Article

Online English Learners' Metacognitive Knowledge Development about Writing: Implications for Second Language Writing Pedagogy

Naiyi Xie Fincham [1] and Guofang Li [2,*]

[1] University of Hawaii, USA
[2] University of British Columbia, Canada
* Correspondence: guofang.li@ubc.ca

Abstract: This case study examines factors that influence the construction and development of English as a foreign language (EFL) learners' metacognitive knowledge (MCK) about English writing in online learning in China. Drawing upon theories and research in metacognition, writing in a second or foreign language (L2), and distance language learning, we investigated two Chinese EFL learners' knowledge about themselves as EFL writers and the affordances of second language writing instruction in an online language course over a 16-week semester. Findings suggest that the two learners' adjustments and revisions of their MCK about EFL writing were influenced by several pedagogical factors, including the task design, online writing instruction, and teacher feedback. Findings from this study have important implications for the design and delivery of writing tasks in online language programs for EFL learners.

1. Introduction

Writing in a second language is a highly demanding task for learners. In addition to composing and language learning, successful second language writing requires extensive metacognitive control, namely planning, monitoring, evaluating and revising (Flower & Hayes, 1981; Schoonen, Snellings, Stevenson, & Gelderen, 2009; Silva, 1993; Sun, Zhang, & Carter, 2021). Research has found that the extent to which learners can exercise such metacognitive control significantly influence EFL writers' writing performances (e.g., Qin & Zhang, 2019; Teng, 2020b; Sun, Zhang & Carter, 2021), and can primarily distinguish successful and unsuccessful L2 writers (Flower & Hayes, 1981; Raimes, 1985; Vann & Abraham, 1990). At the same time, the knowledge EFL writers bring to the composing process significantly influences their writing approach and development of writing skills (e.g., Ruan, 2005; Victori, 1999; Zhang, 2010), such that problems in the learner's approach ultimately reflect a deficiency or a lack of awareness of their weaknesses and needs as EFL writers and learners, the task requirements, and writing strategies and when to use them, and that many of their difficulties arise precisely from a lack of specific knowledge that has not been acquired (Yeh, 2015). This type of knowledge has been generally referred to as metacognitive knowledge (MCK) by various researchers (Flavell, 1979; Victori & Lockhart, 1995; Wenden, 1998). This also appears to be the case with adult Chinese EFL (English as a Foreign Language) student writers. Research has documented that the difficulties they experienced in English writing were related to their lack of metacognitive awareness about EFL writing task, processes and effective strategies (e.g., Ruan, 2005, 2014; Xu et al., 2021; Zhang, 2010), as well as their unfavorable perceptions and attitudes toward EFL writing practice (e.g., Arndt, 1987; You, 2004).

Considering the crucial role of MCK in the development of EFL writing ability, there has been a growing body of research into effective pedagogical interventions to help learners develop and apply their MCK about EFL writing. Accumulating evidence yielded in EFL writing studies suggests that pedagogical approaches that provide opportunities for metacognitive development, such as process-based and Genre-based writing instructions, can contribute to the development of learners' MCK pertinent to successful composing processes (Ruan, 2005; Lam, 2015; Xiao, 2016), and promote task and strategy knowledge by helping novice writers understand how to use linguistic elements properly to achieve communicative goals with consideration of the audience and social context (Negretti, 2012; Negretti & Kuteeva, 2011; Negretti & McGrath, 2018).

While these studies present promising pedagogical potentials of metacognition-focused instructions, they are mostly conducted in face-to-face classroom settings. EFL writers in the rapidly growing non-traditional online learning environments, now normalized by the COVID-19 pandemic due to school closure (Bouchrika, 2021), have been largely under-studied, thus interventions or instructional designs that could facilitate their writing development are still lacking. Learning a second language through a fully or partially online program present unique challenges to learners and instructors, thus what have been proved effective in promoting second language writers' MCK about writing in the face-to-face writing class may not work the same way, or even be applicable in an online learning environment, considering the generally limited teacher mediation and monitoring, and different kinds of interaction between learners and teacher or their peers in such context (Godwin-Jones, 2018; Harris, 2003; Hauck, 2005; White, 2003, 2014).

Helping EFL learners to learn effectively in an online environment has been a pressing issue in China and globally. As of 2020, there were over 400 million people who were learning English, representing one of the largest EFL learner populations in the world (Li, 2020a). Given the high prestige English has gained in China, and parallel to the increasing number of internet users, a large part of Chinese EFL learners choose to continue their English study after they have graduated from school either through online EFL programs administered by universities or private English classes offered by private providers. For example, the number of online learners in China grew from 67.2 million in 2013 to 120 million in 2017 (Jing, 2014). Since the beginning of the COVID-19 pandemic in 2019, the size of China's online English education market has grown by 168% and it continues to grow (Li, 2020b). With the rapid growth of online EFL education, the importance of effective communication in the online environment has gained increased recognition (Godwin-Jones, 2018). While much attention has been devoted to oral communication, little is known about written communication in the online learning context, especially whether or how learners exercise metacognitive control over their writing development and how EFL writing skills development can be guided and supported in the online learning environment.

This case study attempted to address this gap by investigating two Chinese adult EFL students' construction and development of English writing MCK over their first semester in an online English program. Findings from this study help us gain insight into the knowledge Chinese adults EFL learners' have about their cognitive and affective aspects of learning to write in English, i.e., their MCK related to EFL writing, in an online learning context. Such knowledge is crucial to our understanding of whether and how they exercise metacognitive control in writing.

2. Literature Review

2.1. Metacognitive Knowledge and Second Language Writing

Metacognition was originally referred to as the knowledge about and regulation of one's cognitive activities in learning processes (Brown, 1987; Flavell, 1979). It is distinctive from cognition in that "cognitive skills are necessary to perform a task, while metacognition is necessary to understand how the task was performed" (Schraw, 1998, p. 113). According to Flavell (1979), the pioneer in metacognition research, metacognition consists of two interdependent components: knowledge of cognition (metacognitive knowledge) and regulation of cognition (metacognitive strategies). Metacognitive knowledge (MCK) refers to one's "knowledge or beliefs about what factors or variables act and interact in what ways to affect the course and outcome of cognitive enterprises" (Flavell, 1979, p. 907). In Flavell's original model of MCK, he distinguished three sub-components of MCK, namely knowledge of person, task, and strategy. Second language researchers have applied Flavell's MCK model to investigate what MCK about writing second language learners have brought to the process of learning to write and how such knowledge is related to their use of writing strategies.

Person knowledge entails individuals' understanding of the cognitive, affective, and motivational factors that facilitate or inhibit learning (Pintrich, 2002). In the context of second language writing, it may entail learners' self-concept about themselves as writers and degree of confidence in their capacity for writing in the target language, their motivation, and self-perceived problems and anxiety in writing in the second or foreign language (Ruan, 2005; Victori, 1999). Research shows that second language writers' person knowledge has significant influences on their writing performance. For example, Zimmerman and Bandura (1994) examined the influence of beliefs that learners held (i.e., self-efficacy beliefs) about their ability to mobilize and direct resources for learning and to sustain such effort on their writing performance, and found that learners' self-efficacy beliefs had direct influence on writing task completion. Based on her comparison of the MCK of two successful and two unsuccessful EFL writers, Victori (1999) pointed out that the more EFL writers knew about their strengths and weaknesses in their writing, the more likely they could have a realistic picture of the problems they might have to cope with during learning and of the steps they could take to improve them.

Task knowledge refers to one's awareness of "the nature of a cognitive enterprise, and the implications it has for the best management of this cognitive activity and how successfully its goal is likely to be achieved" (Flavell, 1979, p. 907). Regarding second language writing, task knowledge encompasses learners' knowledge about the nature and purpose of the writing task,

demands and requirements for completing the task, and constraints that hinder successful task completion (Ruan, 2005, 2014; Victori, 1999). In particular, student writers' knowledge of what constitutes good writing (i.e., task demands) affects the monitoring and evaluation of the texts being produced. For example, studies indicate that Chinese EFL learners tend to view EFL writing primarily as means to learn English, thus consider linguistic accuracy as the most important factor in English writing and are largely unaware of the core processes involved in composition (e.g., Ruan, 2014; Zhang, 2010).

