Identifying Effective English L2 Writing Interventions: 
Emerging Trends and Issues in Recent Research

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The current study aimed to describe overall trends in recent English second 
language (L2) academic writing research and to identify effective interventions. To 
support drawing defensible conclusions based on the literature dealing with L2 
writing, only recent empirical articles dealing with academic writing for English-L2 
college students published in peer reviewed journals were included. Fifty five 
English L2 writing articles met the criteria for inclusion. For the identification of 
effective L2 writing interventions, I discriminated if the studies provided L2 writing 
interventions and the relevance to L2 writing development. As a result of analyses 
based on themes emerging in the English L2 academic writing literature, I noted 
effective English L2 academic writing interventions. Those interventions were 
teacher feedback, self-regulatory learning, peer feedback, and technology use. The 
use of a variety of measures and incorporation of specificity about prompts into the 
studies was recommended and the developmental trajectory of L2 writers was 
suggested to be further studied.

I. INTRODUCTION

Teachers, students, and policymakers have raised many questions that are directly or 
indirectly related to enhancing students’ actual L2 writing performances. In particular, 
pedagogical activities aimed at creating better writing have been popular in both the 
English-L2 and first language writing fields (Silva & Leki, 2004). This concern from the 
field has focused L2 writing researchers’ lenses on empirical questions and pedagogical 
concerns, such as whether there are specific strategies that can promote students’ writing 
(Raimes, 1991) and whether teachers’ revision is more helpful than revision from peers 
(Yang, Badger, & Yu, 2006). Studies of English-L2 writing have primarily focused on 
exploring the relation between pedagogical activities and a good outcome (Makalela,
When considering the aforementioned empirical needs, a reflective question on L2 writing research can be raised. Many pedagogical suggestions have recently been made for fostering L2 students’ writing skills, as a dramatic increase in the number of international students in the U.S. has sharpened the need for effective L2 writing classes (Kargbo & Yeager, 2007). The question, therefore, is what were the prevalent interventions in recent and relevant studies for international English L2 writers? Various interventions were implemented by researchers who sought to draw practical implications for enhancing L2 writing skill. Patterns across many studies of the use of the same type of intervention would tell us something about how the field as a whole is oriented. In addition, findings from implementing interventions provide information about what works for attaining a desired outcome effect. Looking at the outcomes of major interventions across L2 writing studies suggests possible factors that might be effective for fostering L2 writing skills.

1. Intervention in L2 Writing

Intervention often means the application of some treatment and then observation of its effects. However, intervention in the current paper meant a broader concept encompassing teaching and other pedagogical activities that might stimulate the observed outcome effects. I exclusively included the studies that incorporated learning activities leading to L2 writing development. The current review aimed to identify effective L2 writing interventions. Thus, it was critical to discriminate if the studies provided L2 writing interventions and the relevance to L2 writing development. For example, Lee and Schallert (2008) paid attention to effects of teacher’s relationship with students on development of students’ written English skills. In the study, teacher’s trusting relation with students were compared with troubled relationship. The teacher’s activities focusing on trusting relationship was viewed as an intervention.

In contrast, a study (Montgomery & Baker, 2007) described epistemic agreements between students and teachers regarding quality of teacher feedback. Although Montgomery and Baker (2007) informed critical issues regarding a degree to which students’ evaluation and teachers’ assessment coordinate each other, it was hard to determine whether the teacher feedback might actually work for L2 writing development in the study. Such studies were intentionally excluded because the study did not identify effectiveness of teacher feedback for L2 writing development.
2. Research Inquiry and Question

The current review is an effort to identify emergent categories that support the identification of viable interventions captured in current L2 writing studies. A research question for the current study, thus, was “what interventions were found as being effective for L2 writing development from the recent empirical studies?” The reflective question will serve as a basis on which the emergent categories, that is, codings for the literature, can be structured. The findings from this investigation will be of use to educators seeking to promote L2 writing development.

II. METHODOLOGY

1. Inclusion Criteria

To support drawing defensible conclusions based on the literature dealing with L2 writing, only recent empirical articles dealing with academic writing for English-L2 college students published in peer reviewed journals were included.

1) Empirical Work in Contemporary Peer Reviewed Journals

The first criterion of this review was to find empirical studies no older than ten years so as to capture contemporary trends in the field. I was particularly interested in their measurement triangulation and consideration of developmental aspect. I was concerned only with articles published in a peer-reviewed journal in English.

