

# BUILDING AN EMPIRICALLY-BASED MODEL OF EFL LEARNERS' WRITING PROCESSES

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**Abstract.** This chapter investigated Japanese learners' processes of English expository writing using multiple data sources including their written texts, videotaped writing behaviors, and stimulated recall protocols. Two groups of Japanese EFL writers (12 experts and 22 novices) were compared both cross-sectionally and longitudinally. The study tested the following eight hypotheses formulated as a result of a pilot study (Sasaki, 2000): (1) EFL writing experts write longer texts at greater speed than EFL writing novices; (2) after two semesters of process writing instruction, neither the quantity nor the speed of the novices' writing improves; (3) the experts spend a longer time before starting to write than the novices; (4) after the instruction, the novices spend a longer time before starting to write; (5) while writing, the experts stop to reread or refine their expressions more often than the novices, whereas the novices stop to make local plans or translate their ideas into L2 more often than the experts; (6) after the instruction, the novices stop to reread more often while making fewer local plans; however, they still have to stop to translate as often as before; (7) the experts tend to plan a detailed overall organization, whereas the novices tend to make a less detailed plan; (8) after the instruction, the novices learn to do global planning, but it is qualitatively different from the experts' global planning. The obtained results are presented as flow-chart diagrams that represent the writing processes of the different groups of EFL learners.

**Keywords:** Japanese EFL learners, empirical model of writing processes, expert writers, fluency, global planning, local planning, novice writers, pausing behaviors, plan monitoring, stimulated recall protocols, writing expertise, writing strategies.

## 1 INTRODUCTION

Composing process has been a major focus of L2 writing research for the past several decades (Cumming, 1998; Krapels, 1990; Silva, 1993). Basically following the designs of first language (L1) composition studies, researchers have investigated various aspects of L2 writing processes for different groups of participants. Of particular interest to the present study were those studies that examined writers' micro-level cognitive processes while writing. Zamel (1983), in one of the earliest studies,

analyzed detailed observational data collected while six 'advanced' ESL (English as a second language, *i.e.*, learning English in an English-speaking environment) students were completing 'a course-related writing task' (Zamel, 1983: 169). Among these six students, four were identified as 'skilled' and two as 'unskilled' based on experienced readers' 'holistic assessments' (p. 172) of their writings, and these students spent four to eighteen hours writing several drafts. Zamel did not use the participants' 'think-aloud' data while writing in spite of the fact that they were 'used in most process studies' (Zamel, 1983: 169), because 'there is some doubt about the extent to which verbalizing aloud one's thoughts while writing simulates the real composing situation' (Zamel, 1983: 169). In contrast, Raimes (1985), adopting the methods employed in L1 process writing studies (*e.g.*, Hayes & Flower, 1983; Swarts, Flower, & Hayes, 1984), examined concurrent think-aloud data collected from eight unskilled (determined by holistic measures of their essays) ESL students who wrote a narrative within a 65-minute class period. A much larger scale study was Cumming's (1989) investigation of 23 French-speaking college students' English writing processes using their written texts and think-aloud data. The study was notable because (1) it applied multivariate statistical analyses, which was made possible by the relatively large sample size, (2) it compared students' writing processes for three different tasks (letter writing, summary, and argumentation, one to three hours each), and (3) it introduced controlled variables of L1 writing expertise and L2 writing proficiency. Using the participants' decision statements in the think-aloud data, Cumming focused on four aspects of writing the students attended to while writing (language use, discourse organization, gist, and procedure for writing) and five categories of problem-solving behaviors (heuristic searches with and without resolution, problem resolution, problem identification, and knowledge telling). More recently, Boshier (1998), using a modified version of Cumming's (1989) coding systems, examined the L2 writing processes of three Southeast Asian ESL college students with different educational backgrounds. Boshier's study was unique in that she used, as alternative data to think-aloud protocols, stimulated retrospective protocols collected from the participants who recalled their writing processes while watching their own videotaped writing behaviors. Finally, Roca de Larios, Murphy, and Manchon (1999) again using the participants' think-aloud protocol data while writing, conducted two studies investigating the 'restructuring' process where the writers seek 'an alternative syntactic plan once the writer predicts, anticipates, or realizes that the original plan is not going to be satisfactory for a variety of linguistic, ideational or textual reasons' (Roca de Larios *et al.*, 1999: 16). Unlike the other studies described above, Roca de Larios *et al.*'s study concentrated on the particular writing strategy of restructuring that had 'received very little attention in research on composing' (Roca de Larios *et al.*, 1999: 16).

