selected for focused WCF in the study and other non-target items as a whole. The second and third authors chose three papers from the pre-study writing tests of each class randomly (about 10 %) and coded the errors independently, with the inter-reliability rates reaching 96.2 %. The second author then coded errors in the rest of the papers for both the pre- and post-study tests. Finally, the error analysis results were entered into SPSS (Version 25) for statistical analyses. Descriptive statistics included calculation of the total and percentage. Paired sample t-tests were run to compare whether significant differences existed between the pre- and post-study tests.

5. Findings

5.1. RQ1: implementation of focused WCF

Comprehensive WCF was an age-old practice in School A. Before the study commenced, there was a consensus among the G9 teachers on the use of focused WCF in their classes, though only Steve and Jane participated in the study. This was intended to avoid unnecessary comparison among G9 students and to forestall possible negative perception of Jane and Steve as lazier teachers (as they marked fewer errors). As the G9 students were used to comprehensive WCF since G7, both teachers deemed it important to clarify the new practice in the very first writing lesson. Jane said:

> Ok, class, this year, we will try to change our marking a little bit. In the previous years, we tried to mark every mistake…But now we would like to focus on some grammar items that we have chosen … I will give you more comments on content and organization. But I would like you to focus on several grammar items that most of you have problems with… We'll see if we can help you with your writing and language [classroom observation]

They also encouraged questions from students to ensure their full understanding of the procedure and rationale of focused WCF, as well as teachers' expectations.

Table 2
The pre-selected target language features of the writing tasks.

	Task 1	Task 2	Task 3	Task 4
Genre	Story	Leaflet	Debate speech	Persuasive letter
Target language features	Subject-verb agreement and verb tense	[a]Punctuation and spelling	Punctuation and inversion	Punctuation and Agreement

[a] According to the error coding list, if any error can be corrected by fixing a punctuation mark, even though the error may be alternatively categorized as a sentence structure error, it is referred to as a punctuation error. Hence "run-on sentences' errors are categorized as "punctuation" errors.

In their plan, the teachers thought of targeting two error types for each of the four writing tasks (see Table 2 for target genres), using coded feedback, and perhaps adhering to them until students had mastered them before switching to new ones. Based on their own understanding of students' needs and the target genre of the first writing task (story writing), they pre-selected "verb tense" and "agreement" for Task 1. When it came to Task 2 (leaflet writing), however, they found it hard to stick to these two items for two reasons. First, leaflet writing required the use of present tense, which was not a problem for their students. Second, they spotted many run-on sentences in Task 1 and felt an urge to highlight this error type for Task 2. Since students did pretty well in "agreement" in Task 1, the teachers decided to drop this focus for focused WCF. Throughout the process of error selection, the teachers realized flexible and context-dependent judgment was needed. This was also borne out in their struggle with the use of error codes. In Task 2, the teachers' original intention was to include the "imperative" as a target item for focused WCF since the structure was taught as a grammar focus in the leaflet writing unit. However, this item was not on their error coding list (adopted by their school) and hence they decided not to select the "imperative". After sharing this "problem" with the research team, they realized that perhaps they could invent new error codes for target items. Hence, in Task 3 (debate speech writing), having taught the use of "inversion" (referring to "subject-verb inversion" in the study) as a useful structure for emphatic purposes in debating, they decided to target it for focused WCF with a new code ($S_{[inv]}$). Table 2 provides a summary of the target error types for the four writing tasks.

Jane and Steve found pre-selecting target errors a persisting challenge, especially in catering for diverse student needs. Jane said:

> *It's very difficult to really locate one kind of mistake that our majority of students would have…the point is, this student: article, that student: tenses, another one, maybe verb endings, another one: part of speech. There is diversity. That's why it's difficult to locate the target errors.* [3rd interview]

Steve had something similar to say: "It's very hard to find what types of mistakes students will make. And mistakes in my class may not be the same as the mistakes in other classes." [3rd interview]

To address this challenge, the teachers also marked other untargeted errors based on students' needs, mainly underlining them. The amount of WCF varied according to the students' English proficiency, with students of higher proficiency generally receiving less WCF. Take the focal students' Draft 1 of Task 1 as an example, Jane marked a total of 18 errors for the target grammar items and 25 for other error types, and Steve marked 6 errors for the former and 14 errors for the latter, respectively. In fact, marking untargeted errors presented a challenge to Jane and Steve as they had to constantly stop themselves from marking more (being used to comprehensive WCF). Jane said:

> *Sometimes I can't control myself from marking all the mistakes because this is my usual practice to mark all the errors. And that's why I have to control myself not to mark all things and focus on the target items.* [2nd interview]

Steve faced a similar problem: "I sometimes forget I just have to focus on several mistakes. I have to remind myself not to look at other mistakes." [3rd interview]

While Jane and Steve were trying to steer away from their previous comprehensive WCF practice, they were under pressure to do so from Alice. Being concerned that focused WCF practice might be perceived as "less and easy work" for teachers, Alice suggested that Jane and Steve underline all untargeted errors. The two teachers, however, thought that the underlining of all other non-target items would make their WCF too extensive, which defeated their original intention of focused WCF. They therefore exercised agency to mark non-target errors only selectively, despite pressure from Alice.