2) English as a Second Language

The selected articles dealt with English as a Second Language. This restriction meant that first language (L1) writing studies and writing studies based on other L2s such as French were excluded. Here, L2 is a broad concept encompassing foreign languages and bilingualism. Given the ambiguous boundaries among similar concepts such as second language, foreign language, and bilingualism, no constraints on writer characteristics other than English as a second language were imposed. For example, the writers’ native language and the length of years the writers were exposed to the English-use environment were not used as inclusion criteria while screening the articles.
3) Academic Writing

The second criterion was academic writing. Academic writing refers to an extensive subset of writing used in academic fields. One commonly used definition of academic writing is “texts that state a point of view or thesis that is subsequently developed through arguments” (Chandrasegaran, 2008, p. 238). In contrast to this “argument” oriented view, another scholar has defined academic writing as a disciplined domain of “interpreting and persuading the disciplinary community to accommodate new claims” (Chandrasegaran, 2008, p. 238).

Given these differently oriented definitions, what counted as academic writing in the current review was a more broad definition encompassing both argument and narrative claims, because even skilled academic writers frequently write claims in a narrative format. For instance, professors, who are skilled in academic writing, often create a narrative format such as describing procedural knowledge (Friedland, 1981). Even narrative writing tasks that generally do not require explication of argumentative stances can elicit the writer’s opinions versus the opinions of others. Therefore, academic writing is not necessarily argumentative but is narrative.

Here, academic writing also meant writing to foster knowledge of a domain such as mathematics, history, and biology (Griffin, 1983). Academic writing includes writing in/for a specific discipline. Writing in an academic domain is particularly important because, as Graff and Birkenstein states, academic writing helps writers “enter a conversation about ideas” with others in certain academic communities (2006, p. 4).

4) College Students

In order to fulfill the research inquiry on L2 college students in writing research, I used college as the fourth criterion. Needs of writing development for L2 college students were addressed in the earlier part of this paper. Moreover, writing has its salience in college or university level education rather than in the lower level education such as secondary or primary education. Understanding of specific domain knowledge comes into play in an academic writing. Instructions focusing on domain knowledge are provided more in the higher education than in the secondary or the lower level education. All the participants in the articles searched for the current review were college students or graduates. With regard to participants’ characteristics, I used no additional constraint such as ethnicity or gender.

2. Search Process

To obtain articles meeting the criteria, I searched for articles in major search engines
Effective ESL Writing


3. Obtained Pool of Studies

The selected pool of 55 articles was organized using the descriptive and analytic categories in Table 1. The descriptive categories include the research design and sample size. The study design showed a strikingly even distribution: 15 articles (28%) were qualitative, 17 articles (31%) were quantitative, and 18 articles (41%) used a mixed methods approach. Interestingly, three of the qualitative articles involved a one-sample case study (Bloch, 2007; Cheng, 2006; Young & Miller, 2004). These articles focused on tracing students’ more in-depth strategic processes. There were four articles that used fewer than five students (Lee & Schallert, 2008; Liu, 2008; Ojima, 2006; Shin, 2008). These studies with small sample size were based on a qualitative study design or a qualitative design with a support of quantitative description. The average sample size for mixed method design research was 42.37; mixed design research with no statistical analyses was 35.33; qualitative design research was 15.73; and quantitative research design was 81.76. It was apparent that qualitative studies were based on smaller-scale data analyses than quantitative studies.

Most of the English-L2 writers in the pool of 55 studies were undergraduate or graduate students, but some English-L2 writers in several studies were random adult ESL learners (e.g., Bitchener, 2008). In terms of race and ethnicity, the participants were predominantly Asian with some Hispanic. However, little research in the reviewed studies appears to have used European and non-eastern Asian participants.

Another notable observation was that the studies mainly were conducted by teacher-researchers. Because many of the studies were conducted by class teachers within natural class room settings, experimental designs might be limited. In order to secure study objectivity and validity, putting third-party researchers or systematic controls into studies seems desirable.
4. Analysis

A synthesis of research in the current review is basically distinctive from the previous works (i.e., meta-analysis). Although I also used literature as data or sources for comparative analysis in this review, effectiveness of L2 writing interventions was evaluated as the effects emerged in consideration of the focal interventions. The qualitative approach to the literature review seems useful over traditional meta-analytic literature review because of the natures seen in much of the L2 writing studies.

5. Coding Schemes for Identifying Emerging Interventions

Intervention often means the application of some treatment and then observation of its effects. However, intervention in the current paper meant a broader concept encompassing teaching and other pedagogical activities that might stimulate the observed outcome effects.

The review involved two exploratory steps for intervention coding: first, short descriptions were entered under a broad label “intervention and foci” in an initial summary table. Later, convergent types of interventions were extracted from the initial short descriptions so as to form a concrete coding scheme.