These previous studies that examined part of or the entire process of L2 writing commonly found that (1) skilled L2 writers were similar to their L1 counterparts in that they tended to plan more, revise more at the discourse level, and spend more time exploring the most appropriate ways to solve the given task (*e.g.*, Cumming, 1989; Raimes, 1987; Roca de Larios, Murphy, & Manchon, 1999; Zamel, 1982, 1983); (2) unskilled L2 writers were similar to their L1 counterparts in that they tended to plan less and revise more at the word and phrase level (*e.g.*, Raimes, 1985,

1987; Roca de Larios, Murphy, & Manchon, 1999; Zamel, 1983), but they were different from their L1 counterparts in that they were relatively less concerned about surface level revisions (*e.g.*, Raimes, 1985, 1987) and in that they showed more commitment to the given assignment (*e.g.*, Raimes, 1985, 1987); (3) there appears to be a 'writing expertise' which is independent of L2 proficiency, affecting L2 writing (*e.g.*, Boshier, 1998; Cumming, 1989; Raimes, 1985, 1987); (4) students' attention patterns and problem-solving behaviors while writing differed according to their L1 writing expertise and the type of tasks they were involved in (*e.g.*, Cumming, 1989).

Because researchers have realized that L2 writers' strategies are similar to those used for L1 writing, many studies from the late 1980's on have also compared the same participants' L1 and L2 writing processes. It should be noted that here again think-aloud protocol data were the main sources of analysis for most studies. In these studies, the participants' L2 is mostly English (but see Cumming, Rebuffot, & Ledwell, 1989 and Whalen & Ménard, 1995 for exceptions), but their L1s greatly vary. For example, Jones and Tetroe (1987) compared six college-level Spanish-speaking ESL students' planning behaviors while these students wrote two English and one Spanish descriptive expositions. Arndt (1987) compared six Chinese postgraduate EFL (English as a foreign language, *i.e.*, learning English in a non English-speaking environment) students' processes of writing expositions in L1 and L2 (completed within one hour each). Similarly, Skibniewski (1988) compared three college-level Polish EFL students' processes of writing expository essays in L1 and L2. In contrast to Jones and Tetroe's or Arndt's study, Skibniewski could compare the differential effects of writing expertise on the three students' L1 and L2 writing processes because they had distinctly different writing skills both in L1 and L2 (*i.e.*, skilled, average, and unskilled). Similarly, Cumming, Rebuffot, and Ledwell (1989) compared the summary writing processes in English and French of 14 English-speaking college students with different writing expertise. Using Cumming's (1989) coding scheme, Cumming *et al.* specifically focused on the participants' problem-solving behaviors. Finally, two more recent and larger scale studies were completed by Whalen and Ménard (1995) and Uzawa (1996). Whalen and Ménard analyzed 12 English speaking participants' planning, evaluation, and revision strategies at three different levels of discourse (pragmatic, textual, and linguistic) while writing argumentative texts in their L1 and L2 (French) within a maximum of two hours for each. On the other hand, Uzawa compared 22 Japanese ESL students' processes of writing first drafts of descriptive expositions in Japanese (30 minutes) and in English (one hour), as well as their processes of translating a magazine article from Japanese into English (one hour). In addition to comparing overall characteristics of each writing process, Uzawa compared attention patterns employed for the three types of writing.

Admitting the noticeable individual differences among the participants reported by some of these comparative studies (*e.g.*, Arndt, 1987), we can also conclude that they have commonly found that (1) L1 and L2 writing strategies, whether the writers were skilled or unskilled, were basically similar, which indicates that L1 writing strategies can be transferred to L2 writing (*e.g.*, Arndt, 1987; Cumming, Rebuffot, & Ledwell, 1989; Jones & Tetroe, 1987; Moragne e Silva, 1988; Skibniewski, 1988; Uzawa, 1996; Whalen & Ménard, 1995); (2) compared with their L1 writing proc-

esses, students' L2 writing processes, especially the higher-order cognitive operations, were negatively affected by their limited L2 proficiency (e.g., Moragne e Silva, 1988; Whalen & Ménard, 1995); and (3) the quality of written L2 texts is more strongly associated with the quality of the students' L1/L2 writing strategies rather than with their L2 proficiency (e.g., Cumming, Rebuffot, & Ledwell, 1989; Jones & Tetroe, 1987).

Although these previous studies provided insight into L2 learners' writing processes, their designs were not without limitations. First, they investigated mainly ESL learners whose educational backgrounds were typically heterogeneous, and whose L2 proficiency was high enough so that they could receive their education in their L2. Even when EFL learners were examined, their L2 proficiency tended to be high (e.g., Arndt, 1987; Skibniewski, 1988). Second, even though some studies included 'skilled' versus 'unskilled' contrasts (mainly among student writers), virtually no studies have included a 'novice' versus 'expert' contrast where 'experts' were those who used L2 writing for professional purposes.<sup>1</sup> Furthermore, many previous studies have employed cross-sectional designs only, and thus lacked developmental perspectives. Including multiple perspectives where novice writers are compared with expert writers as representatives of their ultimate possible goals of achievement, or where the novice writers are compared before and after a certain period of writing instruction with other intervening variables controlled, is crucial for building a more comprehensive and dynamic model of L2 writing processes.

