Research Methods in the Study of Influencing Factors on L2 Writing Performance

MÉTHODES DE RECHERCHE DANS L'ÉTUDE DES FACTEURS D'INFLUENCE SUR LA PERFORMANCE DE L'ÉCRITURE DE LA SECONDE LANGUE

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Abstract: This paper is a review of the research methods adopted by the ten studies centering on the same topic: influencing factors on second language writing performance. It aims to shed some insight for researchers who will conduct similar studies on second language writing and provide them the research methods to use. The research methods employed by the studies are mainly examined from the types of research (or research design), number of participants investigated, and instruments for data collection and data analysis. Recommendations for future studies, especially for the improvement of research methods are provided.

Key words: L2 writing performance, influencing factors, research methods, types of research, participants, instruments

Résumé: Cette mémoire est une révision des méthodes de recherche adoptés par les dix études centrant sur le même thème : les facteurs d'influence sur la performance d'écriture de la seconde langue. Elle tente de proposer des idées pour les chercheurs qui conduiront les études similaires sur l'écriture de la seconde langue et de leur donner les méthodes de recherche à utiliser. Les méthodes de recherche employés par les études sont surtout examinés des types de recherche(ou conception de recherche), du nombre des participants étudiés, des instruments pour la collection des données et l'analyse des données. Sont données les recommandations pour les études futures, spécialement pour l'amélioration des méthodes de recherche.

Mots-Clés: performance de l'écriture de la seconde langue, facteurs d'influence, méthodes de recherché, types de recherché, participants, instruments

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1. INTRODUCTION

Writing in one's mother tongue is a demanding task that calls upon several language abilities, as well as upon more general (meta)cognitive abilities. Writing in a second language (L2) is even more demanding, because several of these constituent abilities may be less well developed than in one's first language (L1). Therefore, over the past twenty years, a large number of investigations have been carried out to identify the factors influencing L2 writing. Specifically, investigations of the relationship among L1 writing ability, L2 writing ability, and L2 proficiency have been widely conducted, among which some argued L1 writing ability as the main factor influencing L2 writing (Raimes, 1985; Zamel, 1983), while some others claimed L2 proficiency as the primary influencing factor (Pennington & So, 1993; Sasaki & Hirose, 1996), and still others proposed the interactive effects of the two. Their findings are mixed and lack consensus. The following are ten empirical studies selected from the literature on the relationship between L1 and L2 writing for research methods investigation.

Albrechtsen (1997) compared the writing processes of a 15-year-old girl (grade 9) writing essays in Danish (L1) and English (L2) in an uncontrolled setting. Cohen and Brooks-Carson (2001) explored the students' strategies and their results on 2 essay writing tasks: writing directly in French (L2) as well as writing in the L1 and then translating into French. Dweik and Abu Al Hommos's (2007) research was designed to determine whether the achievement in L2 writing is affected by the level of achievement in L1 and the competence in L2. Fumihiko (2004) examined the interrelationship among L1 writing skills, L2 writing skills, and L2 proficiency of Japanese EFL college students who had not received any formal academic English writing instruction. Roca de Larios et al. (2001) conducted a cross-sectional study using verbal protocol analysis to compare the processes of Spanish EFL writers composing L1 and L2 argumentative texts. Sasaki (2004) investigated the changes of 11 Japanese students' English writing behaviors over a 3.5-year period. Schoonen et al. (2003) employed the structural equation modeling to compare the relative importance of three components—linguistic knowledge, speed of processing, and metacognitive knowledge—across L1 (Dutch) and L2 (English) writing. Sun and Xiang (2007) used a quantitative approach to explore the relationship of L1 writing ability, L2 proficiency and L2 writing ability in the context of Chinese college students. Different from the common practice, Thorson (2000) utilized a computerized tracking device to check whether university students studying a L2 (German) used the same processes and writing strategies in L2 and L1 writing in two different genres (letter and article). And lastly, Wolfersberger (2003) examined the composing process and writing strategies of three lower proficiency Japanese subjects in their L1 and L2, revealing that some L1 strategies may transfer to the L2 writing processes.

On first appearance, these 10 studies are similar to each other, however, they are different in types of research and the methods employed. The present paper aims to examine the research methods used by the above-mentioned 10 studies by answering the following research questions.

RQ1: What research methods are adopted in the studies?

RQ2: What possible improvements can be made?

In particular, this paper will investigate the methodology adopted in the 10 studies in three aspects, namely the types of research, the participants and the instruments. The instruments encompass both data collection and data analysis.