Strategy knowledge refers to one's understanding of "what strategies are likely to be effective in achieving what subgoals and goals in what sorts of cognitive undertakings" (Flavell, 1979, p. 909). Findings from studies of second language writers reveal that learners, to varied degrees, could develop knowledge about the effectiveness of writing strategies and strategies they claim to use when composing, including planning ideas, organizing ideas, evaluating and revising content, and seeking external sources and assistance (Victori, 1999; Ruan, 2005; Zhang, 2010). Writers' strategy awareness and strategy application have been extensively discussed in the literature of cognitive writing research. For example, in Graham's (2006) meta-analysis of studies on strategy instruction and the teaching of writing, he found that increased strategy knowledge led to improvement in students' writing performance, and such positive impact was maintained over time and generalized to new writing tasks and situations. In a study on metacognition in L2 students' academic writing, Negretti (2012) argues that metacognitive awareness of strategies has a strong relationship with task perceptions and students' development of writing approaches.

Research into metacognition, self-regulation and second language writing development has yielded ample evidence that learners' MCK about writing is critical for successful task completion, transferring of writing skills and knowledge, and developing composing capacity in the target language (Farahian & Avarzamani, 2018; Teng, 2020b; Ruan, 2005, 2014; Victori, 1999; Zhang, 2010). In Victori's (1999) seminal study of two successful and two unsuccessful Spanish EFL writers' MCK about EFL writing, she found that good and poor EFL writers could be distinguished by their MCK in each of the three dimensions analyzed (person, task, and strategy), and that "this knowledge determined the type of strategy or writing approach to be adopted by the writer" (Victori, 1999, p. 549). Specifically, the two successful writers' MCK base served as a sound basis which enabled them to make informed decisions throughout the task completion process on various stages, from planning and organizing ideas, monitoring the writing process, to revising the texts. In contrast, the relatively limited and sometimes inappropriate knowledge of the writing task held by the less effective EFL writers had resulted in them using inefficient strategies at different stages of the writing process.

Also using Flavell's model, Zhang (2010) explored the role of MCK in English writing of Chinese EFL learners. She found that all three components of MCK (person, task, and strategy) were positively correlated with English writing performance, and successful employment of MCK helps facilitate EFL learners' writing proficiency. However, she also pointed out that the Chinese EFL learners in her study generally did not have a strong MCK base. Specifically, students had little knowledge of thinking from readers' perspectives and reflecting upon their writing afterwards. The researcher attributed this to students' lack of intrinsic motivation in writing, as they saw it as merely a demand from teachers rather than genuinely useful skill.

2.2. Metacognitive Development in Second Language Writing

Schraw (1998) stresses that both knowledge of cognition and regulation of cognition are domain-general. That is, while specific cognitive skills tend to be encapsulated within subject areas, metacognitive skills (i.e., planning, monitoring, and evaluating) span multiple domains. Schraw and his colleague (Schraw & Moshman, 1995) also find that as learners' expertise within a particular domain improves, their MCK and regulation skills would also improve, and MCK may compensate for low ability or lack of relevant prior knowledge. In light of the critical role of MCK in second writing, researchers have been exploring if and how second writing classes can be designed to facilitate student writers' metacognitive growth. Accumulating research evidence suggests that second language writers' MCK about writing, and consequently their writing performance can be enhanced through explicit strategy instruction and awareness-raising activities (e.g., Kasper, 1997; Lam, 2015; Ruan, 2005; Teng, 2020a; Yasuda, 2011). The writing courses that have yielded positive effects on learners' metacognitive growth share some common features. First, a process-based approach to writing is adopted as the main pedagogical approach, which engages student writers in a cyclical process involving stages of planning, drafting, and receiving feedback on their drafts, be it from peers and/or from the teacher, followed by revision of their evolving texts (K. Hyland, 2003). As a pedagogical response to a product-based approach which emphasizes mechanical mastery of linguistic structures of texts, the process-based approach to writing instruction prioritizes the development of student writers' metacognitive awareness of their own processes—their ability to reflect on the strategies they use to write (K. Hyland, 2003, 2011). Second, these courses include an initial training phase where learners received explicit instruction of key composing strategies (e.g., brainstorming, formulating, drafting, revising, evaluating, editing, etc.). These knowledge and strategies are then revisited and practiced during the writing cycles later. Another common practice in these studies is the use of learning journals in which students write about their experiences and reflections while completing the writing tasks. While learning journals used

primarily as data collection instruments, they have proven to help bring the writer's complex, often subconscious MCK to the level of consciousness, thereby promoting awareness as the writer engaged in the composing process (Kasper, 1997).

Furthermore, research into peer and instructor feedback during task completion indicates that formative feedback focusing on the learning process rather than the product (i.e. texts produced) may increase students' tolerance of ambiguity and encourage self-reflection, both of which are considered key to successful distance learning (Baily & Cassidy, 2019; Court, 2014; Furnborough & Truman, 2009; Hyland, 2003). In the meantime, tutor interventions that invite students to develop effective self-correction strategies may give them a degree of control over the learning process, promoting self-regulation (Hurd, Beaven, & Ortega, 2001). Research into online collaborative writing also suggests that epistemic (to requests for explanations and/or clarifications in a critical way) and suggestive feedback (advice on how to proceed or progress and invites exploration, expansion, or improvement of an idea) are effective in improving writing performance by engaging and guiding students in self-reflection and self-evaluation during the writing process (Guasch et al., 2013).

Notably, even though second language writing in an online environment has been gaining increasing attention (e.g., Godwin-Jones, 2018; Hew et al., 2020), how to facilitate writing development in the rapidly evolving online learning environments has not yet been systematically investigated. For students who have been learning in traditional in-person settings, switching to fully online learning can be challenging, bringing unforeseen uncertainties, confusion, and stress (e.g., White, 2008, 2014). Given that the teacher is remote from the learning site and will not be mediating between the learners and the target language materials and activities in a timely fashion, such as checking errors, providing feedback, and explaining tasks, it is the learner's responsibility to internalize and gain control of the learning (Hew et al., 2020; Martínez, 2012; Reinders & Hubbard, 2012). Additionally, while the online learning environment offers more enriched learning opportunities, enhanced flexibility and communication capacities, it also means that learners are faced with a more complex learning environment, in which some learners may find it difficult to identify and focus on essential areas that fit their proficiency level, learning goals and needs (e.g., Ulitsky, 2000). Furthermore, to benefit more from the communication opportunities provided by the web-based environment, online distance language learners need to adjust to and make use of learning opportunities within an interconnected community of learners, not only on the technological level, namely using a number of new mediums and tools both synchronous and asynchronous (Benson, 2001), but also on the psychological level, namely developing an understanding of their roles and responsibilities in the online learning communities (Eneau & Develotte, 2012). Research solely devoted to the development of knowledge and skills in second language writing in a fully online program from the metacognitive perspective is scarce. This study aims to extend our knowledge about language learners' MCK of second language writing in the context of online learning by examining two Chinese adult EFL writers' (Gao and Lan) regulation and reflection of their writing development in an online EFL program in China. Specifically, we sought to address the following research questions:

1. What metacognitive knowledge about EFL writing did Chinese adult EFL learners' have at the beginning of an online English program?
2. How did adult EFL learners' metacognitive knowledge about writing in English change in an online English program?
3. In what ways did the online English program shape the changes in learners' metacognitive knowledge about writing in English?

3. The Study

3.1. Context

The study was conducted in an online EFL program for adult learners called English House Online (pseudonym) offered by a leading national university specialized in foreign language education, headquartered in Beijing, China. As a typical material-centered program with pre-packaged curriculum, this program consists of two phases of study: a general learning phase with the emphasis on English language proficiency for the first two years of the study, followed by a specialized learning phase to cater for students' personal needs. The present study focuses on the first semester of students' first year of study, during which students are expected to complete two mandatory courses—"English in Daily Life" and "English at Leisure"—over 16 weeks. Each course has one writing assignment with preset deadlines. Writing is also part of the final exams that assess all four language skills.