Another limitation of the previous studies of L2 writing processes is their almost exclusive use of think-aloud protocols as the main data source (but see the above description of Zamel, 1983 and Boshier, 1998 as exceptions). Although collecting concurrent verbal reports is an effective way to obtain real-time data on the participants' writing processes (Ericsson & Simon, 1993), it entails various inherent problems (Smagorinsky, 1994), some of which are especially relevant to the present study. First, it is very difficult for some potential participants to produce 'think-aloud' data while writing in L2. It appears even more difficult when they are asked to speak in their L2 (e.g., Raimes, 1985, 1987) because many L2 writers often think in their L1 while writing (e.g., Cumming, 1989; Cumming, Rebuffot, & Ledwell, 1989; Uzawa, 1996). Moreover, even when participants were allowed to speak in any language they wished, some expressed difficulty with the task. For example, Whalen and Ménard (1995), who seem to have allowed the participants to choose the language they spoke in, admitted that ten potential participants (compared to the 12 who actually produced the data for the study) could not perform this difficult task, and thus were excluded from the study. Finally, even if researchers can manage to obtain analyzable data from participants (see Hayes & Flower, 1980, characterizing the nature of analyzing protocol data as 'following the tracks of a porpoise,' p.

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*1 Although several studies such as Cumming (1989) included writers with professional experience, they were experts in L1 writing rather than L2 writing. I believe that research into the differences between the writing processes of novice and expert L2 writers is necessary to build a comprehensive model of L2 writing processes because experts' writing ability represent an ultimate goal (and also an ultimate achievement limit) that any L2 learners with similar backgrounds can accomplish (Grabe & Kaplan, 1996).*

9), there is always the danger of 'reactivity'. Previous empirical studies (e.g., Janssen, van Waes, & van den Bergh, 1996; Stratman & Hamp-Lyons, 1994) have reported that the think-aloud condition appeared to have significantly affected the quality and content of the participants' cognitive activities while writing.

With these methodological limitations in mind, I conducted a precursor of the present study as a pilot study (Sasaki, 2000). It investigated the writing processes of three types of L2 writers (professional, and more- and less-skilled) with similar cultural and educational backgrounds, both cross-sectionally and longitudinally (i.e., developmentally),<sup>2</sup> using multiple data sources collected through a less disruptive method than the think-aloud technique.<sup>3</sup> The method was similar to the one used in Boshier (1998) in that the participants produced recall protocols while watching their video-taped writing behaviors, but it was different from Boshier's method in that the participants could choose the language(s) in which they produced the protocols, and in that the data were coded by a coding scheme specifically developed for this type of data (Anzai & Uchida, 1981).

The pilot study was also motivated by the results of two preceding product-oriented studies (Hirose & Sasaki, 2000; Sasaki & Hirose, 1996). Sasaki and Hirose cross-sectionally investigated factors that could explain Japanese EFL students' English writing ability. We found that the participants' L2 proficiency, L1 writing ability, and metaknowledge of L2 expository writing (e.g., how to achieve unity and coherence in a paragraph) significantly explained the students' L2 writing ability variance (52% of the variance was accounted for by L2 proficiency, 18% by L1 writing ability, and 11% by metaknowledge). We also found that good writers were significantly different from weak writers in terms of their attention to overall organization while writing in L1 and L2, their writing fluency in L1 and L2, their confidence in L2 writing for academic purposes, and their experiences of regularly writing more than one paragraph in L2 in high school. Based on these results, Hirose and Sasaki further examined the teachability of two of these explanatory factors, metaknowledge of L2 writing and regular L2 writing experience. The results indicated that teaching the metaknowledge to the students over 12 weeks significantly improved their metaknowledge, but not their L2 writing ability in general. In contrast, the instruction of metaknowledge combined with regular journal writing sig-

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2 In the present study, I used the term 'longitudinal' as synonymous with 'developmental.' When I classified studies, I followed Isaac and Michael's (1981:42) definition of 'developmental': To investigate patterns and sequences of growth and/or change as a function of time. In the pilot study, Sasaki (2000), I investigated the changes in eight student writers' writing process during six months of process writing instruction, and thus I called the study 'longitudinal.'

3 Although the stimulated recall protocol method employed both for Sasaki (2000) and the present study is obviously less disruptive than the think-aloud method (all the participants in both studies could successfully complete the task), it might arguably have entailed some reactivity problems such as the possibility that the participants had been affected by the existence of the video-camera(s). Moreover, it is also true that the recall protocol method can only induce what the participants can recall, or what they think they were thinking about at the point of time in question. Unlike the think-aloud data, what the participants recall may not be a faithful reproduction of what they were thinking about at that particular moment.

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