1. TYPES OF RESEARCH

Generally speaking, there are mainly two types of research in the fields of social science that include applied linguistics, i.e. primary and secondary, depending upon the source of data. As its name suggests, secondary research synthesizes diverse ideas from those secondary sources and various findings related to the issue. It is a kind of study which makes use of data in documents, books and journals, so it is often called documentary or library research. In contrast, primary research is derived from the primary sources (e.g., students who are learning a second language). Its data are first-hand and original information, therefore, primary research is also called empirical research. Clearly, the 10 empirical studies selected for examination are all primary researches.

Primary research itself falls into two subdivisions: (a) case studies, and (b) statistical studies. According to Wen (2004), case study is "a study that examines one or more cases in detail by using multiple sources of data" (p. 153), and it is extensively used by applied linguists to gain an in-depth understanding of L2 learning and teaching. Based on this explanation, it is easy to find that 2 of the 10 studies are pure case studies, i.e. Albrechtsen (1997) and Wolfersberger (2003). The former described in detail a 15-year-old girl's writing process in Danish (L1) and English (L2) and found her method of working was very similar in two languages, in accordance with the knowledge-transforming model of other comparative studies. The latter, Wolfersberger (2003) examined three lower proficiency Japanese participants' (Katsue, Miyoko and Keiko) composing processes and writing strategies one by one, suggesting that L2 writers faced with writing tasks requiring an L2 proficiency level above that of the writer did not transfer L1 strategies to the L2 writing process.

Besides, the rest 8 studies can be grouped into the statistical studies. And these statistical studies fall into two additional subcategories: surveys and experimental studies. A survey study, as Wen (2004) points out, usually involves a relatively large sample and is descriptive in nature. It either describes the features of a few variables or the relation between two or more variables. Different from surveys, experimental studies are defined as a whole range of different possible studies that investigate the language behavior of groups under controlled conditions (Brown, 2001). Based on the above explanation, it is easy to find 7 of the 8 statistical studies are surveys (Cohen & Brooks-Carson, 200; Dweik & Abu Al Hommos, 2007; Fumihiko, 2004; Roca de Larios et al., 2001; Schoonen et al., 2003; Sun & Xiang, 2007; Thorson, 2000). For example, Dweik and Abu Al Hommos (2007) chose 20 bilingual Jordanian students from a population of 850 to investigate the relationship between L1 (Arabic) proficiency and L2 (English) writing performance. Despite the linguistic distance between Arabic and English, it postulated that Arabic writing skills can be transferred positively to the target language (English). In another study Sun and Xiang (2007), a total of 50 students at different proficiency levels participated in the survey and three pairs of correlations (a. L1 writing skills × L2 writing skills; b. L2 proficiency × L2 writing skills; c. L1 writing skills × L2 proficiency) were examined. Results suggested that L2 writing ability of 50 English majors turned out to be highly correlated with L1 writing ability, more than with L2 proficiency.

Among the 8 statistical studies, one study (Sasaki, 2004) distinguishes itself from the other 7 surveys in that it is experimental. Again experimental studies are further classified into pre-experimental, quasi-experimental and true experimental. The study done by Sasaki (2004) belongs to the category of pre-experimental, in which pre-and- post treatment tests are conducted, but it lacks a control group. The participants of the study were judged to be "novice writers" with little L2 writing instruction according to the results of a background questionnaire. And they were tested before starting their university education. During and after

2 semesters English writing classes they were tested again and the results revealed that they improved their English proficiency and English composition quality. Because 6 out of the 11 participants spent 2 to 8 months in English-speaking countries, the study was also able to examine the effects of overseas experience on L2 writing. Thus in this sense, the study can be called a quasi-experiment with the rest 5 participants remaining in Japan as a control group.

It needs to be pointed out the study done by Thorson (2000) is special due to the binary approaches adopted in the research. In addition to the statistical approach, it employed the case study approach as well to examine 2 students composing processes in detail using information captured by the computer program *Trace-It*. The 2 students were chosen not only because they highlighted general trends in the writing processes of sample population (e.g. they wrote less, but revised more in L2), but also because their sessions clearly illustrated the meaning and intention of individual writing strategies.

Take into consideration the type of data yielded by the investigation (qualitative or quantitative), and the type of analysis conducted on the data (statistical or interpretive) an overview of the types of research in the 10 studies can be summarized into the following table.