As a result of this extraction process, four types of interventions emerged as central in recent L2 academic writing research: Teacher feedback (TF), Self-regulated learning (SRL), Peer-feedback (PF), and Technology-use (TU) (see Table 1). Multiple types of interventions could be included in a single study, which would therefore have multiple codes under type of intervention. For example, Bloch (2007) used three different interventions. While blogging could be used as a stand-alone activity, the participant in the study received teacher’s feedback and peer responses in the blog space. This case was coded both as Technology-use, Teacher feedback, and Peer feedback because the interventions involved both the on-line environment, a type of technology-use, and responses from teacher and friends.

Of the codes, SRL needs a definition because of its varying use as a concept by researchers. Although the SRL articles did not explicitly define SRL, they assumed that SRL is a strategic process for promoting students’ independent writing performance. The actual terms that each study used to indicate some form of SRL included planning (Ellis & Yuan, 2004; Manchón & de Larios, 2007), and formulating (de Larios, Manchón, & Murphy, 2008). The current coding process used an umbrella term SRL incorporating these various terms.

The logic for such a broad conceptualization of SRL is supported by L1 writing studies. Graham (2006) has addressed SRL in his body of work on L1 writing development.
According to Graham, Self-Regulated Strategy Development (SRSD), a type of SRL strategy, is “an approach for helping students learn specific strategies for planning, drafting, and revising a text” (Graham & Perin, 2007, p. 15). From his empirical studies (Graham, 2006), he concluded that SRSD is a key element that dramatically impacts the quality of L1 adolescent students’ writing.

There were also studies that used other interventions than the selected four major codes. “O” under intervention in Table 1 indicates the studies fell under other than one of the codes TF, SRL, PF, and TU. The actual intervention that was used other than the four codes is presented in parentheses. For example, Lee (2005) used a free voluntary reading session as an intervention to see if the students’ L2 writing ability was improved [coding “O (reading)”].

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Effects</th>
<th>Focus/Intervention</th>
<th>Research Design</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liu (2008)</td>
<td>+</td>
<td>TF</td>
<td>Qualitative</td>
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</tr>
<tr>
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<td>+</td>
<td>TF</td>
<td>Qualitative</td>
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<td>+</td>
<td>TF</td>
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<td>+ (Quality)</td>
<td>TF</td>
<td>Qualitative</td>
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<td>=</td>
<td>TF</td>
<td>Quantitative</td>
<td>63</td>
</tr>
<tr>
<td>Williams, Takaku, &amp; Bauman (2006)</td>
<td>+</td>
<td>TF</td>
<td>Quantitative</td>
<td>256</td>
</tr>
<tr>
<td>Williams (2004)</td>
<td>DES</td>
<td>TF (Tutor)</td>
<td>Mixed (No stat)</td>
<td>9</td>
</tr>
<tr>
<td>Thonus (2002)</td>
<td>+</td>
<td>TF (Tutor)</td>
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<td>12</td>
</tr>
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<td>Shin (2008)</td>
<td>+</td>
<td>TF (error correction)</td>
<td>Qualitative</td>
<td>5</td>
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<td>+ (articles)</td>
<td>TF (Written corrective feedback)</td>
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<tr>
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<td>TF (Conference + Written feedback)</td>
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<td>TF, PF</td>
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<td>TF+PF</td>
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<td>Effects</td>
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<tr>
<td>-----------------------------</td>
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<td>-----------------</td>
<td>----</td>
</tr>
<tr>
<td>Brine &amp; Franken (2006)</td>
<td>+</td>
<td>TF+TU</td>
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<td>120</td>
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<tr>
<td>(Accuracy)</td>
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<td></td>
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<tr>
<td>Jones, Garralda, Li, &amp; Lock (2006)</td>
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<tr>
<td>Watanabe &amp; Swain (2007)</td>
<td>+</td>
<td>PF</td>
<td>Mixed (No stat)</td>
<td>12</td>
</tr>
<tr>
<td>Min (2006)</td>
<td>+</td>
<td>TU+PF</td>
<td>Mixed</td>
<td>18</td>
</tr>
<tr>
<td>Liu (2003)</td>
<td>+/-</td>
<td>TU+PF</td>
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<td>48</td>
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<tr>
<td>Yoon &amp; Hirvela (2004)</td>
<td>+</td>
<td>TU</td>
<td>Mixed (No stat)</td>
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<td>Stapleton (2005)</td>
<td>DES</td>
<td>TU</td>
<td>Quantitative</td>
<td>43</td>
</tr>
<tr>
<td>Yoon (2008)</td>
<td>+ (Problem, Perception)</td>
<td>TU</td>
<td>Qualitative</td>
<td>6</td>
</tr>
<tr>
<td>Radia &amp; Stapleton (2008)</td>
<td>DES</td>
<td>TU</td>
<td>Mixed (No stat)</td>
<td>70</td>
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<tr>
<td>Storch (2005)</td>
<td>+ (Task fulfillment)</td>
<td>PF, SRL</td>
<td>Mixed</td>
<td>23</td>
</tr>
<tr>
<td>Lundstrom &amp; Baker (2008)</td>
<td>+</td>
<td>PF+SRL</td>
<td>Quantitative</td>
<td>91</td>
</tr>
<tr>
<td>Kim (2011)</td>
<td>DES</td>
<td>PF+SRL</td>
<td>Qualitative</td>
<td>20</td>
</tr>
<tr>
<td>Storch (2007)</td>
<td>DES</td>
<td>PF+SRL</td>
<td>Mixed</td>
<td>66</td>
</tr>
<tr>
<td>Ellis &amp; Yuan (2004)</td>
<td>+</td>
<td>SRL</td>
<td>Mixed</td>
<td>42</td>
</tr>
<tr>
<td>de Larios, Manchón, Murph, Marin (2008)</td>
<td>DES</td>
<td>SRL</td>
<td>Quantitative</td>
<td>21</td>
</tr>
<tr>
<td>Yasuda (2011)</td>
<td>+</td>
<td>SRL (Genre awareness)</td>
<td>Mixed</td>
<td>70</td>
</tr>
<tr>
<td>Ojima (2006)</td>
<td>+</td>
<td>SRL (pre planning)</td>
<td>Mixed</td>
<td>3</td>
</tr>
<tr>
<td>Okamura (2006)</td>
<td>+</td>
<td>SRL (strategies)</td>
<td>Qualitative</td>
<td>13</td>
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<tr>
<td>Sachs &amp; Polio (2007)</td>
<td>+</td>
<td>SRL</td>
<td>Quantitative</td>
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<td>Manchón &amp; de Larios (2007)</td>
<td>NA</td>
<td>SRL</td>
<td>Quantitative</td>
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<tr>
<td>Negretti &amp; Kuteeva (2011)</td>
<td>=</td>
<td>SRL</td>
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TABLE 1 (continued)