Students are expected to engage in self-directed learning supported by the online learning platform of English House Online. Six online tutoring sessions provided by the course instructor are offered throughout the semester for the assignments via VOB, the synchronous web-conferencing system, which is embedded in the school's learning management system. Students living in cities where the institution has set up physical learning centers may also choose to attend face-to-face tutoring sessions offered on each weekend. Additionally, a graduate student tutor to each group of 10 students to provide personalized support.

3.2. The Two Writing Assignments

According to the two courses' introductions, the courses' design follows an integrated-skill approach model, in which learning tasks/activities are built around communicative functions, paying little attention to traditionally deemed core of English language, namely, grammar. The courses are thematically structured, integrating all language skills within the activities or tasks, with more emphasis on listening comprehension, such that most of the tasks require students to complete tasks upon listening to dialogues.

For the first writing assignment, students are asked to write about one of their routine trips to work or home by closely following a sample passage of the same topic in the textbook and using the suggested expressions (Fig. 1). The grading is based on students' performance in three aspects: language (50%), content (40%), and structure and format (10%). On the assignment page, students have access to the file "Marking Criteria", which contains a detailed breakdown of scores regarding different levels of performance in these aspects.

Assignment 01 for "English in Daily Life"(Units 1-4)

The total marks for this assignment are 100 points. Time allowed for completing this assignment is 1 hour (60 minutes).

PLEASE WRITE ALL YOUR ANSWERS ON THE ANSWER SHEET.

Writing

（1）
My Routine Trip

Instructions:Following the example in Unit 4, Activity 6, Task 2, write a brief account (120-150 words) describing your routine trip to a work pla ce or to a study place.

The following expressions can be helpful for your writing, so you are suggested to use of them in your assignment.

A is about … (minutes/miles/kilometers/stops) from B
(regular/direct) bus service
all the way
It takes me about … (minutes/hours)
I spend the time (doing)
enjoy the peace and quiet of …
think about …
pass … on the way
I prefer …
It is quicker/cheaper/more expensive to do the whole journey by/on … *(Note: A particular means of transport is needed here.)*

Fig. 1. Instructions for the 1st writing assignment.

For the second writing assignment, students are instructed to write a letter based on an imagined scenario, which is also nearly identical to a sample text in the textbook, and again students are provided with a list of words and expressions to use in their writing (Fig. 2).

Assignment 01 for "English at Leisure" (Units 1-2)

The total marks for this assignment are 100 points. Time allowed for completing this assignment is 1 hour (60 minutes).

PLEASE WRITE ALL YOUR ANSWERS ON THE ANSWER SHEET.

Writing

（1）

In Task 1, Activity 7 of Unit 2, we looked at the conventions of writing a personal letter and examined the structure of Jack and Elsie's letter. Now, you should put what you have learned into practice and write a personal letter. Imagine the following situation:

You held a party at home to celebrate your birthday. You invited a dozen people, including your British friend Tony. Tony sent you a very interesting English book as a gift, but he couldn't join your party for he had to attend a business meeting out of town. You've read reviews which say the book is excellent.

The details of your party are given in the following table:

day of party:	last Sunday evening
gift you received:	an English book
time gift arrived:	last Friday
number of people at party:	a dozen (friends, colleagues and immediate family)
food:	sit-down meal
drinks:	white wine, beer, champagne and soft drinks flowed freely
John:	had a hangover the following day
Rick:	was as entertaining as ever
Gao Lan:	Rick's wife; looked wonderful in a bright red silk *qipao* -- the traditional Chinese dress
Zhou Yan & Li Chenhui:	particularly asked you to pass on their love and best wishes

Your letter should include these points:
·regrets for his not having been able to come
·comments on his gift
·thanks for the gift
·description of the gathering
·good wishes

Fig. 2. Instructions for the 2nd writing assignment.

The same rubrics are used for both assignments regardless of the types of text to be produced (Table 1). Moreover, aligned with a product-based approach (Hasan & Akhand, 2010), the rubrics heavily focus on linguistic accuracy, less on content and least on organization.

Table 1. Sample of grading rubrics for both writing assignments (Total score:100).

Grading Category	Score	Description
Language	50*	Excellent command of language: variety and flexibility in vocabulary use; writing skills exceeding the average level; advanced and rigorous use of grammar
Content	40	Content is rich and matches the subject well, contains creative ideas, and demonstrates critical thinking.
Organization	10	Clear organization and logic with proper use of connecting and transitioning devices. Use the correct format for specific genres, such as writing a letter.)

* Only the description for the highest score in each category is shown here.

3.3. Participants

Gao and Lan were originally recruited among those of the Fall cohort enrolled at the Beijing study center. While students for this cohort were all considered as beginning level English learners, to ensure a diverse case profile, the students were selected according to the following criteria: (1) they gave their informed consent; (2) there should be students of high and low perceived self-efficacy for online learning (based on the Online Learning Readiness Scale (OLRS) survey results (Hung et al., 2010); (3) there should be students of diverse professional background (based on registration information); (4) there should be both female and male students and in different age groups (based on registration information). We selected Gao and Lan as the focal participants because they presented the most contrasting cases in terms of their high readiness for self-regulated learning and lack of formal training in EFL writing in their entire prior English learning history.

Gao was a 38 years old male from Tianjin (about 85 miles southeast of Beijing), working as the chief pharmacist at a regional hospital in Tianjin. He started learning English in the early 1980s, from the last two years of elementary school continuously through the end of technical school (8 years). Before signing up for this program, he had a 3-year learning experience in an online medical school and obtained his BA degree in Applied Pharmacy.

Lan was a 59 years old female from Beijing, working as a Mandarin Chinese instructor based in Seoul, Korea but her job required the use of English as the working language. She started to learn English in the early 1980s, yet most of her experience was, in her own words, "nonsystematic and periodic" learning through professional development trainings and short-term language programs. She had no previous experience in distance learning.

The study also involved Ms. Snow[3], who was the instructor of the two mandatory courses, teaching both the FTF and online sessions. Ms. Snow provided assistance during participant recruitment and contextual information during the data collection process.

3.4. Data Collection

Surveys: Two types of surveys were used in the study to establish the basic profile of the participants. First, initial evaluation of potential participants' self-efficacy belief in their readiness for self-directed online learning was measured by using the Online Learning Readiness Scale (OLRS) (Hung, et al., 2010). Second, a Language Learning Background and Technology Use Survey was used to collect information on participants' previous experience with language learning, online or distance learning, and use of technologies for language learning (Ushida, 2005; Winke & Gertler, 2008).

Individual interviews: Three semi-structured open-ended individual interviews were conducted in Chinese with each participant on week 6, 12, and 17 respectively via videoconferencing and were audio-recorded. The aim of the initial interview was to understand the participants' entering state of learners' MCK about distance language learning. The purpose of the 2nd and 3rd interview was to probe into the three dimensions (i.e., self, task and strategy) of learners' MCK as they gained more experiences in this program over the semester. All three interviews included questions specifically related to EFL writing. In the first interview, participants were asked to evaluate their knowledge and skills in EFL writing, to describe their previous experience in writing and the nature and demands of English writing, and to explain their approach to develop writing skills. In the following interviews, they were asked to recall their experience of completing the writing assignments, including their self-evaluation of the processes, strategies, and outcomes of writing practice in this course.

Observation of online participation: Observation of students' participation patterns during online tutorials (VOB) for the two writing assignments was carried out by saving the chat logs shown on the public screen during the sessions and taking notes of both audio and text-based interactions that specifically involved the participants. Additional course participation records were obtained in cooperation with the course instructor. Ms. Snow was interviewed about the participants' assignment submission, VOB and FTF tutorial participation, Discussion Forum participation, communication with the instructor, and overall progress made (Ushida, 2005a).

Other Data Sources: Other data sources included participants' two writing assignments including grades and feedback, and the PowerPoint used during VOB and FTF sessions. Finally, a variety of program-related documentation was also collected, which included program introduction, orientation materials and student manual (i.e., Guide to Success), assignments instructions and grading criteria, final exam instruction and sample tests, and announcements and posts on the online learning platform and the school's social network account.