To contextualize focused WCF and integrate it into the pedagogy of the writing classroom, Jane and Steve made changes to other aspects of teaching and feedback. They strengthened language instruction to align with WCF at different stages of writing. Before writing, they explicitly instructed the target grammar items. For example, in Task 1, they first exemplified errors in verb tense and agreement and referred students to the error codes. They then gave students exercises to consolidate their understanding of the target grammar items. Through such a focused approach to grammar instruction, the teachers reinforced the purpose of focused WCF. Jane said to her students: "And now we focus on these two mistakes. It doesn't mean your composition is 100 % error free" (Classroom observation), which contrasted with the rationale of comprehensive WCF previously practiced. After completing the first draft, the students conducted peer feedback. Previously, peer feedback was an occasional practice, with a primary emphasis on language without a clear focus. However, in the study, language was only one of the focuses for peer feedback (in addition to content and organization), and student attention was directed to the pre-selected language items rather than all language items as in the past. For example, Steve instructed his class for Task 2 in the following way: "Spot the two mistakes your friends made…one: spelling, two: punctuation" (Classroom observation). After returning the first drafts to students, the teachers provided further grammar instruction based on students' performance, highlighting some lingering issues about the target items as well as other prevalent errors, usually problematic sentence patterns. Upon returning the second drafts, they gave post-writing instruction to remaining issues concerning language use.

In addition to aligning focused WCF with grammar instruction, focused WCF provided an opportunity for Jane and Steve to enhance their writing pedagogy as a whole. Jane explained: "We wanted to focus on just a few language items, so that we could have more time to work on the content and also the organization" (1st interview). With this purpose in mind, the teachers deemed it necessary to transform their previous traditional practice. First, instead of adopting primarily single-drafting, they required multiple drafts for all writing tasks to promote student engagement with teacher feedback. Previously, one main impediment to multiple drafting was insufficient time due to the intensive and demanding syllabus. To tackle this problem, Jane and Steve reduced the number of writing tasks from eight (6 single-draft and 2 double-draft) to four (double-draft) per year. Another obstacle to multiple drafting was

students' prior perception that rewriting was not useful. As described by Steve, in previous practice where two drafts were required, students primarily corrected errors based on comprehensive WCF (as few comments on non-language issues were provided) and then copied the draft one more time. In Steve's observation, "students are not convinced…they couldn't see the benefits of multiple drafts because they would say it's a waste of their time" (1st interview). However, with focused WCF, the teachers devoted more attention to feedback on aspects of writing beyond language accuracy, which could potentially generate more productive and meaningful revision from students. Data from the marked texts and feedback forms show that in addition to WCF, the teachers provided feedback on content, organization, and other issues on both student texts (see Fig. 1A and B) and feedback forms (see Appendix B for an example), and they also required peer feedback on issues of content and organization – all made possible by FWC. Jane testified: "I think this approach allows me to have more time to comment on other aspects, just like organization, and also content" (2nd interview).

To bolster student learning, teachers designed a set of genre-specific success criteria for each task (see Fig. 2 for an example) where meaning making was emphasized. For example, inversion, a target language feature, was not to be practiced as a linguistic structure per se but instead as a means to an end - i.e., for emphatic purposes in a debate speech.

As shown in the classroom observations for Task 3 (debate speech writing on "Beauty pageants should be banned"), based on the success criteria, Jane organized a variety of scaffolding activities including sample text deconstruction (analyzing the structure of an argumentative essay), explicit instruction (on components of an argument and rebuttal, and grammar instruction), and student-centered activities (e.g., goal-setting and drafting debate outline). Although sample text deconstruction and grammar teaching were practiced previously, the teachers believed they were provided in a piecemeal fashion without their own clear understanding of how these activities formed a coherent whole and fit into the larger pedagogical context to benefit teaching and learning. In contrast, with the implementation of focused WCF the teachers developed a holistic view of the writing pedagogy. Jane remarked: "Now we did everything in an organized way, not like before, very messy" (3rd interview). Steve underlined his enhanced pedagogy facilitated by the focused WCF innovation: "I spent more time on integrating all the steps from success criteria, the rubrics, to the teaching, to the evaluation, peer evaluation, teacher's evaluation, and in the end, we followed everything. So I think now all the stages are connected" (3rd interview).

A

B

Fig. 1. **A.** Jane's comments on S2's text. **B.** Steve's comment on S4's text.

The Success criteria for writing a debate speech:

Content and organization:

1. Position is stated clearly in the opening.

2. The two main arguments are presented in separate paragraphs.

3. The two main arguments are clearly supported with accurate details and/ or evidence.

4. All of the main arguments are summarized in the conclusion.

5. One opposing argument is included and rebutted.

6. Position is restated in the conclusion.

Language:

1. Inversion has been used successfully in each main argument (to emphasize an idea).

2. Variation of sentence structure and word choice can keep the reader's interest.

3. Effective use of strong adjectives and/ or adverbs.

4. Effective use of synonyms.

5. Use of vocabulary helps show positioning successfully.

Fig. 2. Success criteria of Task 3.

Table 3
Errors in the pre- and post-study tests.

