

行政院國家科學委員會專題研究計畫成果報告

博士班學生英語寫作需求與困難之分析研究

The Writing Needs and Writing Problems of Doctoral Students

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一、中文摘要

本研究計畫探討博士班學生的寫作需求、困難及寫作過程。計畫之進行分兩階段。第一階段為問卷調查，收集並分析博士班學生和他們的指導教授之意見，主要包括博士班學生之寫作經驗、須以英文完成之寫作工作、自我評估或評估英文能力、英文之重要性、以及論文寫作之困難。為了更深入瞭解博士班學生之需求與困難，研究第二階段以個案研究方式訪問五位博士班學生。訪問的重點在博士班學生論文寫作之過程、與指導教授之互動關係、以及他們在論文寫作上的特殊需求與困難等。

問卷調查之資料分析結果顯示，博士班學生和他們的指導教授在許多問題上意見十分一致，如寫作需求與困難，英文的重要性，學生英文能力，以及須以英文完成的寫作工作等。此外，會議論文及期刊論文是博士班學生最常需要以英文完成的寫作工作。博士班學生自己和他們的指導教授都不滿意博士班學生的英文能力。學生有很強的動機想改進他們的英文寫作能力。同時，學生指出他們在寫作上最大的困難在於適當的語意表達、正確且適當的文法使用、及適當的字彙。

個案研究的結果則顯示博士班學生在論文寫作上需要許多幫忙和練習。他們的指導教授和同一領域的學長在他們論文寫作過程中扮演重要的角色。於論文寫作中，博士班學生認為論文開始的引介章節最難，而研究方法與材料章節最容易。他們也表示他們在寫作上需要的幫助為：學術寫作課程、論文修改、及有用的參考書籍。

關鍵詞：調查研究、個案研究、寫作過程、

引介(章節)、研究方法與材料(章節)。

Abstract

This project investigates the writing needs and problems of doctoral students as well as their composing process. It proceeds in two stages. The survey study collects and analyzes opinions from both Ph.D. students and their advisors, focusing on their writing experience, required writing tasks in English, self-perceived or perceived English proficiency, importance of English, and problems in writing research papers. To understand more thoroughly Ph.D. students' needs and problems, a case study, which is the second stage of the study, is designed in the form of interviews with five Ph.D. students, asking them to describe their composing process, in particular, the process of writing a research paper, interactions with their advisors, and their specific needs and problems in writing research papers.

The survey study shows that Ph.D. students and their advisors perceive very similarly in most issues in concern: writing needs and problems, importance of English, students' English proficiency, and required writing tasks in English. Conference papers and journal articles are the genres they have to write most frequently. In addition, both Ph.D. students and their advisors are not satisfied with the students' English proficiency and they are highly motivated towards improving their English writing ability. Also, the students indicate their writing problems in appropriate expression of ideas, correct and proper use of grammar, and diction.

The case study reveals that Ph.D. students need help and practice in writing research papers. Their advisors and senior

doctoral students in the same field play important roles in their research writing process. Among the various sections of a research paper, the Introduction section is the most difficult part, while the Materials and Methods section is the easiest for the students. Finally, they express the needs of academic writing courses, help in editing their research papers, and useful reference books.

Keywords: survey study, case study, composing process, Introduction (section), Materials and Methods (section)

二、緣由與目的 (Introduction)

Ph.D. training aims at both expert knowledge in a specialized field and the ability of doing and reporting research. Before Ph.D. students can receive their degree, they usually have to write and publish a number of research papers in the form of conference papers or journal articles. Furthermore, the completion of the doctoral dissertation reflects not only research capability but also linguistic competence developed over the years. It has been indicated that academic competence, which is largely represented by the ability to write and publish research results in a couple of academic genres, is crucial to the career development of doctoral students. (Swales 1990, Ventola and Mauranen 1996) As English has become the lingua franca in academia, it is a great challenge to non-native Ph.D. students to learn to master appropriate English writing skills for academic purposes.

Despite the growing number of Ph.D. students in Taiwan, there has been little research on their writing needs and problems, or the design of writing programs catering their specific needs. (Hirvela 1997, Casanave and Hubbard 1992) On the other hand, most universities in Taiwan do not offer EAP (English for Academic Purposes) courses to graduate students. EFL programs currently provided at the undergraduate level aim at general English, and they can hardly meet the

academic needs of Ph.D. students. (Yao 1996) It is, therefore, imperative that research on the specific needs and problems of Ph.D. students be conducted to provide practical and useful guidelines for the implementation of EAP courses and the development of appropriate teaching materials.

Needs analysis has been playing an important role in ESP (English for Specific Purposes), which includes EAP. There have been a large number of needs analysis studies on the writing needs and tasks of college students. (Behrens 1978, Kroll 1979, Ostler 1980, Johns 1981, Brillhart and Debs 1983, Bridgeman and Carlson 1984, Horowitz 1986, Braine 1989) They were survey studies collecting self-perceived and perceived needs and writing assignments by college students as well as the faculty.