3.5. Data Analysis

The data analysis process involved mainly qualitative data analysis following the inductive approach (Yin, 2008). Analysis of the qualitative data from the interviews was an ongoing process involving both individual cases and cross-case analysis. The overall process followed three concurrent flows of activity: data documentation and reduction, data display, and conclusion

drawing/verification (Miles et al., 2019) with the assistance of qualitative data analysis software (NVivo® 10). The three MCK components (person knowledge, task knowledge, and strategy knowledge) proposed by Flavell (1979) were used as the initial coding scheme. Subsequent codes were further developed for each of these three dimensions (e.g., "Self-assessment" and "Personality" under "Person Knowledge"). Table 2 presents the coding examples specifically related to participants' MCK in EFL writing. To capture any MCK development, text segments were compared and analyzed under the same categories and subcategories within each case to search for changes, including new, modified, refined, and contrasting expressions. Finally, relevant contextual factors were identified through systematically and chronologically reexamining the text segments where changes were identified and were cross-checked with other data sources including students' artifacts, interviews with course instructor, and course documents. To address the trustworthiness issue of data analysis, twenty percent of the transcriptions were returned to students for member checking. Discrepancy in interpretations was resolved through further negotiations and discussions with students to reach consensus in follow-up interviews.

Table 2. Examples of three levels of categorization of MCK about writing.

Themes and coded quotations	Sub-category	Main Category
Inadequate lexical knowledge *But if you ask me to speak or write about it, I can't do it. I have zero ability in this regard.*	Writing self-efficacy	Person Knowledge (PK)
Nature of writing practice *The condition for good or meaningful writing should always be grounded in personal experiences or real-life materials", and it's pointless if merely copying others' [writing] without one's own life experience.*	Task purpose	Task Knowledge (TK)
Importance of planning *...to be able to choose the right words and use them correctly, you need to already have an overall plan for the text*	Planning	Strategy Knowledge (SK)

4. Findings

In this section, we present findings of the two focal participants, Gao and Lan. Each case describes the participant's MCK about EFL writing at the beginning of the semester and how it developed over the semester. As their stories unfold, the writing task design and teacher feedback that focused on grammar accuracy rather than meaning production had a powerful influence on both learners: while Gao's MCK about product-oriented writing was reinforced throughout the semester, Lan's MCK about meaning-oriented writing was obliterated.

4.1. The Key to Writing is to Memorize Those Templates": Gao's Persistent MCK about Writing

Gao's motivation for continuing his English study in an online program was driven by his goal of "developing true knowledge and skills of English." He saw the four language skills as separate processes and was well aware of his current strengths and weaknesses in different skills areas. In terms of his writing ability in English, his assessment was "zero":

> So, in short, I can read. When you give me an article, I can read it. But if you ask me to speak or write about it, I can't do it. I have zero ability in this regard. (Interview-1/Week-6)

Gao's understanding of the nature of English writing was primarily product-based, with the goal of producing correct forms. In his view, his major weakness in English writing was his inadequate lexical knowledge, especially concerning spelling and grammar:

> In the process of writing, I found that I had many weaknesses. The major one is...spelling. I never noticed this problem before. But since I started writing in this course, I found that ...I can't spell the words correctly, even though I know

the meaning well. Other times, I didn't use the right tense for the word. All of these are my weaknesses. (Interview-1/Week-6)

After thoroughly studying the course content and requirements, Gao worked out a "four-round learning cycle" to guide his self-study, which meant he would go through the content in each course four times, with each round focusing on one of the four language skills, listening, speaking, reading, and writing. With Round-One dedicated to the overall organization of the course and Round-Two for listening, writing was the focus for Round-Three, which he decided to focus on vocabulary and memorizing templates from the textbook:

Round-Three focuses on vocabulary, especially advanced vocabulary related to specific themes in the course. And another focus is writing. ... The key to writing is to memorize those templates you have heard in the listening tasks or read in the textbook. (Interview-1/Week-6)

His approach to improving writing was in line with the recommendations for improving EFL writing given by the instructor, Mrs. Snow (Fig. 3), which delivers a clear message that EFL writing is all about producing the right words, and sentences and reproduce the models, no self-creation nor self-expression should be involved.
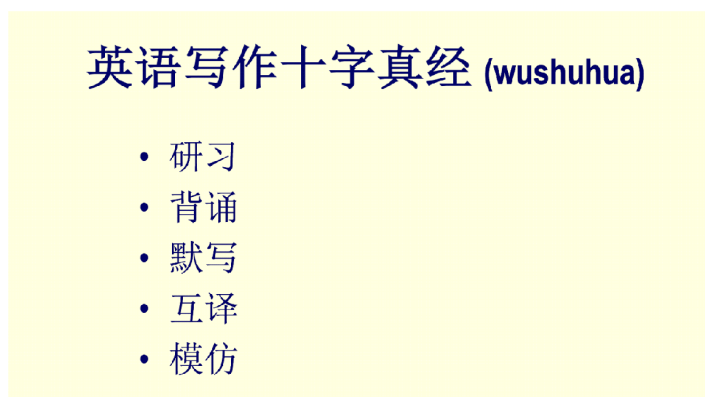
Fig. 3. Recommendation for developing EFL writing skills provided by the instructor*. [*Translation: Five things to do to improve your English writing: Study (the texts), Memorize (the texts), Dictation, Two-way translation, Mimic the model]

Accordingly, Gao thought the two writing assignments were quite easy, since all he needed to do was "to follow the template and use the recommended words and sentence structures". By following the template, he was able to complete the first writing assignments on time. However, he shared that he had a "tough time" finishing the first writing assignment. Trying to find out possible reasons behind this, Gao reached out to those students "whose English seemed much better" and compared their situations to his own. In our second interview, Gao shared that he struggled with this writing assignment because of "a lack of practical needs for English", which had rendered his English learning "disconnected to real-life purposes." As he explained,

For those classmates I have told you about earlier, their English learning is driven by a clear goal, which is related to their job. But for my own situation, English is of no relevance to my job. Under such circumstances... take writing for example, I had learned nothing about [how to write] previously and have no practical use of it in my actual work. So, it really is very tough now that I am asked to write this [assignment]. (Interview-2/Week-12)

However, Gao continued to focus most of his attention on vocabulary and grammar during writing practice throughout the semester. As reflected in these extracts from the second and third interview respectively:

My writing now is still very poor...in that I still rely on the dictionary a lot to make sure if I have used the words correctively. The whole writing process is very slow and inefficient... as I have had no systematic training and practice in English writing prior to this. (Interview-2/Week-12)
... Well, writing is still quite difficult for me, like it could take me 4 to 5 hours to finish a 100-word essay; BUT at least now I can actually write something out, this is a really great improvement! Before, I couldn't write anything at

all. Also, when I first started, I had lots of trouble with grammar; now, after continuous practice and meticulous use of a dictionary, my grammar problem has basically been solved. My focus now is to make sure I can convey my ideas accurately and use authentic expressions. (Interview-3/Week-17)