	Jane's class ($n = 32$)			Steve's class ($n = 30$)		
	Pre-study mean (SD)	Post-study mean (SD)	p	Pre-study mean (SD)	Post-study mean (SD)	p
Verb tense (T1)	4.69 (3.995)	3.34 (3.385)	0.086	4.57 (3.461)	4.17 (2.627)	0.569
Agreement (T1 & 4)	0.47 (.718)	0.28 (.523)	0.226	.73 (1.112)	.23 (.568)	0.037*
Punctuation (T2, 3 & 4)	4.78 (5.148)	2.44 (2.564)	0.002*	3.67 (2.905)	2.73 (2.212)	0.049*
Spelling (T2)	1.84 (1.687)	1.84 (1.868)	1.000	2.70 (2.003)	1.50 (1.656)	0.010*
Sentence structure**	2.16 (1.969)	1.72 (1.464)	0.225	2.43 (1.695)	1.20 (1.297)	0.002*
Untargeted language features	22.38 (8.127)	19.16 (7.650)	0.068	18.60 (9.004)	14.03 (6.472)	0.013*
Total	36.31 (14.711)	28.78 (12.689)	0.002*	32.70 (13.378)	23.87 (9.428)	0.000*

T = Writing task.

* Statistically significant difference: $p < .05$.

** Instead of inversion (target error for Task 3), sentence structure was included in error analysis because: (1) inversion is not a common structure and may not appear in picture writing; (2) the teachers often marked sentence structure errors (as non-target errors) and explained them in post-writing oral feedback sessions.

5.2. RQ2: student written accuracy and revision

Table 3 provides results of error analysis of the pre- and post-study writing tests, showing the total errors per student for each of the target error categories in the study, as well as non-target errors. After one school year, students in both classes made fewer errors – a decrease of 7.53 ($36.31 - 28.78$) and 8.83 ($32.70 - 23.87$) errors for Jane's and Steve's class, respectively. Paired sample t-tests showed that the decrease was significant for both classes ($p < .05$), with a medium to large effect size (Cohen's d) (0.587 and 0.732 for Jane's and Steve's classes respectively). Specifically, in Steve's class there was a significant decrease in errors for almost all target error types except "verb tenses"; in Jane's class significant difference in reduced error was found only for "punctuation" though descriptive statistics indicated a general decrease in errors for "verb tense" and "sentence structure". Errors for untargeted errors also tended to decrease though the difference was significant only for Steve's class.

The above quantitative data are corroborated by the self-reported teacher and student data. Consistent with the quantitative data in Table 3, Jane found her students made greatest progress in "punctuation". She attributed this improvement to focused learning afforded by focused WCF. Jane explained: "When I have a target, the students know: Oh, I need to achieve that target. That's why it is clearer for them" (3rd interview). Next to "punctuation", she reported that her students achieved amazing accuracy in the use of
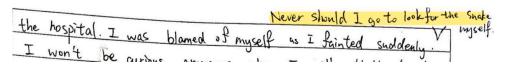

Fig. 3. Correct use of inversion in the post-study test (Jane's class).

"inversion" and retained it in the post-study writing test (Fig. 3 provides an example). Jane ascribed her students' progress in inversion to the mutual reinforcement from various instructional activities, with focused WCF as a key component: "Maybe because inversion is not just a grammar item [in the grammar lesson]. They need to use it in the composition. And it's a focused item [in the WCF] and later on it's a tested item also [inversion was tested in the general English test as a grammar item]" (3rd interview). Jane's observation was echoed by student interviews. S1 remarked: "I learnt inversion. This is required in the examination… Miss Jane wanted us to use it in the composition. She required us to use it to emphasize something in every paragraph. This is what I learnt most" (2nd interview). Steve's students also exhibited progress in overall accuracy (see Table 3). Like Jane, he was impressed by his students' mastery of inversion: "Even weak students could use inversion correctly. That's very interesting because inversion is a very difficult sentence pattern…you know what, even in grade 10 or 11, students couldn't master inversion well…But many Grade 9 students could master it" (3rd interview).

While previously students at School A primarily corrected errors when they revised their writing, in the study the students were found to be actively engaged with revision. Table 4 shows that all the focal students, regardless of English proficiency, not only responded to most teacher WCF and written comments but also self-initiated language editing and global revisions in the second drafts. They made a total of 114 self-initiated language edits in Tasks 1 and 3, compared with 132 in response to teacher WCF. Their self-initiated global revisions (38) outnumbered those triggered by teacher comments (31). Table 5 provides examples of students' self-initiated language editing and revisions for Task 3.

Apparently, students' active engagement with revision could be explained by teacher feedback that covered aspects of writing other than language, which was facilitated by the implementation of focused WCF. Jane told her students: "Because I used focused marking [focused WCF], I have more time to take a look at your content" (Class observation). S1 in Jane's class showed awareness of the teacher's feedback practice, which differed from previous teachers' approach: "My former teachers only focused on my grammatical mistakes. Teacher Jane would not only point out some mistakes, but also write comments on content" (2nd interview). Similarly, S5 in Steve's class noted: "Teacher Steve gave me more room to modify the essay…he provided me with comments like "examples" or "need to explain" in the text" (2nd interview).