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<tr>
<th>Author (Year)</th>
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<th>Focus/Intervention</th>
<th>Research Design</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferenz (2005)</td>
<td>+</td>
<td>O (Social network)</td>
<td>Qualitative</td>
<td>6</td>
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<tr>
<td>Cheng (2006)</td>
<td>+ (Perception)</td>
<td>O (Criticism)</td>
<td>Qualitative</td>
<td>1</td>
</tr>
<tr>
<td>Lee, S-Y. (2005)</td>
<td>+</td>
<td>O (Reading)</td>
<td>Quantitative</td>
<td>270</td>
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<tr>
<td>Baba (2009)</td>
<td>(semantic network, meta-language)</td>
<td>O (Vocabulary)</td>
<td>Quantitative</td>
<td>68</td>
</tr>
<tr>
<td>Eckstein, Chariton, &amp; McCollum (2011)</td>
<td>+</td>
<td>O (Iterative model)</td>
<td>Mixed</td>
<td>14</td>
</tr>
<tr>
<td>James (2008)</td>
<td>=</td>
<td>O (Task similarity)</td>
<td>Mixed</td>
<td>42</td>
</tr>
<tr>
<td>Macbeth (2010)</td>
<td>+</td>
<td>O (Model)</td>
<td>Qualitative (No stat)</td>
<td>19</td>
</tr>
<tr>
<td>Plakans (2009)</td>
<td>+</td>
<td>O (Reading)</td>
<td>Quantitative (No stat)</td>
<td>12</td>
</tr>
<tr>
<td>Strauss &amp; Xiang (2006)</td>
<td>DES</td>
<td>O (Conference)</td>
<td>Mixed (No stat)</td>
<td>21</td>
</tr>
<tr>
<td>van Weijen (2009)</td>
<td>-</td>
<td>O (L1 use)</td>
<td>Quantitative</td>
<td>20</td>
</tr>
<tr>
<td>Wette (2010)</td>
<td>+</td>
<td>O (Sourcing)</td>
<td>Mixed (No stat)</td>
<td>78</td>
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<tr>
<td>Cho (2006)</td>
<td>+</td>
<td>O (Student Level)</td>
<td>Qualitative</td>
<td>NA</td>
</tr>
</tbody>
</table>

Note: The abbreviations indicate the followings:

III. RESULTS

An exploratory analysis of types of intervention resulted in four distinguishable codes including teacher feedback, self-regulated learning, peer-feedback, and technology-use. These four types emerged as major trends in the reviewed literature.