His continued foci linguistic accuracy was further reinforced by the tutorials and the feedback to his assignments which paid attention only to word choices and language (Fig. 4).
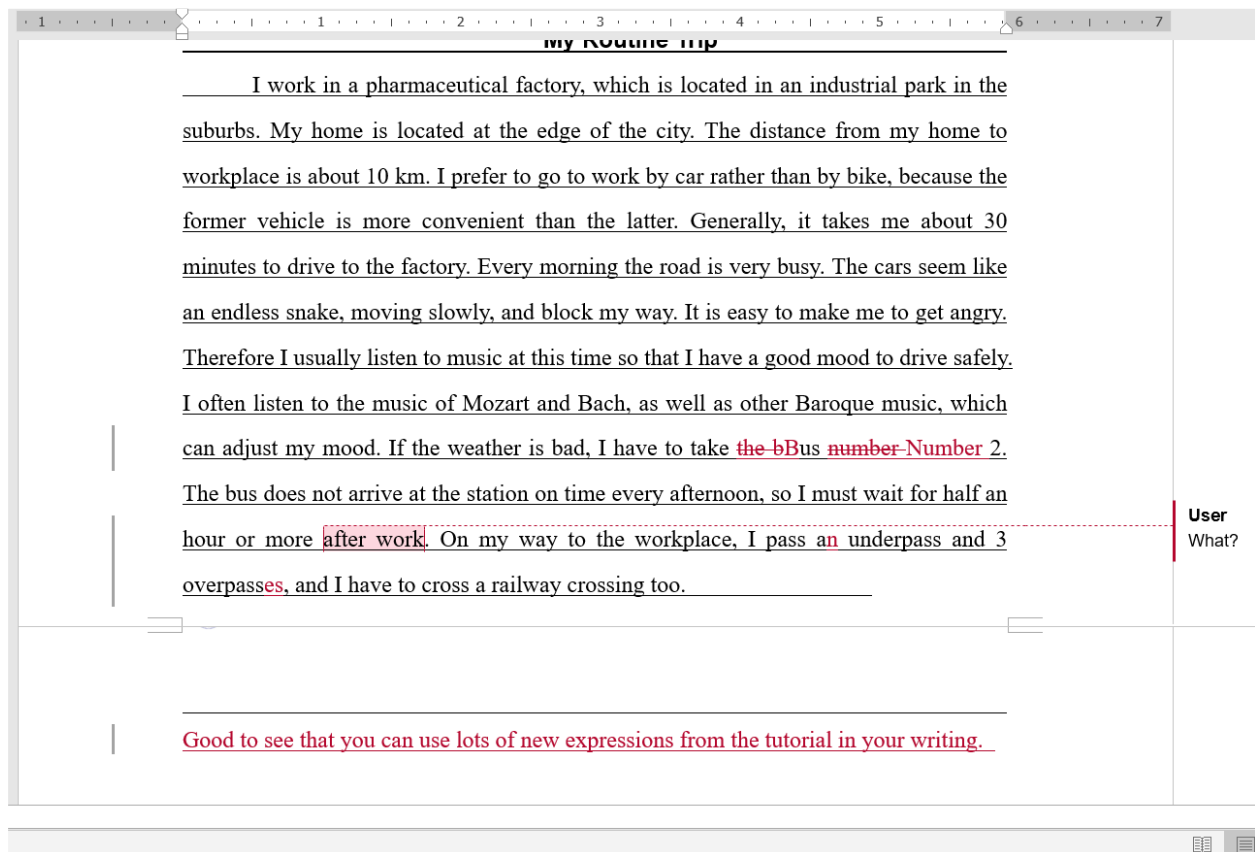
Fig. 4. Gao's writing sample from the 1st assignment and the instructor's feedback.

4.2. "Copying the Example…I am Not So Sure About It": Conflicts in Lan's MCK about Writing

Lan started out the first semester with a clear self-evaluation of her strengths and weaknesses in English learning, and ideas about what she needed to improve her English ability. She noted that her previous learning experience was "full of frustration" and her overall proficiency in English, including writing, "was still very low … with a very weak foundation":

My writing is really weak. Yesterday, we did the "dictation" exercises with the teacher. My vocabulary is so limited. While at best, I may be able to speak a little, yet all I could use were just those few words, and my grammar is so bad. Anyway, I feel that my foundation in English is too weak. (Interview-1/Week-6)
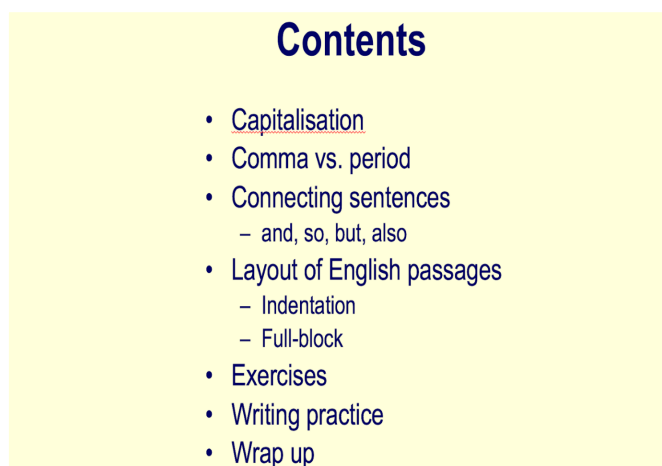
Different from Gao, she saw the four language skills as inter-connected and decided to experiment with some self-created methods that could "serve multiple learning purposes at one time":

I usually take a short passage and write it down while listening to its recording. During this process, I could see if I have mastered the new words or sentences, and at the same time practice listening and writing. I think in this way I can improve faster. Like now, for those words I've already known, I can write them down as soon as I hear them. (Interview-1/Week-6)

Lan also stressed that "the condition for good and meaningful writing should always be grounded in personal experiences or real-life materials", and "it's pointless if merely copying others' [writing] without one's own life experience" (Interview-1/Week-6). Therefore, the writing assignments were quite puzzling to her, because other than "copying the whole structure of the sample text mechanically and the prescribed words", she found no "personal connection to the scenario", nor was there "any room for individual production", as she carefully explained,

> *It seems that this assignment...is just about applying the sample mechanically, using the same story and sentence structures. I took a look at the requirements; all I need to do is to copy the existing example...is that really it? That doesn't sound right. I am not so sure about it. I want to wait until the online tutorial and see what Ms. Snow would say about it. (Interview-2/Week-12)*

During the first online tutorial (see Fig. 5), however, Mrs. Snow focused on linguistic elements and mechanics of writing only.

Contents

- Capitalisation
- Comma vs. period
- Connecting sentences
  - and, so, but, also
- Layout of English passages
  - Indentation
  - Full-block
- Exercises
- Writing practice
- Wrap up

Fig. 5. Outline presented by the instructor during the online writing assignment tutorial.

It was not surprising that the writing process for Lan was not very smooth. Lan did several rounds of revision before submission. She also attended all the online assignment tutorials (VOB) but did not share any of her draft for feedback. She mentioned in the second interview that in addition to using the recommended words and sentence structures, she also wrote many sentences in her own words and ways of expression, a lot of which, "unfortunately ended up being deleted due to the word limit set by the school." Such tension intensified when Lan was trying to complete the second assignment.

Similar to the feedback Gao received, the grading teacher's feedback given to Lan's first assignment was only on grammar and word accuracy: there were two indications of grammar errors and one was mistakenly corrected (Figure 6).

It is really a long way, but I spend the time listening to English, music or looking

through the news on my phone. Sometimes I just close my eyes for a nap. It is a busy

and tired ~~ing~~ morning, but I enjoy the whole journey. The commute gives me a daily

workout and makes me energetic.

Fig. 6. Lan's writing sample for the first assignment and correction made by the instructor.

This sole-focus on grammar caused confusion for Lan. She attended the online tutorial for the second writing assignment and listened to the instructor's explanation about the purpose of the assignment, which was to "provide a framework and to guide and regulate the students' writing process." She began to accept that this was what beginner learners like her needed at this stage:

> *The second writing assignment, there was little room for self-creation. But…I think that's the school's intention…showing you what to write in the first part, the second part, and the third part. In this way, in the future we would know how to write a letter or where to start. Since we have just started learning to write in English, we might not know the right way [of doing it], so I think this [the assignment] does have some positive effects. (Interview-3/Week-17)*

Lan believed one of the positive effects was that her writing got "more regulated" in terms of how to approach specific writing tasks or genres and organize the text. Lan explained:

> *While on surface, those words and expressions provided in the instructions may just be recommendations for making the text look nice; but actually, if you analyze them carefully, to be able to choose the right words and use them correctly, you need to already have an overall plan for the text. This whole process helps you to learn how to write better. (Interview-3/Week-17)*

With an overly emphasis on linguistic accuracy and consequently lack of specific attention to the composing process during the course, Lan had quite a struggling experience during the writing section in the final exam. As she recounted in the final interview, while the two writing tasks in the final exams did provide some more room for self-creation, she ended up with a "quite disorganized essay". Although she was trying to get every required point covered, she was not good at planning and following the plan, something she concluded that still needed more practice.

At the end of the semester, Lan no longer believed that meaningful writing should be based on personal experiences. Instead, she believed that, "we are learning the English language, so ideally, we should be using English to think and to use English the way native speakers do". She explained that while trying to write, she would produce the text in Chinese first, then "translate" it into English, which made her English read like "Chinglish". To overcome this hurdle, Lan thought that she should be carefully reading the textbook and collecting and memorizing all the "good sentences".