In the study, self-reported teacher and student data suggest that both parties noted very obvious progress in overall writing performance at the end of the study: "I'm really impressed by their ideas, very mature, very sensible, logical. They did better than my students in the past" (Steve, 3rd interview). Jane stressed that the implementation of focused WCF did help improve her students' writing: "For those who listen to you, I think they are really improving [their writing]" (3rd interview).

The teachers' observation was shared by the focal students, who felt that they became more interested in writing and benefited from the writing pedagogy. S2 reported stronger motivation towards writing: "I'm eager to discover more … I want to improve my writing skills" (2nd interview). In particular, S6 referred to Steve's writing instruction that had promoted learning: "I learnt how to write a debate speech … The teacher taught us how to write it, for example, where to write the chief reasons and how to support them" (2nd interview). In the study, students' writing improvement was possibly the result of multiple factors, including systematic and coherent writing instruction, balanced and helpful feedback, facilitated by the implementation of focused WCF.

6. Discussion

6.1. How teachers attempted to implement focused WCF within the writing classroom

Apparently, our teachers' focused WCF attempts are very different from the approach reported in SLA studies (e.g., Bitchener & Knoch, 2008, 2009; Sheen, 2007), as they responded to both pre-selected errors and those based on student needs. The impetus for the focused WCF innovation undertaken by Jane and Steve stemmed from their realization that WCF should not be a stand-alone element of the writing classroom, and they adjusted their approach flexibly based on the needs of the context as they proceeded. They were intrinsically motivated to use focused WCF to enhance their feedback and instructional practice, and gradually built their capacity to implement a focused approach to WCF in their writing classroom. Of equal, if not more, importance was the support of the school, which facilitated their WCF innovation. From ecological perspectives, the feasibility of their focused WCF attempts was influenced by the teachers' capacity (e.g., developing feedback literacy) and the institutional context (e.g., school's support of the teachers' participation in the project) (Henderson et al., 2019), which is borne out in the findings. Although the institutional policy about the

Table 4
Focal students' textual changes to drafts 2 of Tasks 1 & 3.

Teacher feedback		Jane's students			Steve's students			Total
		S1	S2	S3	S4	S5	S6	
Language	WCF points / student corrections	24/20	37/36	35/31	4/3	12/12	33/30	145/132
	Student self-initiated corrections	19	19	20	24	22	7	114
Content, organization and others	Teacher comments / student revisions	9/7	5/4	10/8	7/5	4/4	4/3	39/31
	Student self-initiated revisions	8	6	5	5	12	2	38

NB: The total of 39 non-language comments did not include terminal (general) comments on student texts, nor those written on teacher feedback forms.

Table 5
Examples of students' self-initiated changes.

Self-initiated language editing (S5)
Draft 1	It is a platform to showcase talent and sharing dreams.
Draft 2	It is a platform to showcase talent and share dreams.

Self-initiated content revision (S1)
Draft 1	In conclusion, I fully support the forbiddance of beauty contests.
Draft 2	In conclusion, I fully support the forbiddance of beauty contests as they greatly reduce the beauty ideals and lower our confidence. Also, the promotion of the ideals from the pageants affects the concept of beauty of the public and causes them to damage their health.

need to underline all errors (as expressed by Alice) did put some pressure on the teachers, they exercised their agency by underlining errors selectively according to student needs, though they might have marked more errors than originally intended. Overall, the teachers' focused WCF attempts turned out to be far more complex than the focused WCF practice reported in previous experimentally based research. It required tremendous effort by the teachers to make a switch from comprehensive WCF to focused WCF – they attended workshops to learn what focused WCF entails, and they experimented with the innovation during which they had doubts about their approach to error selection. There was pressure from the department head but they pressed forward, and seeing that students responded well to their innovation, they persevered. The complexity paradigm denotes a way of thinking and a way of acting – teachers' thinking influences the way they act (Pinner & Sampson, 2020). In our study, the teachers' focused WCF attempts were found to shape teaching and learning in significant ways, which is a missing element in prior experimental/quasi-experimental WCF research. Our findings show that focused WCF as an impetus for innovation can serve as a leverage to reform writing pedagogy, with teachers shifting their feedback focus from predominantly marking errors to providing both WCF and comments on other areas of writing, as well as instructional scaffolding that aligns with feedback. Although our teachers struggled with issues of error selection and marking untargeted errors and ended up marking more errors than originally planned, they did so based on individual student needs. A complexity perspective is, therefore, able to help us understand "the behavior of the whole" (Larsen-Freeman, 1997, p. 143) emanating from the interaction of the various components in the classroom system. In the study, the teachers' WCF practice was characterized by a focused and student-specific approach. As in McMartin-Miller (2014), our findings demonstrate that WCF in authentic classrooms is teacher rather than researcher driven, and teacher judgments about focused WCF in authentic classrooms are context-dependent and student-specific. With the teacher taking the lead, planning, teaching, delivering feedback, and reflecting. Focused and student-specific WCF is instructionally designed in the ecology of the authentic classrooms (Henderson et al., 2019) to provide usable information for learners to act upon.