1. Teacher Feedback

The most frequently used pedagogical intervention in the English-L2 writing literature
was teacher feedback. Of the collected data, 18 studies used some form of teacher feedback as an intervention. The feedback types included error corrections (Bitchener, 2008; Bitchener, Young, & Cameron, 2005), tutoring (Williams, 2004), and revision talk (Young & Miller, 2004).

Most of these studies found that teacher feedback exerted a positive influence on certain aspects of students’ writing development. For instance, Yang, Badger, and Yu (2006) examined revision with or by teachers compared to revision with peers, finding teacher feedback to be superior in improving writing accuracy and organization. More recently, Lee and Schallert (2008) reported that teachers’ beliefs were positively related to improvements in students’ writing drafts.

But, not all investigated aspects of teacher feedback yielded positive impacts on academic L2 writing. Bitchener, Young, and Cameron (2005) found that teacher feedback alone did not improve accuracy of writing. Based on this observation, they argued that confounding factors are likely to exist in the relation between teacher feedback and L2 students’ writing products. According to the findings from Bitchener et al., the type of teacher feedback (i.e., written or oral feedback) made a difference in enhancement of students’ writing quality: a combination of written comments and verbal feedback was effective in enhancing students’ writing performance.

In a similar vein, Bitchener (2008) revealed that students’ writing was influenced differently by different types of teacher feedback. According to this finding, the teacher’s written metalinguistic explanation was more effective than traditional corrective feedback or an oral metalinguistic explanation. That is, students who received metalinguistic written and oral feedback with direct comments on the incorrect sentences from the teacher outperformed those who received teacher’s specific direct revision to the student’s writing. For example, when the students’ writing was directly corrected by the teachers with written and oral explanation of why the sentences were not correct, the students subsequently produced more accurate writing than when they only received error corrections on their writing or when they received only metalinguistic explanations from teachers. However, the findings in this study were not clear in explaining the relative merits of teachers’ written feedback versus oral feedback.

Interestingly, there was an investigation in which the teacher’s role changed from being a mere teacher to being a co-participant over time in an L2 academic writing class. Young and Miller (2004) investigated the acquisition of an unfamiliar discursive practice by an adult Vietnamese learner in an English-L2 academic writing class. This practice included revision talk in weekly English-L2 writing conferences between the student and the English-L2 writing instructor. Observation of the student’s co-participation with the instructor revealed a movement from peripheral to fuller participation. The analysis presented a notable transformation in the instructor’s participation as well: The instructor
became a co-learner and changed his/her participation types to complement the student’s learning. Young and Miller’s study was informative in that it provided an understanding of language learning as “co-constructed development in situated discursive practices” (p. 519).

Overall, the literature dealing with teacher feedback emphasized the teacher’s timely textual and oral feedback rather than mere frequency of feedback for fostering better quality of students’ writing. Where comparisons were made, teacher feedback was typically superior to peer-feedback in facilitating students’ writing accuracy and revisions (Young & Miller, 2004).

2. Self-regulated Learning

The next most frequently used intervention was self-regulated learning (SRL) occupying 13 studies (24%) of the identified literature. Five SRL studies used peer-review together with SRL for an intervention (e.g., Kim, 2011; Storch, 2007) or for a comparison (e.g., Suzuki, 2008).

Recent L2 writing literature supports a positive association between L2 writing improvement and planning. For example, Ojima (2006) found pre-task planning is positively related with overall quality of learners’ written production for three Japanese English L2 writing learners. In particular, the students’ concept-mapping was used as a pre-task planning instrument. On the other hand, Manchón and de Larios (2007) investigated planning time allocation as it varied by L2 proficiency level and language use (i.e., L1 versus L2) in compositions. The result suggested an L2 proficiency effect but no language effect on planning time; that is, the more proficient writers tended to allocate more time to planning, but there was no difference between L1 and L2 writing planning time for the same persons. Ellis and Yuan (2004) found significant improvement in students’ writing fluency and syntactic variety as a result of pre-task planning for 42 Chinese college students. However, on-line planning contributed to greater accuracy of L2 writing.