5. Discussion

5.1. EFL Learners' MCK of Second Language Writing in the Online Context: Perspectives and Approaches to Second Language Writing

Our study set out to investigate what metacognitive knowledge about EFL writing adult Chinese EFL learners had when they first started in an online English program. The data analysis showed that, while both students started the semester with well-developed MCK about self-regulated language learning, both learners had quite low self-efficacy in English writing. Both deemed their current insufficient lexical knowledge as the primary weakness in writing, and there was an absence of awareness regarding composing process and writing strategies. Such primary focus on vocabulary and grammar fits the common profile of second language student writers (e.g., Silva, 1993; Ruan, 2014; Sun et al., 2021; Teng, 2020b; Zhang, 2010). As Flower and Hayes (1981, p. 373) explained, "If the writer must devote conscious attention to demands such as spelling and grammar, the task of translating can interfere with the more global process of planning what one wants to say".

Nonetheless, their understandings of the nature of writing practice differed, hence their initial approaches to the task assignments. Gao initially viewed writing practice in this course as essentially a separate language learning task from other language skills that should be geared toward linguistic accuracy. As reflected in his "four-round learning cycle", his approach to developing writing skills was to follow exactly the "templates" of different texts as presented in the listening and reading tasks. Previous research suggests this view is quite common among novice foreign language writers, as their writing experiences, if any, tend to occur within the confinements of the classroom, in which writing is often just a means for grammar practice or vocabulary exercises (Yasuda, 2011).

For Lan, aligned with her belief that language was a tool for communication, she stressed that writing in any circumstances had to be communicating personal experience and expression, and anything one wrote should be "grounded in real-life". Naturally, she tried to write her own sentences and expressions in the two writing assignments. However, there was a disconnection between what Lan perceived as the purpose of writing in general (i.e., self-expression and communication), and the purposes of writing assignments and instruction in the EFL program (i.e., producing correct forms). Our findings regarding the first research questions

largely aligned with the previously predominant finding that Chinese EFL writers tend to view EFL writing as means to learn English, thus linguistic accuracy is considered the utmost important (Ruan, 2014; Zhang, 2010). However, our findings also revealed that EFL writers may have conflicting views even toward the same task, which could be related to their experiences as both novice EFL learners and professionals in their own career.

5.2. Development in EFL Learners' MCK about Writing and Online Writing Pedagogy

Our second and third research questions sought to investigate how learner's MCK about EFL writing changed over time and what were the factors related to the online learning environment that shaped such development. Over the semester, growth was observed in both learners' knowledge about themselves as EFL writers (person knowledge), about specific writing tasks (task knowledge), and how to adapt writing strategies to task requirements and why (strategy knowledge).

For both Gao and Lan, their self-confidence in EFL writing increased somewhat through completing the two writing assignments, in Gao's words, from "zero ability" to being able to "write something out…" However, such confidence was largely limited to linguistic accuracy, which is referred to as "using the words and expressions prescribed by the school and closely following the sample texts". Overall, their perceived self-efficacy remained low when it came to producing meaningful texts independently, as in Lan's final exam experience, due to the challenges, difficulties, or conflicts they had experienced during writing practice over the semester. As a result, Gao experienced difficulty in maintaining motivation for writing practice and Lan was confused about the second writing assignment and struggled with the writing tasks in the final exam.

Most significantly, while Gao's fixation on writing as producing correct grammar and spelling persisted, Lan gave up her beliefs in writing for personal expression and conformed to the course's focus on "writing correct sentences". In Lan's case, the uncertainty caused by such mismatch between the writing assignments and her prior knowledge about the nature of writing led her to suspending her work and waiting for further clarifications from the instructor. While she managed to interpret the task's purpose as providing necessary scaffolding for novice writers and consequently adjusted her strategies to make sure that she could fully benefit from such a task, she felt very reluctant to merely follow the assignment instructions and delete texts she wrote on her own. Her experience in the final exam further made her realize that her writing skills were still quite insufficient, especially in terms of planning and organizing the writing process. These findings corroborate with previous studies that EFL learners' use of metacognitive writing strategies greatly affects their writing performance (e.g., Zhang et al., 2016; Teng, 2020b).

Based on our findings, we identified several factors related to the pedagogical approach and learning design that were particularly significant in shaping learners' development in MCK about English writing, including the writing task design, online writing instruction, and instructor feedback. First, we found that the design of the writing task reinforced learners' product-based approach to EFL writing, namely the purpose of EFL writing was to produce the correct forms, rather than to communicate ideas and experience. As shown previously, the two writing assignments followed the typical product-based approach, which involved merely mimicking a sample text and mainly emphasized the linguistics elements in students' output by prescribing words and expressions to use (Hasan & Akhand, 2010; Rao, 2007). Nowhere in the instructions or grading rubrics for these two assignments provided guidance on writing processes and strategies such as planning or organizing. Moreover, though under different circumstances, both participants cited the writing assignments' lack of connections to real-life purposes. These learners' voices corroborate with the pedagogical principles promoted by various researchers, who argue that the writing curriculum for English learners needs to connect to students' lives and backgrounds (e.g., Freeman & Freeman, 2007; Haneda &Wells, 2012). Although both participants managed to work out ways to benefit from the task completion process, the potential impact of such task design on learner motivation and self-efficacy cannot be overlooked.

Second, the online writing instruction further limited the growing potential for learners' MCK about EFL writing by reinforcing the product-based approach. Our interview data and analysis of instructional materials used by the instructor suggest that the online writing instruction again followed the product-based approach that prioritized linguistic accuracy, yet with little attention to composing process and writing strategies. The online tutorials and writing recommendations for the assignments focused on linguistic elements and mechanics of writing only.

Third, the assessment and feedback to learners' writing not only restricted learners' attention to mostly linguistic elements, but also caused confusion at times. Our interview data and participants' writing samples show that the rubrics and feedback provided by tutors or grading instructors to participants' writing was either only focusing on grammar and vocabulary, or too general to bear any substantial effect. In Lan's case, the feedback even caused some confusion and uncertainty when the instructor mistakenly changed her otherwise correct grammatical form. Although all feedback was generally welcomed and taken seriously by the participants as important learning moments, the feedback provided in this program were potentially restricting or even had negative impact, especially considering the crucial role of feedback in an online learning context (Hurd et al., 2001; F. Hyland, 2001; K. Hyland & Hyland, 2006).

6. Conclusions and Implications

Findings from our case study reveal that in the context of online language learning, the development of adult EFL learners' MCK about EFL writing (i.e., their understanding of self as a writer, the writing tasks, and the writing strategies deployed) is primarily influenced by the task design, online writing instruction, and the quality of feedback to their writing. Findings of this study have important implications for online EFL instructors and course designers regarding how to provide guidance and support for online EFL learners' development of MCK about writing.

First, considering second language student writers' needs in acquiring knowledge in both the target language and the writing processes and strategies, writing task design in online language programs should take advantage of both product- and process-based approaches to writing development. Task-specific guidance and assistance are necessary to facilitate learners to develop MCK about writing. Opportunities and guidance for enhancing task knowledge, especially to help students better understand task purpose, can be particularly helpful for novice writers to benefit from the writing practice (Teng, 2020a). Furthermore, as indicated by ample pedagogically oriented studies of writing instructions, established regular classroom routines where teachers "progressively model, scaffold, engage students in, and practice multiple drafts of writing" have tremendous values in supporting learners' writing development (Cumming, 2016, p. 366). However, how these routines could be integrated in fully online programs warrant further exploration and research.

Second, online writing instruction needs to steer more towards enhancing learner's MCK about EFL writing, especially regarding task (e.g., the composing process) and strategy knowledge (e.g., writing skills) (Qin & Zhang, 2019; Teng, 2020b; Xiao, 2016). Although the course in this study focused on writing in different genres, it did not integrate a genre-based instruction to enhance learners' knowledge of different types of texts, the writing process, and the skills involved in the process. Research into genre pedagogy indicates that "the essential advantage of the genre-based approach over other writing pedagogies for second language writers is that emphasizing the notion of genre promotes second language writers' understanding of the relationship between the communicative purpose and the features of text at every discourse level" (Yasuda, 2011, p. 112). That can be particularly beneficial for adult EFL learners, whose English study is usually motivated by imminent professional or personal needs.