Table 1. Classification of the Types of Research in the 10 Studies

	Studies	Types of Research		
1	Albrechtsen (1997)	case study	qualitative	interpretative
2	Cohen & Brooks-Carson (2001)	survey study	quantitative	statistical
3	Dweik & Abu Al Hommos (2007)	survey study	quantitative	statistical
4	Fumihiko (2004)	survey study	quantitative	statistical
5	Roca de Larios et al. (2001)	survey study	quantitative & qualitative	interpretative & statistical
6	Sasaki (2004)	experimental study	quantitative & qualitative	interpretative & statistical
7	Schoonen et al. (2003)	survey study	quantitative	statistical
8	Sun & Xiang (2007)	survey study	quantitative	statistical
9	Thorson (2000)	survey study & case study	quantitative & qualitative	interpretative & statistical
10	Wolfersberger (2003)	case study	qualitative	interpretative

The studies are listed in the alphabetic order of the authors' names.

This table shows case studies are always qualitative and interpretative, while survey and experimental studies are usually quantitative and statistical. However, survey and experimental studies can also involve both qualitative and qualitative designs, using the mixed interpretative and statistical analyses.

The above discussion provides a general picture about the types of research adopted in the 10 studies. The following parts will offer a more detailed exploration into the research methods of the 10 studies, i.e. participants and instruments.

2. PARTICIPANTS

As introduced in the previous part, the 10 studies center on the relationship of L1 and L2 writing ability and L2 proficiency, therefore, participants' levels of L2 proficiency are one of the independent variables that must be considered. Their proficiency levels were obtained either through background questionnaire (Cohen & Brooks-Carson, 2001; Sasaki, 2004) or standardized proficiency test (Dweik & Abu Al Hommos, 2007; Fumihiko, 2004; Roca de Larios et al., 2001; Sasaki, 2004; Sun & Xiang, 2007) or school of education (Albrechtsen, 1997; Schoonen et al., 2003; Sun & Xiang, 2007; Thorson, 2000; Wolfersberger, 2003). Some evaluation methods are vague (i. e. school of education, questionnaire) and can be improved by a combination of these methods. The following table provides a more minute description of the participants in the selected 10 studies.

Table 2. An Overview of Participants Information in the 10 studies

	Studies	Participants			
		N	L1	L2	L2 proficiency
1	Albrechtsen (1997)	1	Dutch	English	grade 9 [*]
2	Cohen & Brooks-Carson (2001)	39	English Spanish	French	intermediate
3	Dweik & Abu Al Hommos (2007)	20	Arabic	English	intermediate
4	Fumihiko (2004)	262	Japanese	English	low to high
5	Roca de Larios et al. (2001)	21	Spanish	English	low to high
6	Sasaki (2004)	11	Japanese	English	low to mid-intermediate
7	Schoonen et al. (2003)	281	Dutch	English	grade 8 [*]
8	Sun & Xiang (2007)	50	Chinese	English	low to high
9	Thorson (2000)	18	English	German	intermediate and high
10	Wolfersberger (2003)	3	Japanese	English	low

● Rather than exact L2 proficiency levels, the two studies (Albrechtsen, 1997; Schoonen et al., 2003) just provided the grades of the participants. They were in secondary education.

Besides the L2 proficiency level, what deserves our attention is the sample size. As the table shows, the size of samples ranges from as small as 1 to as large as 281. The differences may originate from the type of research each study employs. For example qualitative studies usually involve a small sample due to the enormous time and energy required, while quantitative studies often have a relatively large sample to meet the statistical requirement. So sample size of in-depth case studies is small, and that of statistical studies is large. But looking through Table 1 and Table 2, we can easily find the pure quantitative study Dweik & Abu Al Hommos (2007) owned just 20 participants, lower than the requirement of 30. This is one point that the research can be improved.

From the table, we can also see Albrechtsen (1997) and Schoonen et al. (2003) investigated participants with the same L1 (Dutch) and L2 (English) background. One is a case study and the other statistical surveys, therefore, they can be cross-checked and supplement each other. Fumihiko (2004), Roca de Larios et al. (2001) and Sun & Xiang (2007) all explored participants from low to high level with the same L2 (English) but different L1 (Japanese, Spanish, Chinese respectively), thus providing a possibility for the future cross-linguistic

investigation.

3. INSTRUMENT

In this part, the instruments adopted by the 10 studies to collect and analyze data will be examined.