Many L2 writing studies fallen under the SRL category regarded planning as a type of intervention. In the meantime, a study attempted (Negretti & Kuteeva, 2011) an investigation of meta-cognitive genre awareness for eight Swedish college students. Based on Schraw and Dennison’s (1994) framework for metacognitive knowledge, the study classified pre-service English teachers’ dialogues and reflections on their own writing processes into three groups: declarative knowledge (what); procedural knowledge (how); and conditional knowledge (when). The summary of the study result indicated that students predominantly developed declarative and procedural knowledge. Students’ conditional knowledge of genre occasionally appeared among the students’ verbal and
written transcripts. Findings were further expanded to that conditional knowledge contributed to “manipulate generic features to suit their own purposes (e.g., select key concepts to frame their arguments, modify the typical rhetorical moves and structural features)” (p. 108). Negretti and Kuteeva (2011) argued that it is necessary to develop conditional metacognitive awareness for application of the writing knowledge beyond the given and experienced situations.

While the number of articles that used SRL as an intervention was limited, the collected studies suggested benefits of inclusion of SRL in L2 writing and the relevant research. The inventory of different SRL approaches to research seems warranted and consideration of SRL in the research can strengthen its methods in order to cross-fertilize more. Typically, frequency of planning and time allocation to planning appeared to be positively related to better quality writing. The types of strategic process of organization (i.e., deductive or inductive planning) were different between L1 and L2 writing. Mediators in the process of the transfer from L1 to L2 were suggested to be further investigated.

3. Peer Feedback

Of the 55 articles reviewed, 12 articles covered some form of peer-feedback issues. In quite a few studies in this category, peer feedback was compared to teacher feedback and self-regulated learning. Overall, the results indicated that peer-feedback activities are helpful for development of greater autonomy and to improve writing quality.

A comparison between peer feedback and teacher feedback was found in Yang, Badger, and Yu’s (2006) study. In this study using 20- to 21-year-old 12 Chinese students in an English-L2 academic writing class, Yang et al. found peer feedback to be less effective for the students’ writing quality than teacher feedback, but more effective for greater autonomy in writing. The students who received teacher feedback produced better writing quality, but their writing procedure tended to rely on the teacher’s guidelines rather than writing procedures they independently employed by themselves. In contrast, the students getting peer feedback (or peer-collaboration) tended to write based on their independent writing procedures, which were sometimes different from the teacher’s guidelines. Peer feedback thus facilitated the students’ independent planning, writing, and revising, but their actual writing competence was not significantly improved.

Meanwhile, peer feedback was revealed to be favorable in terms of task fulfillment, grammatical accuracy, and complexity, although pairs produced shorter texts than did the teacher-feedback receivers (Storch, 2005). In his follow-up study, Storch (2007) also showed that pairs spent more time than individual writers but produced writing with fuller vocabulary. This variation of word usage implies that the students were fluent in generating words and held more potential to write a high quality essay. From his research,
Storch arrived at a positive conclusion about pair-collaboration in L2 writing because pairs tended to engage in deliberate language-related discussion more actively and eventually achieved more corrections for writing errors than individual writers.

Some scholars have focused on the effect of different contexts and types of collaborative writing. For instance, Bloch (2007) examined peer collaboration in a blog space but he failed to find a significant effect of the blog collaboration. In his case study of a student who migrated from Somalia to the U.S. when he was a middle-school student, Bloch reported there was no clear effect from peer collaboration in blog space to foster the student’s writing development. There was also an interesting study that found that doing peer review is more effective than receiving it in L2 writing development (Lundstrom & Baker, 2008). From analyzing 91 students’ pre- and post- intervention written texts in nine L2 academic writing classes at a university, Lundstrom and Baker concluded that the student group solely reviewing other groups’ writing developed more in writing ability than the group receiving peer reviews.

Other researchers concentrated their efforts on figuring out specific peer dialogue patterns during L2 writing activities. Study of peer dialogues showed that peers were frequently involved in talking about mechanics and organization rather than about the ideas and topics of their writing (Watanabe & Swain, 2007). Yet, the changes the student writers made to their own writing were different than what was discussed. Suzuki (2008) argued that peer revision produced more changes in number of episodes (a unit of frequency measurement of dialogues about corresponding topics in their discussion), and meta-talk rather than text-specific changes such as grammar and words. The upshot of these two studies is that there exists a gap between the most targeted dialogue topics (language related topics) and the targeted end result (global changes) in collaborative L2 writing.