Furthermore, findings from our study reveal that the online learning context can promote a synergy of various learning opportunities that enable learners to use and reuse the newly learned knowledge in connected tasks within one unit that focus on different skills areas, especially productive skills like writing. However, systematic learner training and continued guidance throughout the course are needed to help distance learners to capitalize on these opportunities and construct a personally meaningful path to address the challenge of developing writing skills in English.

Finally, teachers and tutors need to be aware of the effects of feedback on online EFL learners' writing development and be mindful of the forms and types of online feedback to student texts, as well as the choices and uses of delivery technologies (e.g., in documents, during online sessions, and via personal messages) (Breuch, 2012). Additionally, a peer feedback component can be advantageous for learners' co-construction of MCK about writing (Bailey & Cassidy, 2019; Guasch et al., 2013; Memari Hanjani, 2019).

Informed by findings from this study, future research can continue to investigate the effectiveness of writing task design in online language programs, especially focusing on the process of task completion, as well as effective methods and technologies to guide the composing process on the metacognitive level. Moreover, more research is needed regarding how feedback can be effective in facilitating the development of MCK about writing, in terms of different sources, forms, availability and frequency, and channels or technologies through which feedback is delivered.

7. Limitations

There are some limitations to the current study. First and foremost, due to the unexpected delay at the beginning of the semester, the first individual interviews were not conducted until week 6. This delay might have influenced the data collected to address the first research questions, namely the entering stage of participants' MCK. It was not quite clear to what the extent the first few weeks' experience in the program affected their perceptions toward web-based distance language learning. Second, potential effects caused by the presence of the first researcher and her involvement in the participants' learning process during the semester cannot be ruled out. It is possible that the individual interviews and weekly tutoring provided as incentive for participation have affected the participants' MCK development, in that by reflecting upon their learning experiences they may have become more aware of themselves as language learners, the learning process, strategies or the learning context. Yet the degree to which the interviews promoted the development in their MCK, or influenced the MCK they were able to articulate, cannot be measured. Third, the research reported here is based on a small number of students' retrospective verbal accounts and therefore the findings may not be generalizable to other learners in other contexts. Their self-report cannot be regarded as a complete account of their MCK or its

development over time. Rather, it reflects the knowledge they were able to articulate or were conscious of at the time. In addition, although additional data were collected to record the participants' course performance and participation, they could only provide an incomplete account of their learning experience over the semester, as not all information regarding their actual use of the different components of the learning management system were collected. Finally, the study did not involve any systematic measures of participants' language proficiency and learning gains, since for some participants the entrance English exam was waived, and some performance data on their final exams were not available.

References

1. Arndt, V. (1987). Six writers in search of texts: A protocol-based study of L1 and L2 writing. *ELT Journal*, *41*(4), 257–267.
2. Baily, D., & Cassidy, R. (2019). Online peer feedback tasks: Training for improved L2 writing proficiency, anxiety reduction, and language learning strategies. *CALL-EJ*, *20*(2), 70–88
3. Bouchrika, I. (2021). *50 Online Education Statistics: 2020/2021 Data on Higher Learning & Corporate Training.* Retrieved from https://www.guide2research.com/research/online-education-statistics
4. Breuch, L.-A.K. (2012). Virtual peer review: Teaching and learning about writing in online environments: SUNY Press.
5. Brown, A. (1987). Metacognition, executive control, self-regulation, and other more mysterious mechanisms. In *Metacognition, Motivation, and Understanding*. (Weinert, F.E. & Kluwe, R.H., Eds.) Hillsdale, N.J.: L. Erlbaum Associates. pp. 65–116.
6. Court, K. (2014). Tutor feedback on draft essays: developing students' academic writing and subject knowledge. *Journal of Further and Higher Education*, *38*(3), 327–345.
7. Cumming, A. (2016). Writing development and instruction for English language learners. *Handbook of Writing Research*, 364–376.
8. Eneau, J., & Develotte, C. (2012). Working together online to enhance learner autonomy: Analysis of learners' perceptions of their online learning experience. *ReCALL*, *24*(1), 3–19.
9. Farahian, M., & Avarzamani, F. (2018). Metacognitive awareness of skilled and less-skilled EFL writers. *Asian-Pacific Journal of Second and Foreign Language Education*, *3*(10), 1–17.
10. Flavell, J.H. (1979). Metacognition and Cognitive Monitoring: A New Area of Cognitive-Developmental Inquiry. *American Psychologist*, *34*(10), 906–911.
11. Flower, L., & Hayes, J.R. (1981). A cognitive process theory of writing. *College Composition and Communication*, *32*(4), 365–387.
12. Freeman, Y., & Freeman, D. (2007). Four keys for school success for elementary English learners. In *International Handbook of English Language Teaching*. (Cummins, J. & Davison, C., Eds.) New York: Springer. Vols. 1 and 2, pp. 349–364.
13. Furnborough, C., & Truman, M. (2009). Adult beginner distance language learner perceptions and use of assignment feedback. *Distance Education*, *30*(3), 399–418.
14. Graham, S. (2006). Strategy instruction and the teaching of writing: A meta-analysis. In *Handbook of Writing Research.* (MacArthur, C.A., Graham, S. & Fitzgerald, J., Eds.) New York, NY, US: Guilford Press. pp. 187–207.
15. Godwin-Jones, R. (2018). Second language writing online: An update. *Language Learning & Technology*, *22*(1), 1–15. Retrieved from https://dx.doi.org/10125/44574
16. Guasch, T., Espasa, A., Alvarez, I.M., & Kirschner, P.A. (2013). Effects of feedback on collaborative writing in an online learning environment. *Distance Education*, *34*(3), 324–338. https://dx.doi.org/10.1080/01587919.2013.835772
17. Haneda, M., & Wells, G. (2012). Some key pedagogic principles for helping ELLs to succeed in school. *Theory into Practice*, *51*(4), 297–304.
18. Harris, V. (2003). Adapting classroom-based strategy instruction to a distance learning context. *TESL-EJ*, *7*(2). Retrieved from http://www.teslej.org/wordpress/issues/volume7/ej26/ej26a1/
19. Hasan, M.K., & Akhand, M.M. (2010). Approaches to writing in EFL/ESL context: Balancing product and process in writing class at tertiary level. *Journal of NELTA*, *15*(1–2), 77–88.
20. Hauck, M. (2005). Metacognitive knowledge, metacognitive strategies, and CALL. In *CALL Research Perspectives.* (Egbert, J. & Petrie, G.M., Eds.) New Jersey, USA: Lawrence Erlbaum. pp. 65–86.

21. Hew, K.F., Jia, C., Gonda, D.E. *&* Bai, S. (2020). Transitioning to the "new normal" of learning in unpredictable times: pedagogical practices and learning performance in fully online flipped classrooms. *International Journal of Technology in High Education*, 17(57), https://doi.org/10.1186/s41239-020-00234-x

22. Hurd, S., Beaven, T., & Ortega, A. (2001). Developing autonomy in a distance language learning context: issues and dilemmas for course writers. *System*, *29*, 341–355.

23. Hyland, F. (2001). Providing effective support: Investigating feedback to distance language learners. *Open Learning: The Journal of Open, Distance and e-Learning*, *16*(3), 233–247.

24. Hyland, K. (2003). *Second Language Writing*. Cambridge, New York: Cambridge University Press.

25. Hyland, K. (2011). Learning to write: Issues in theory, research, and pedagogy. In R. Manchón (Ed.), *Learning-to-Write and Writing-to-Learn in an Additional Language*. Location: John Benjamins Publishing. pp. 17–35.

26. Hyland, K., & Hyland, F. (2006). Feedback on second language students' writing. *Language Teaching*, *39*(2), 83–101. https://doi.org/10.1017/S0261444806003399

27. Jing, M. (2014). Online education a new frontier in China. *China Daily*. Retrieved from http://www.chinadaily.com.cn/china/2014-05/03/content_17480224.htm

28. Kasper, L.F. (2000). New technologies, new literacies: Focus discipline research and ESL learning communities. *Language Teaching Research*, *4*(2), 105–128.