3.1 Data collection

One outstanding similarity of the 10 ten studies is that they unanimously use writing tasks to collect the data. The reason is obvious. In order to test the relationship of L1 and L2 writing skills, the most direct and convenient way is to ask the participants to write. Nevertheless, they are not exactly the same in terms of requirements. 5 of the 10 studies set time limit (e.g. 30-min or 60-min) for the participants to complete each of the writing tasks (Cohen & Brooks-Carson, 2001; Fumihiko, 2004; Roca de Larios et al., 2001; Sasaki, 2004; Thorson, 2000). Among the 5 studies, the first one and the last one allowed the use of dictionaries, while the other 3 did not. Because the two case studies (Albrechtsen, 1997; Wolfersberger, 2003) were conducted in uncontrolled settings, there was no time restriction for the writing tasks in these two case studies and the participants had free access to dictionaries. There was no indication of these restrictions in the rest 3 studies. Since time limit and access to dictionary may have effects on the writers' performance, these variables need to arouse the researchers' attention. In this respect, the latter 5 studies still have some room for improvement.

In terms of writing procedures, the 2 studies Fumihiko (2004) and Sun and Xiang (2007) are the same. They both asked half of the participants to write in L1 and the other half in L2. After a week interval, the former half wrote in L2 while the latter in L1. However, they are different in that Sun and Xiang (2007) provided two similar topics, one for L1 and the other for L2, and Fumihiko (2004) provided only one topic. Although the only one topic can eliminate the topic effect, L1 transfer will inevitably come into effect because the participants wrote on the same topic in both languages. Thus, Sun and Xiang' (2007) research is more reasonable and their results more convincing.

Another great similarity is that 3 studies (Albrechtsen, 1997; Roca de Larios et al., 2001; Wolfersberger, 2003) utilized think-aloud protocols to record the writing process of the participants and 2 studies (Cohen & Brooks-Carson, 2001; Sasaki, 2004) employed videotapes and retrospective verbal accounts to report their writing processes and the strategies employed during writing. Though the data collected through these kinds of techniques are quite valuable, they are disturbing, to certain extent, as the writers' thoughts may be blocked by the difficulty of speaking and writing at the same time, or the writers may be influenced by the videotapes and their retrospective recalls may be not really what they have at that moment. Thus, in certain instances the reliability and validity of such techniques are questioned. As a result, some researchers (Janssen, D. et al., 1996) suggest that these techniques should be cross-checked. Besides, these methods are really time-consuming and resource- demanding.

The study done by Thorson (2000) distinguishes itself in data collection with the aid of computer programs *J-Edit* and *Trace-It*. These computerized devices can follow the actual process that was taken to create a written text and all keyboard and mouse movements. In this way, researchers were thus able to obtain a record of exactly how the participants went about composing on the computer. This new method of data collection is efficient and unobtrusive,

and thus should be advocated in future research.

3.2 Data analysis

As for data analysis, 5 of the 10 studies (Cohen & Brooks-Carson, 2001; Dweik & Abu Al Hommos, 2007; Fumihiko, 2004; Sasaki, 2004; Sun & Xiang, 2007) contained at least two trained and experienced raters for the evaluation of the writing essays. Among them, both Dweik and Abu Al Hommos (2007) and Fumihiko (2004) employed two measures—Pearson product-moment correlation and the coefficient alpha (Chronbach alpha) for interrater reliability. Both Sasaki (2004) and Sun and Xiang (2007) adopted Jacobs et al.'s (1981) English Composition Profile (or revised version) for rating. Interrater reliability coefficients and one-way ANOVA comparison were calculated for the two raters in the study Cohen & Brooks-Carson (2001).

As for think-aloud protocol analysis, it is far more complex than expected. What researchers commonly did is segmenting the protocols into episodes first and then analyzing them. Differently Sasaki (2004) used a revised version of Anzai and Uchida's (1981) coding system. This coding system was well-designed and also used by the author in his previous studies (Sasaki, 2000; Sasaki, 2002). A variety of other instruments i. e. multitrait rating scales, structural equation modeling (SEM) and SPSS are utilized, which the present paper can not afford to examine in details.

4. CONCLUSION

To summarize, I return to the two research questions. As the previous parts show, this paper examines the 10 studies from the perspectives of types of research, participants, data collection and data analysis instruments. The studies examined here have adopted different research methods that are appropriate for their purposes. As for participants, future studies can be improved by increasing the size of samples to enhance the representativeness and generalizability of the results. And the proficiency level can be more accurately evaluated by a combination of several methods. As for instruments, writing tasks, think-aloud protocols and retrospective recalls are overwhelmingly preferred by the researchers, conforming to the nature of their studies. However, future studies can pay more attention to controlling extraneous variables like time restriction, dictionary use, conducting pilot studies before the main ones and adopting more than one data analysis tools for cross-checking.

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