As for students, in our study instead of appearing confused that some errors were marked while others were not, which is a concern for proponents of comprehensive WCF (van Beuningen, 2010), there was no complaint by students. Instead, they showed responsibility in editing and revising their own texts, a sign of growth toward the ultimate goal of teacher feedback (Ferris, 2011). One reason for this was probably that the teachers explained the rationale of their WCF practice at the outset and kept reinforcing it throughout. Another reason was possibly the enhanced pedagogy and teachers' helpful feedback, which might have made students see the value of revision. From ecological perspectives, within a social ecosystem like that of a classroom a whole panoply of influencing factors are present, which interact dynamically and mediate learning opportunities available to students (e.g., Peng, 2012; van Lier, 2004). In the study, it was likely that the affordance provided by WCF, which was focused and tailored for students' needs, as well as the provision of feedback on content and organizational issues, was perceived as useful by students; therefore, they were motivated to engage with and act upon teacher feedback. Thus, focused and student-specific WCF in real classrooms is feasible and need not be confusing for students.

6.2. How students performed in terms of written accuracy and revision

Our second RQ indirectly addresses a fundamental question about whether focused WCF is beneficial. The findings suggest that in the two classrooms that implemented focused and student-specific WCF, students improved their writing in at least two ways. First, they improved in overall accuracy in the post-study picture writing test, though improvement in target language features was mainly significant in Steve's class (except for "verb tense") rather than Jane's class (with significant decline only in "punctuation"). This may be explained by the fact that Steve's students, who were generally of higher proficiency than Jane's, might be better able to act upon teacher WCF and fix their own errors, and hence showed greater improvement. Our results partially support those in previous focused WCF studies, which showed that focused WCF on a small number of pre-selected language items were associated with gains in written accuracy (Benson & Dekeyser, 2019; Shintani, Ellis, & Suzuki, 2014; Suzuki, Nassaji, & Sato, 2019), though unlike previous research our study was conducted in a naturalistic classroom context, where the teachers also provided WCF on non-target errors selectively based on student needs. Informed by a complexity perspective, we do not attribute students' improved written accuracy solely to focused and student specific WCF. It is likely that students' enhanced written accuracy was the result of a combination of factors,

including focused WCF (and additional selective WCF based on student needs), peer feedback, strengthened pre- and post-writing grammar instruction that tied in with WCF, as well as language input students received from other English lessons or out-of-class language-related assistance. A trade-off of authentic, ecological studies is that as the study conditions are harder to control for, interpretations are also harder to make. Nevertheless, the ecological factors in the study together contribute to "a comprehensive approach that addresses different needs and learning styles" (Ferris, 2011, p. 151), provide students with ample exposure to the target forms (Suzuki et al., 2019), and reflect explicit language-focused instruction in L2 writing classrooms (Polio, 2019).

The second benefit for students pertains to their active engagement with revision. While previous research on focused WCF has focused exclusively on its effect on written accuracy in controlled classroom conditions, our study suggests that focused and student-specific WCF, when integrated into the writing classroom, can have positive influence beyond improved accuracy. Our findings show that students appeared to not only heed and act upon teacher feedback but they also engaged in self-initiated revisions actively, suggesting that teacher scaffolding and student-specific feedback could create a combined positive effect on student learning. From an ecological perspective, the learning opportunities afforded by focused and student-specific WCF were heeded by students, who exercised their agency to both edit language and revise content of writing (Han, 2019). Although we did not analyze whether student revisions improved the quality of their writing, teachers were positive about their focused WCF endeavors in helping them improve their writing pedagogy and their students' writing, and this perception was shared by the focal students. In the study, the teachers' enhanced pedagogy included their conscious efforts to develop effective practice to support their WCF innovation, such as reducing the number of writing tasks, requiring multiple drafts, providing instructional scaffolding to promote student learning, and establishing clear learning goals for students, which possibly explain students' active engagement with revision, as well as the perceived improvement in overall writing performance. Such findings are in line with complexity thinking which recognizes the complexity of the classroom system and views teacher feedback as a situated act that interacts with other components of the system (Larsen-Freeman, 1997). Research has found that teachers in EFL contexts usually assume the role of language teachers (Hyland & Anan, 2006) and "lose sight of other important dimensions of writing, such as ideas, rhetorical features, style and voice" (Lee, 2009, p. 35). Our study suggests that as teachers focus less on language through adopting focused and student-specific WCF, the benefits can be multifarious, like a more coherent writing curriculum, more focused instruction, more balanced teacher feedback, improved written accuracy, and students' active engagement with revision.

6.3. Lingering issues

While experimental/quasi-experimental research on WCF produces neat findings in idealized conditions, this classroom-based study reveals some challenges faced by teachers in authentic classrooms, such as error selection (what errors and how many to select) and how to gear focused WCF towards individual student needs in ways that avoid over-marking. For teachers accustomed to comprehensive WCF, implementing focused WCF naturally presents a steep learning curve, and it takes time, aside from effort, to figure out how best to carry out focused WCF within the larger pedagogical context of the writing classroom. In the study, the institutional context exerted an influence on the teachers' practice. Although being given the green light to engage in the innovation, Alice, the immediate supervisor, did not appear to fully understand the spirit of focused WCF and required them to underline all untargeted errors. Jane and Steve did not fully comply, but such a mandate could create tensions and impact the focused WCF innovation negatively. At the same time, the two teachers realized that responding to only the pre-selected error types was inadequate to meet student needs (in line with what was suggested at the workshops) and hence they also marked some non-target error/error types according to individual student needs. In characterizing the focused WCF adopted by teachers in the study, we therefore propose that their approach was "focused and student-specific WCF", which is not identical with the focused WCF nor comprehensive WCF approach adopted in previous experimental/quasi-experimental research but more like a middle ground. The teachers' focused and student-specific WCF practice echoes the definition of focused WCF proposed by Lee (2020) in her attempt to re-define focused WCF in light of the pedagogy of WCF in authentic classrooms – that is, "feedback on specific error types pre-selected by the teacher and/or errors based on individual student needs" (p.4). It is noteworthy, however, that as WCF on non-target errors increases in amount, such feedback may become less focused. A remaining issue is that if student-specific WCF gets extensive such feedback may be more comprehensive than focused. The nature and optimal amount of student-specific WCF are beyond the purview of this study, but student-specific WCF is definitely an interesting area for further research.