Also, there has been research on the writing needs and problems of graduate, in particular, doctoral students. (West and Byrd 1982, Canseco and Byrd 1989, Casanave and Hubbard 1992, Jenkins, Jordan, and O'Weiland 1993) These studies focused on the types of writing required of graduate students, faculty's perception of the role of writing in graduate education, and students' writing problems.

In addition to needs analysis, some studies have attempted to investigate the composing process of non-native learners of English. (Zamel 1983, James 1984, Kennedy 1985, St. John 1987, Parkhurst 1990, Shaw 1991)

On the other hand, genre analysis of research papers or journal articles (Swales 1987, 1990, Dudley-Evans 1986, 1994, Peng 1987, Hopkins and Dudley-Evans 1988) has also provided enlightening ideas on information structuring and linguistic features of research papers.

Despite the rich literature on pertinent issues to which this project is concerned, it can be noticed that there has been little research on needs analysis, writing problems, and the composing process of Chinese graduate students. Much domestic literature on these topics have focused on

undergraduate students. (Chen 1984, Liao 1986, Kuo and Tzeng 1986, Kao 1993) Yao (1996) indicated that little research on EST or EAP was available in Taiwan.

This project, therefore, investigated the writing needs and problems of doctoral students as well as their process of writing a research paper. It proceeded in two phases: one was a survey study, based on the quantitative data collected from both doctoral students and their advisors; the other was a case study, based on interviews with five doctoral students. The former gives a general picture of the self-perception of doctoral students as well as the evaluation of the faculty towards their students. The latter explores in depth the research writing process, interactions with the advisor, and needs and problems.

三、結果與討論 (Results and Discussions)

At the first phase, two different but corresponding questionnaires were sent respectively to all Ph.D. students and their advisors at the College of Electronics Engineering and Information Science in the university where the researcher was teaching. Either of the questionnaires consists of twelve questions: six fill-in and six multiple-choice questions. Except a couple of demographic items, the questions target the role of English writing, English writing tasks, English writing problems, self-perceived English writing ability, and the need for improving English at various linguistic levels. In total, 128 copies of questionnaires were answered and returned from the students and 38 from the faculty. Statistical analysis was then done by using SPSS on the computer. Data from student questionnaires were also compared with data from faculty questionnaires.

At the second phase, a list of interview questions, totally 33 questions, were first designed, including personal data and experience with English, interactions with the advisor, the process of writing a research paper, and writing needs and problems.

Interviews with five Ph.D. students, also from the College of Electronics Engineering and Information Science, were arranged, each taking about one hour. Generally speaking, the researcher would ask the pre-designed questions; however, the interview might sometimes go off the track if the researcher thought it was appropriate to have another question in the place of the original one, or if the student seemed to have his or her own way of expressing opinions. The interview proceeded in an informal way so that the students felt comfortable in answering the questions.

The Survey

1. Writing experience

The students in the survey range from the first-year student to the seventh-year student. Most of them (76.6%) had some experience of writing research papers in English. A student, on average, had the experience of completing two research papers.

2. Required tasks in English

With respect to required tasks in English, about three-s of the students said that 50% or more of their daily tasks in study or research had to be done in English. Furthermore, 31.1% of the students said that 80% or more of their tasks were in English. In comparison, 77.1% of the faculty thought that 80% of their students' tasks had to be completed in English.

3. The four English skills

About the relative importance of the four English skills – listening, speaking, reading, and writing, reading plays the most important role, followed by writing, to both the students and the faculty.

4. Specific English writing tasks

In terms of the number of specific writing tasks in English, each student, on average, had to finish 1.2 journal articles and 1.3 conference papers in a semester. Comparing the various genres provided in the questionnaire, we found that both students and faculty thought that students needed to write conference papers and journal articles

more frequently than other genres.

5. Perceived and self-perceived English proficiency

With regard to self-perceived English proficiency, 67.7% of the students were either unsatisfied or very unsatisfied with their English proficiency; 29.9% were moderately satisfied with their English proficiency; and only 2.4% (3 students) were satisfied or very satisfied. It was interesting to find that advisors had an even lower degree of satisfaction with their doctoral students' English proficiency. 76.3% of the faculty were either unsatisfied or very unsatisfied with their students' English proficiency; 23.7% were moderately satisfied, and none were satisfied or very satisfied.

6. Problems in writing research papers

For the questions asking students and their advisors to indicate students' problems in writing research papers, responses from the students revealed that the top four most difficult items indicated by the largest number of students were: appropriate expression of ideas, correct and proper use of grammar, diction, and rich vocabulary. The faculty perceived similar problems: appropriate expression of ideas, correct and proper use of grammar, diction, and overall writing ability.

7. Amount of time needed for writing or correcting a research paper or dissertation in English

Estimated time in writing a conference paper or journal article varied greatly among the students. A conference paper or journal article took, on average, 92 hours, and the dissertation, 334 hours.

Estimated time for the professors to correct a conference paper or journal article was 24 hours, and dissertation, 58 hours.