Overall, collaborating peers outperformed those who worked alone, but not those who received teacher feedback, in producing better quality writing. But the superiority of peer feedback should be interpreted carefully, because the quality of collaboration can also be affected by various contexts. For example, the point was made that high-proficiency learners may not benefit from paired collaboration with a lower level peer, because high-low pairs performed worse than high-high pairs (Leeser, 2004). How students are combined into peer groups is clearly important. It was also found that participants tended to change their overall ideas rather than address specific mechanical problems, although they discussed grammatical changes with peers more than the overall ideas. This gap between discussion topics and behaviors necessitates further investigation for particular behavioral or verbal patterns which may hinder effective discussion within pairs (or between peers), and factors that might encourage or discourage effective peer discussion.
4. Technology Use

There were a considerable numbers of studies focusing on technology-use. Of the 55 articles, 10 articles were set in some form of technology-based learning environment. Six of the seventeen articles used a combination of technology-use and some other one of the major intervention types. The types of technology use varied from electronic dictionary-use (Yoon & Hirvela, 2004) to blogs (Bloch, 2007). Seven articles in the identified literature highlighted how technology-use can affect L2 writing development. In the remaining three articles, technology-based environments were merely the class setting for other focal factors. The latter articles employed very descriptive analysis including listing often-visited websites (Stapleton, 2005) or reporting students’ perception about technology-use (Yoon & Hirvela, 2004), rather than relational analysis.

A number of researchers found that technology was positively related to students’ emotional, motivational, and global changes as opposed to specific language-related changes. For instance, Yoon and Hirvela (2004) documented that use of corpus was associated with students’ positive motivation (i.e., self-efficacy). Matsumura and Hann (2004) reported that giving a choice of computer use resulted in good writing performance for students with either high or low computer-related anxiety. In the study by Ellis and Yuan (2004), students’ planning was associated with better writing products than no planning.

Several studies revealed that a technology-rich environment is beneficial to student’s L2 writing quality. Based on a 42-item survey instrument regarding corpus use and follow-up interviews, Yoon and Hirvela (2004) reported 22 ESL students’ own assessment of advantage and difficulties of corpus use. They concluded that corpus use is beneficial to L2 writing development and contributes to increase confidence toward L2 writing. Brine and Franken (2006) examined the effect of a teacher’s guiding questions in a web conferencing environment (Web Crossing). Taking the findings from the two studies together, it appears that an online environment with teacher’s guidance was effective in enhancing L2 writing skills. Teachers played an important role in fostering the students’ writing performance. In sum, the studies in this category showed that technology can be beneficial to L2 students because it interests and comforts the students and fosters good effects of teaching. The studies, however, did not clearly reveal similar benefits for language-specific writing development such as grammar and writing structure. Technology was instead tied more to overall L2 writing quality and students’ motivation and identity rather than mechanical correctness of their writing. Also, in combining technology-use with classical instruction, it is still questionable whether technology would work for the students at all proficiency levels or only for the students at a specific level. More studies are desirable for revealing
these refined associations between intervention and students’ proficiency level.

IV. CONCLUSION

The current review is an effort to elucidate the often overlooked relations among the seemingly disparate pieces of the English-L2 writing literature. Looking at the patterns interventions based on the descriptive analysis of the codes in the preceding section, would help further understanding of this complex, and as yet, underdeveloped research venue.

Research on the effects of teacher feedback has appeared to dominate the literature over the past ten years. As the current review began with the definition of academic writing as a disciplinary domain, it is perhaps not surprising that teacher feedback was the most significant intervention in the L2 academic writing literature. As a disciplinary domain is often set by a corresponding domain community constituted of professionals, writing within a disciplinary domain needs a conceptualization of who will accept the writing as a viable format (i.e., the academic community). Student L2 writers perceive a classroom teacher as a gatekeeper of the disciplinary community.

Regarding this connection between the teacher and the academic community, there can be several important teacher roles specific to L2 writing. First, teachers can guide students’ away from more naïve to more scientific conceptions (Alexander, 1992). Typically, a teacher becomes the one and only model of a good writer for L2 learners within a classroom. So, learners may tend to take on the teacher’s writing styles and strategies by referring to the teacher’s comments during feedback. Second, with regard to emotional state, teachers can work as a motivator for the students to pursue ever-challenging tasks. The emotional impact would be the same for L1 writers, but the impact can be amplified in L2 because approval from teachers means approval from the English-language-using society (Chae, Magda, & Alexander, 2009; Lee, 2005).