7. Conclusions and implications

Adopting an ecological approach informed by a complexity perspective, this 10-month study investigated two Hong Kong secondary teachers' attempts to implement focused WCF in their G9 classes. Their real-life attempts at focused WCF in real classrooms turned out to be much more messy than the "sanitized and idealized" (McKinley, 2019, p. 881) practice reported in experimentally based focused WCF research, with the teachers in reality adopting a focused and student-specific approach to WCF. That said, the study informed by a complexity perspective helps personalize WCF research and establish the importance of WCF as a situated act within the ecology of the writing classroom. Our WCF research in situ is not intended to generate principles that are universally applicable; instead it is an attempt to show how two real teachers attempted to implement focused WCF in real classrooms, and how their WCF

interacted with different elements in ecologically valid settings. The limitation of the study, also the essence of a complexity perspective, is that the knowledge yielded is partial and non-generalizable. Despite the small scale of the study, by putting the teachers on center stage, the findings are able to contribute to WCF practice in real classrooms (see McKinley, 2019) and generate implications with potential relevance to teachers in similar contexts.

Firstly, our study shows that a less comprehensive approach to WCF is feasible in real classrooms, referring to not only WCF on a small number of pre-selected error types as in previous WCF research, but also teachers' ongoing selective WCF based on student needs. Secondly, focused WCF can provide an impetus for teachers to reform not only their feedback but also their pedagogical practice with potential benefits to students' writing. Specifically, focused and student-specific WCF can help foster student development in written accuracy on target language items; such WCF practice, coupled with other pedagogical support, may help students improve overall written accuracy and make them pay attention to teacher feedback and take active steps to revise their writing. Finally, the two teachers' WCF practices in the study provide useful implications for the pedagogy of WCF in real classrooms (i.e., how teacher-informed focused WCF endeavors can be implemented and contextualized in the larger pedagogical context of the classroom), and point to the need for teachers' continuing professional development regarding WCF in similar contexts.

Part of the WCF debate has centered on whether teachers should respond to all errors or some errors selectively. In the absence of a comparison group, we cannot conclude that focused and student-specific WCF is more effective than comprehensive WCF. However, given various benefits of a focused and student-specific approach as demonstrated in the study, we can reasonably conclude that if teachers can do more with less, a focused approach to WCF is at least more cost-effective than a comprehensive one. Future research can investigate how teachers can experiment with different amounts of WCF (or different combinations like focused WCF and comprehensive WCF at different stages of writing or for different types of essays) in authentic classrooms in different contexts involving learners of different ages and backgrounds. Just as "the study of human systems is best done where it is happening" (Horn, 2008, p. 142), the study of WCF is best conducted in situ.

Declaration of Competing Interest

Acknowledgements

Appendix A. An example of qualitative data coding

Qualitative data excerpts	Open codes	Category from axial coding
Jane: Every time the target errors are different. Can we really do so…I'm just thinking that every time if the target errors are different, how can I really know whether my students have improved.	Confusion about error selection	
Jane: …spelling is decided by Steve. …But it's very difficult to, you know, because for spelling, there is not a rule to follow.	Dissatisfaction with a selected target error	Challenges of pre-selecting target errors
Steve: …the problem is I don't know what kind of code we can use for imperatives.	Difficulty in selecting a target error	
Steve: I still think it [selecting target errors] very challenging because it's very hard to find what types of mistakes students will make. And mistakes in my class may not be the same as the mistakes in other classes.	Dilemma about error selection	

Appendix B. An example of a teacher feedback form

References

Atkinson, D., & Tardy, C. (2018). SLW at the crossroads: Finding a way in the field. *Journal of Second Language Writing, 42*, 86–93. https://doi.org/10.1016/j.jslw.2018.10.011.

Benson, S., & Dekeyser, R. (2019). Effects of written corrective feedback and language aptitude on verb tense accuracy. *Language Teaching Research, 23*(6), 702–726.

Bitchener, J., & Ferris, D. (2012). *Written corrective feedback in second language acquisition and writing.* New York: Routledge.

Bitchener, J., & Knoch, U. (2008). The value of written corrective feedback for migrant and international students. *Language Teaching Research, 12*(3), 409–431. https://doi.org/10.1177/1362168808089924.

Bitchener, J., & Knoch, U. (2009). The value of a focused approach to written corrective feedback. *ELT Journal, 63*(3), 204–211. https://doi.org/10.1093/elt/ccn043.