29. Lam, R. (2015). Understanding EFL students' development of self-regulated learning in a process-oriented writing course. *TESOL Journal, 6*(3), 527–553.

30. Li, Z. (2020a). English education in China: An evolutionary perspective. *People's Daily Online*, retrieved from http://en.people.cn/n3/2020/0427/c90000-9684652.html

31. Li, Z. (2020b). Online English education in China brings new hope. *People's Daily Online*, http://en.people.cn/n3/2020/0624/c90000-9703930.html

32. Ma, Q. (2012). Matching vocabulary learning process with learning outcome in L2 academic writing: An exploratory case study. *Linguistics and Education*, *24*, 237–246.

33. Martínez, C.D.A. (2012). Developing metacognition at a distance: sharing students' learning strategies on a reflective blog. *Computer Assisted Language Learning*, *25*(2), 199–212.

34. Memari Hanjani, A. (2019). Collective peer scaffolding, self-revision, and writing progress of novice EFL learners. *International Journal of English Studies*, *19*(1), 41–57. https://doi.org/10.6018/ijes.331771

35. Miles, M.B., Huberman, A.M., & Saldaña, J. (2019). *Qualitative Data Analysis: A Methods Sourcebook* (4th ed.). Thousand Oaks, CA: SAGE.

36. Negretti, R. (2012). Metacognition in student academic writing: A longitudinal study of metacognitive awareness and its relation to task perception, self-regulation, and evaluation of performance. *Written Communication*, *29*(2), 142–179.

37. Negretti, R., & Kuteeva, M. (2011). Fostering metacognitive genre awareness in L2 academic reading and writing: A case study of pre-service English teachers. *Journal of Second Language Writing*, *20*, 95–110.

38. Negretti, R., & McGrath, L. (2018). Scaffolding genre knowledge and metacognition: Insights from an L2 doctoral research writing course. *Journal of Second Language Writing*, 40, 12–31.

39. Pintrich, P.R. (2002). The role of metacognitive knowledge in learning, teaching, and assessing. *Theory Into Practice*, *41*(4), 219–225.

40. Qin, L., & Zhang, L. (2019). English as a foreign language writers' metacognitive strategy knowledge of writing and their writing performance in multimedia environments. *Journal of Writing Research*, *11*(2), 393–413

41. Raimes, A. (1985). What unskilled ESL students do as they write: A classroom study of composing. *TESOL Quarterly*, *19*(2), 229–258.

42. Rao, Z. (2007). Training in brainstorming and developing writing skills. *ELT Journal*, *61*(2), 100–106.

43. Reinders, H., & Hubbard, P. (2012). CALL and learner autonomy: Affordances and constraints. In *Contemporary Computer-Assisted Language Learning*. (Thomas, M., Reinders, H. & Warschauer, M., Eds.) London; New York: Bloomsbury Academic. pp. 359–375.

44. Ruan, Z. (2005). A metacognitive perspective on the growth of self-regulated EFL student writers. *Reading Working Papers in Linguistics*, *8*, 175–202.

45. Ruan, Z. (2014). Metacognitive awareness of EFL student writers in a Chinese ELT context. *Language Awareness*, *23*(1–2).

46. Sang, Y. (2017). Investigate the "issues" in Chinese students' English writing and their "reasons": Revisiting the recent evidence in Chinese academia. *International Journal of Higher Education*, *6*(3), 1–11.

47. Schoonen, R., Snellings, P., Stevenson, M., & Gelderen, A.V. (2009). Towards a blueprint of the foreign language writer: the linguistic and cognitive demands of foreign language writing. In *Writing in Foreign Language Contexts. Learning, Teaching, and Research.* (Manchón, R.M., Ed.) Bristol/Buffalo/Toronto: Multilingual Matters. pp. 77–101.

48. Schraw, G. (1998). Promoting general metacognitive awareness. *Instructional Science*, *26*, 113–125.

49. Schraw, G., & Moshman, D. (1995). Metacognitive theories. *Educational Psychology Review*, *7*(4), 351–371.

50. Silva, T. (1993). Toward an understanding of the distinct nature of L2 writing: The ESL research and its implications. *TESOL Quarterly*, *27*(4), 657–677.

51. Stein, N.L. (1986). Knowledge and process in the acquisition of writing skills. *Review of Research in Education*, *13*, 225–258.

52. Sun, Q.Y., Zhang, L.J., & Carter, S. (2021). Investigating students' metacognitive experiences: Insights from the English as a foreign language learners' writing metacognitive experiences questionnaire (EFLLWMEQ). *Frontiers in Psychology*, *12,* 744842, 1–15.

53. Teng, M.F. (2020a). Effects of cooperative–metacognitive instruction on EFL learners' writing and metacognitive awareness. *Asia Pacific Journal of Education*, 1–17.

54. Teng, M.F. (2020b). The role of metacognitive knowledge and regulation in mediating university EFL learners' writing performance. *Innovation in Language Learning and Teaching*, *14*(5), 436–450.

55. Ulitsky, H. (2000). Language learner strategies with technology. *Journal of Educational Computer Research*, *22*(3), 285–322.

56. Ushida, E. (2005). The role of students' attitudes and motivation in second language learning in online language courses. *CALICO Journal*, *23*(1), 49–78.

57. Winke, P., & Gertler, S. (2008). Did we forget someone? students' computer access and literacy for CALL. *CALICO Journal*, *25*(3), 482–509.

58. Vann, R.J., & Abraham, R.G. (1990). Strategies of Unsuccessful Language Learners. *TESOL Quarterly*, *24*(2), 177–198.

59. Victori, M. (1999). An analysis of writing knowledge in EFL composing: a case study of two effective and two less effective writers. *System*, *27*, 537–555.

60. Victori, M., & Lockhart, W. (1995). Enhancing metacognition in self-directed language learning *System*, *23*(2), 223–234.

61. Wenden, A.L. (1998). Metacognitive Knowledge and Language Learning. *Applied Linguistics*, *19*(4), 515–537.

62. Wenden, A.L. (2001). Metacognitive knowledge in SLA: The neglected variable. In *Learner Contributions to Language Learning: New Directions in Research.* (Breen, M.P., Ed.) Harlow, England, New York: Longman. pp. 44–64.

63. White, C. (2003). *Language Learning in Distance Education*. Location: Cambridge University Press.

64. White, C. (2008). Language learning strategies in independent language learning: An overview. In *Language Learning Strategies in Independent Settings* (Lewis, T.W. & Hurd, M.S., Eds.) Clevedon, England: Multilingual Matters. pp. 3–24.

65. White, C. (2014). The distance learning of foreign languages: A research agenda. *Language Teaching*, *47*(4), 538–553.

66. Xiao, Y. (2016). An exploratory investigation into the metacognitive knowledge and metacognitive strategies. (PhD). Location: New York University.

67. Xu, T.S., Zhang, L.J.**,** & Gaffney, J.S. (2021). Examining the relative effectiveness of task complexity and cognitive demands on students; writing in a second language. *Studies in Second Language Acquisition*, 1–24.

68. Yasuda, S. (2011). Genre-based tasks in foreign language writing: Developing writers' genre awareness, linguistic knowledge, and writing competence. *Journal of Second Language Writing*, *20*, 111–133.

69. Yeh, H.-C. (2015). Facilitating metacognitive processes of academic genre-based writing using an online writing system,. *Computer Assisted Language Learning*, *28*(6), 479–498.

70. You, X. (2004). 'The choice made from no choice': English writing instruction in a Chinese University. *journal of Second Language Writing*, *13*(2), 97–110.

71. Zhang, Y. (2010). Investigating the role of metacognitive knowledge in English writing. *HKBU Papers in Applied Language Studies*, *14*. Retrieved from http://lc.hkbu.edu.hk/book/pdf/v14_02.pdf

72. Zhang, L.J., Aryadoust, V., & Zhang, D. (2016). Taking Stock of the Effects of Strategies-based Instruction on Writing in Chinese and English in Singapore Primary Schools. In *Quadrilingual Education in Singapore: Pedagogical Innovation in Language Education.* (Silver, R.E. & Bokhorst–Heng, W.) New York: Springer. pp. 103–126.

73. Zimmerman, B.J., & Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal*, *31*(4), 845–862.

Publisher's Note: IIKII stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.