Further, discussions on what should be taught by the teachers were not specific enough for what increases their writing development. There has been strong debate about the types of teacher feedback appropriate for L2 writing. One of the topics investigated in earlier literature was instruction on grammar and error correction. For instance, Truscott (1996) stated that grammar instruction should be “abandoned” because of the negative results from earlier studies on grammar correction. On the other hand, Ferris, who has been on the opposing side of Truscott’s skepticism on grammar teaching, conducted several primary and secondary analyses on the same question, and pointed out major weaknesses of Truscott’s argument, such as that Truscott inappropriately synthesized study results based on different research designs (Ferris, 2004). This debate on the effect of grammar instruction suggests that, at a minimum, teachers’ correction of writing errors appears
effective for fostering students’ writing improvement (e.g., Bitchener, 2008). However, further investigation needs to be conducted as to whether the relation between teacher feedback and the development of student writing is mediated or moderated by other factors. Examples include teachers’ beliefs or cultural backgrounds, well as the different roles of teachers in classes.

Other interventional codes were not as notable as teacher feedback. Self-regulated learning was the second most studied intervention in the current L2 writing literature. This trend is similar with what has been seen in the L1 writing literature. Graham (2007), in his recent meta-analysis of L1 writing, reported that teaching strategies for planning, revising, and editing their compositions has a key effect on students’ writing development.

The overall findings from the literature indicated that peer-feedback interventions are more effective for global changes (e.g., organization and structure) than for local changes (e.g., accuracy and grammar). This is not surprising in that peers, being language learners themselves, are unlikely to be experts in grammar. Technology use, the least emergent issue in the reviewed literature, was found to be more effective when it was accompanied by appropriate guidance from teachers than when it was implemented as a stand-alone intervention. Typically, the studies in the literature revealed that technology use was effective in promoting emotional, motivational, and structural and topic changes than grammatical and linguistic changes. Technology use was accompanied with teacher feedback or peer feedback as interventions in many studies. This trend seems natural that technology is still a new intervention in writing pedagogy and needs more understanding in comparison with other traditional interventions.

Despite the emergent prevalence of the four identified types of interventions in the literature, the choice of these interventions should carefully be considered depending on the participants’ condition and the goals. It may be necessary to investigate further what might mediate or moderate the relation between L2 writing development and students’ L2 level.

Potential issues related to English-L2 writing development can also be found from the literature in related domains. According to contemporary English-L2 reading literature, for example, there are effects from language of instruction (Slavin & Cheng, 2005), students’ motivation (Takase, 2007), and beliefs (Kondo-Brown, 2006) on English-L2 reading development. However, only a few researchers in the literature reviewed here investigated students’ interest, motivation, and knowledge changes, and no studies examined students’ belief changes in L2 writing. By examining these additional factors, the English-L2 writing literature would refine conclusions regarding the essential conditions related to writing development.
V. IMPLICATIONS AND LIMITATIONS

In order to capture convergence of findings from the collective studies, I focused on the effectiveness of the interventions in the collected articles. When grouping studies in Table 1 by the effectiveness of the interventions, I found that most of the studies had positive effects. This suggested that there is a need to look beyond just the effects to how they were measured in order to see what is actually likely to be making a difference.

Synthesizing the trends related to intervention, the present review was intended to provide English-L2 writing researchers with several implications. What has drawn researchers’ attention in recent literature on English-L2 writing is teacher effects, self-regulated learning, peer-feedback, and technology-use. Those who wish to design effective L2 writing programs may need to consider the emergent interventions from the current investigation into their programs. For example, programs including teacher feedback and/or teaching self-regulated learning skills may better equip students’ L2 writing development than programs without the corresponding interventions. At the same time, teachers may need to leverage the various interventions identified as being effective in the current studies to benefit L2 students in the field.

Regardless of the obtained pedagogical implications from this study, these descriptive and simple analyses need more detailed evaluation with methodological considerations such as measurement and inclusions of prompts. Also, for those who are planning to undertake L2 academic writing research, summary and synthesis of the major review components uncovered what was missing in the relevant literature. There remained questions of how L2 writers would change along a developmental trajectory and how a writer’s motivation, beliefs, and strategies would be intertwined with their writing development. These last points may be related to a bigger picture of what good English-L2 writing should be and how writers develop in a disciplined learning process.

While the study attempts to capture emerging interventions in L2 writing articles, issues still remained to be considered before interpreting and applying the findings from the current study. The consideration is related to limitations in accessibility of the articles. I unintentionally excluded the unpublished but possibly viable works regarding L2 writing research. All the unpublished works could not be incorporated because access to the entire L2 writing research was not permitted. Thus, this review may lead to a biased picture of the research trends because many studies with negative outcomes do not get published. Nevertheless, the current review still made contributions to establishing L2 writing literature by depicting how the accessible L2 writing literature looks in terms of interventions and factors of concern.
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