Byrnes, H. (2013). Positioning writing as meaning-making in writing research: An introduction. *Journal of Second Language Writing, 22*(2), 95–106. https://doi.org/10.1016/j.jslw.2013.03.004.

Evans, N. W., Hartshorn, K. J., & Strong-Krause, D. (2011). The efficacy of dynamic written corrective feedback for university-matriculated ESL learners. *System, 39*, 229–239. https://doi.org/10.1016/j.system.2011.04.012.

Ferris, D. R. (2007). Preparing teacher to respond to students writing. *Journal of Second Language Writing, 16*, 165–193. https://doi.org/10.1016/j.jslw.2007.07.003.

Ferris, D. R. (2011). *Treatment of errors in second language student writing* (2nd ed.). University of Michigan Press.

Ferris, D. R., & Hedgcock, J. S. (2005). *Teaching ESL composition: Purpose, process, and practice* (2nd ed.). Lawrence Erlbaum.

Ferris, D. R., & Roberts, B. (2001). Error feedback in L2 writing classes: How explicit does it need to be? *Journal of Second Language Writing, 10*, 161–184. https://doi.org/10.1016/S1060-3743(01)00039-X.

Ferris, D. R., Liu, H., Sinha, A., & Senna, M. (2013). Written corrective feedback for individual L2 writers. *Journal of Second Language Writing, 22*(3), 307–329. https://doi.org/10.1016/j.jslw.2012.09.009.

Frear, D., & Chiu, Y. (2015). The effect of focused and unfocused indirect written corrective feedback on EFL learners' accuracy in new pieces of writing. *System, 53*, 24–34. https://doi.org/10.1016/j.system.2015.06.006.

Gibson, J. J. (1979). *The ecological approach to visual perception*. Houghton Mifflin.

Guskey, T. R. (1986). Staff development and the process of teacher change. *Educational Researcher, 15*(5), 5–12. https://doi.org/10.3102/0013189X015005005.

Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching Theory and Practice, 8*(3), 381–391. https://doi.org/10.1080/135406002100000512.

Han, Y. (2019). Written corrective feedback from an ecological perspective: The interaction between the context and individual learners. *System, 80*, 288–303. https://doi.org/10.1016/j.system.2018.12.009j.

Henderson, M., Philips, M., Ryan, T., Boud, D., Dawson, P., Molloy, E., et al. (2019). Conditions that enable effective feedback. *Higher Education Research & Development, 38*, 1401–1416.

Horn, J. (2008). Human research and complexity theory. *Educational Philosophy and Theory, 40*(1), 130–143. https://doi.org/10.1111/j.1469-5812.2007.00395.x.

Hyland, K., & Anan, E. (2006). Teachers' perceptions of error: The effects of first language and experience. *System, 34*(4), 509–519. https://doi.org/10.1016/j.system.2006.09.001.

Kang, E., & Han, Z. (2015). The efficacy of written corrective feedback in improving L2 written accuracy: A meta-analysis. *Modern Language Journal, 99*(1), 1–18. https://doi.org/10.1111/modl.12189.

Kurzer, K. (2018). Dynamic written corrective feedback in developmental multilingual writing classes. *TESOL Quarterly, 52*(1), 5–33. https://doi.org/10.1002/tesq.366.

Larsen-Freeman, D. (1997). Chaos/complexity science and second language acquisition. *Applied Linguistics, 18*(2), 141–165. https://doi.org/10.1093/applin/18.2.141.

Lee, I. (2008). Understanding teachers' written feedback practices in Hong Kong secondary classrooms. *Journal of Second Language Writing, 17*(2), 69–85. https://doi.org/10.1016/j.jslw.2007.10.001.

Lee, I. (2009). A new look at an old problem: How teachers can liberate themselves from the drudgery of marking student writing. *Prospect: An Australian Journal of Teaching/Teachers of English to Speakers of Other Languages (TESOL), 24*(2), 34–41.

Lee, I. (2010). Writing teacher education and teacher learning: Testimonies of four EFL teachers. *Journal of Second Language Writing, 19*(3), 143–157. https://doi.org/10.1016/j.jslw.2010.05.001.

Lee, I. (2019). Teacher frequently asked questions about focused written corrective feedback. *TESOL Journal, 10*(3), 1–15. https://doi.org/10.1002/tesj.427.

Lee, I. (2020). Utility of focused/comprehensive written corrective feedback research for authentic L2 writing classrooms. *Journal of Second Language Writing, 49*. https://doi.org/10.1016/j.jslw.2020.100734.

Lee, I., & Yuan, R. (2020). Understanding L2 writing teacher expertise. *Journal of Second Language Writing*. https://doi.org/10.1016/j.jslw.2020.100755. Advance online publication.

Lee, I., Mak, P., & Burns, A. (2016). EFL teachers' attempts at feedback innovation in the writing classroom. *Language Teaching Research, 20*(2), 248–269. https://doi.org/10.1177/1362168815581007.

Li, S., & Vuono, A. (2019). Twenty-five years of research on oral and written corrective feedback in *System. System, 84*, 93–109. https://doi.org/10.1016/j.system.2019.05.006.

Liu, Q., & Brown, D. (2015). Methodological synthesis of research on the effectiveness of corrective feedback in L2 writing. *Journal of Second Language Writing, 30*, 66–81. https://doi.org/10.1016/j.jslw.2015.08.011.

Lortie, D. (1975). *School teacher*. University of Chicago Press.

McKinley, J. (2019). Evolving the TESOL teaching-research nexus. *TESOL Quarterly, 53*(3), 875–884. https://doi.org/10.1002/tesq.509.

McMartin-Miller, C. (2014). How much feedback is enough? Instructor practices and student attitudes toward error treatment in second language writing. *Assessing Writing, 19*, 24–35.

Montgomery, J. L., & Baker, W. (2007). Teacher-written feedback: Student perceptions, teacher self-assessment, and actual teacher performance. *Journal of Second Language Writing, 16*(2), 82–99. https://doi.org/10.1016/j.jslw.2007.04.002.

Peng, J. E. (2012). Towards an ecological understanding of willingness to communicate in EFL classrooms in China. *System, 40*(2), 203–213. https://doi.org/10.1016/j.system.2012.02.002.

Pessoa, R. R., & Sebba, M. A. Y. (2009). Sources and types of change: A study with three English teachers. *Revista Brasileira de Linguística Aplicada, 9*(1), 265–290. https://doi.org/10.1590/S1984-63982009000100013.

Pienemann, M. (1989). Is language teachable? Psycholinguistic experiments and hypotheses. *Applied Linguistics, 10*(1), 52–79. https://doi.org/10.1093/applin/10.1.52.

Pienemann, M. (1998). Developmental dynamics in L1 and L2 acquisition: Processability Theory and generative entrenchment. *Bilingualism Language and Cognition, 1*(1), 1–20.

Pinner, R. S., & Sampson, R. J. (2020). Humanizing TESOL research through the lens of complexity thinking. *TESOL Quarterly*. https://doi.org/10.1002/tesq.604. Advance online publication.

Polio, C. (2019). Keeping the language in second language writing classes. *Journal of Second Language Writing, 46*, Article 100675. https://doi.org/10.1016/j.jslw.2019.100675.

Rahimi, M. (2019). A comparative study of the impact of focused vs. comprehensive corrective feedback and revision on ESL learners' writing accuracy and quality. *Language Teaching Research*. https://doi.org/10.1177/1362168819879182. Advance online publication.

Reed, E. S. (1993). The intention to use a specific affordance: A framework for psychology. In R. Wozniak, & K. Fisscher (Eds.), *Development in context: Acting and thinking in specific environments* (pp. 45–75). Lawrence Erlbaum Associates.

Sheen, Y. (2007). The effect of focused written corrective feedback and language aptitude on ESL learners' acquisition of articles. *TESOL Quarterly, 41*(2), 255–283. https://doi.org/10.1002/j.1545-7249.2007.tb00059.x.

Sheen, Y., Wright, D., & Moldawa, A. (2009). Differential effects of focused and unfocused written correction on the accurate use of grammatical forms by adult ESL learners. *System, 37*(4), 556–569. https://doi.org/10.1016/j.system.2009.09.002.

Shintani, N., & Ellis, R. (2013). The comparative effect of direct written corrective feedback and metalinguistic explanation on learners' explicit and implicit knowledge of the English indefinite article. *Journal of Second Language Writing, 22*, 286–306. https://doi.org/10.1016/j.jslw.2013.03.011.

Shintani, N., Ellis, R., & Suzuki, W. (2014). Effects of written feedback and revision or learners' accuracy in using two English grammatical structures. *Language Learning, 64*(1), 103–131. https://doi.org/10.1111/lang.12029.

Strauss, A. L., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage.

Suzuki, W., Nassaji, H., & Sato, K. (2019). The effects of feedback explicitness and type of target structure on accuracy in revision and new pieces of writing. *System, 81*, 135–145. https://doi.org/10.1016/j.system.2018.12.017.

van Beuningen, C. (2010). Corrective feedback in L2 writing: Theoretical perspectives, empirical insights, and future directions. *International Journal of English Studies, 10*(2), 1–27. https://doi.org/10.6018/ijes/2010/2/119171.

van Beuningen, C. G., De Jong, N. H., & Kuiken, F. (2012). Evidence on the effectiveness of comprehensive error correction in second language writing. *Language Learning, 62*(1), 1–41.

van Lier, L. (2002). An ecological-semiotic perspective on language and linguistics. In C. Kramsch (Ed.), *Language acquisition and language socialization: Ecological perspective* (pp. 140–164). Continuum.

van Lier, L. (2004). *The ecology and semiotics of language learning: A sociocultural perspective*. Kluwer Academic Publishers.

Withagen, R., de Poel, H. J., Araújo, D., & Pepping, G. J. (2012). Affordances can invite behavior: Reconsidering the relationship between affordances and agency. *New Ideas in Psychology, 30*(2), 250–258. https://doi.org/10.1016/j.newideapsych.2011.12.003.

Zheng, Y., & Yu, S. (2018). Student engagement with teacher written corrective feedback in EFL writing: A case study of Chinese lower-proficiency students. *Assessing Writing, 37*, 13–24. https://doi.org/10.1016/j.asw.2018.03.001.

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