8. Correction of research papers

About correcting the use of English in a research paper, more than half of the students (57.3%) hoped that their advisors could directly provide correct words and phrases. It seemed that a lot of professors did meet their students' need, since 54.1% of them indicated that they usually gave correct words

and phrases when they were correcting students' papers.

9. English courses

Sixty percent of the advisors indicated that they asked their doctoral students to take English courses; however, only 31.7% of the students said that their advisors asked them to take English courses.

10. Importance of English

Both the students and the faculty were asked to indicate their perceived importance of English in publishing research papers, completing Ph.D. dissertation, finding a good job, developing future career in the industry, and developing future career in the academia. In the first two and the last items, more than 90% of the students thought that English was important or very important. In particular, 74.2% indicated that English was very important to publishing research papers.

The responses from the faculty were even more positive about the importance of English. All of the professors indicated that English was important (7.9%) or very important (92.1%) to publishing research papers. More than ninety percent of them said that English was important or very important to developing future career in the academia (97.3%), and to completing Ph.D. dissertation (94.7%).

11. Aspects of English needed to be improved

With respect to the aspects of English students were in urgent need of improvement, the items that more than three-fourths of the students indicated as in urgent need were: appropriate expression of ideas (86.6%), diction (79.5%), rich vocabulary (78%), and correct and proper use of grammar (77.2%). Responses from the advisors revealed very similar needs: appropriate expression of ideas (97.4%), correct and proper use of grammar (92.1%), diction (86.8%), and appropriate form and organization of research papers (73.7%).

Based on the above data analysis from the survey, we may conclude briefly as follows:

1. Ph.D. students and their advisors

perceived very similarly in terms of needs and problems, importance of English, English proficiency of the students, and required writing tasks in English.

2. Reading and writing were more frequently used than listening and speaking to complete daily tasks.
3. Journal articles and conference papers were genres that Ph.D. students had to write most frequently. On average, they had to write a journal article and a conference paper in a semester.
4. Both the Ph.D. students and their advisors were not satisfied with the students' English proficiency.
5. With respect to writing research papers, the most problematic areas as perceived by both the students and the advisors were: appropriate expression of ideas, correct and proper use of grammar, and diction.
6. Both Ph.D. students and their advisors thought that English is very important to publishing research papers, completing Ph.D. dissertation, and developing future career in the academia.

The Case Study

The interviews with five Ph.D. students focused on the process of composing a research paper, interactions with the advisor, and writing needs and problems. Four were male students and one was female. Four of the students were in the second year of the Ph.D. program and one in the third year. Therefore, none of them had started writing their dissertation. In addition, none of them had ever studied or worked in an English-speaking country. None of them had taken English writing courses. Three of them completed their master thesis in English, two in Chinese. All of them were taking the academic writing course the researcher was teaching in the semester when the interviews were held.

1. The composing process

Three of the students had published one conference paper, but no journal articles, while the other two had not published any research paper. However, all of them had the experience of writing a master thesis or a report. When writing a research paper, three of the students started with the Introduction section, while the other two started with the Materials and Methods section. The former said that starting with the Introduction can clarify for oneself the purpose and the main ideas of one's study. Besides, they like to write in the "normal" order of a paper. Students starting with the Materials and Methods indicated that it was easier to begin with the part they were most familiar with. For all of the students, the Materials and Methods was the easiest section while the Introduction was the most difficult, because they don't know how to position one's own study in the cornucopia of past research. Furthermore, both the organization of information and the use of effective and polite language in reviewing and citing other researchers' studies and in justifying one's own study seemed challenging to the students. Four of the students would write a rough outline before writing a paper while the other one said that he would think over the major points to be included in a section before he wrote that section, though he did not write down an outline. It was also revealed that students tended to imitate sentence patterns and the use of certain vocabulary that appeared in the dissertations or research papers written by their senior doctoral students. When being asked whether they usually thought in Chinese or in English when they were writing a research paper, all of them said that as they started to write, they usually thought in Chinese and then translated the ideas into English, but as they became more experienced and felt more comfortable with writing, they would try to think in English most of the time and gradually found it not so difficult to express ideas directly in English. About revision, all of the students indicated that they usually had to revise more than once before their advisors

made corrections for them and revised again after their advisors returned the paper to them.

2. Interactions with the advisor

Generally speaking, the students met with their advisors once a week, but two students indicated that if they had some progress in research or if they were writing the results from research, they would meet with their advisors more frequently, twice or three times a week. Each meeting usually lasted half to one hour. All of the students said that their advisors gave advice not only on the technical content but on the organization and the language use in the paper. In addition, their advisors would correct their errors in English, providing correct words and sentences. All of them said their advisors asked them to improve their English, but only two said their advisors asked or encouraged them to take English writing courses.

3. Needs and problems

The four male students were moderately satisfied with their own writing ability. The female student seemed more troubled by her own writing ability. She explained that her advisor recently expressed dissatisfaction with the paper she was writing. She seemed to lose confidence in her own English writing ability. She thought her weakness in writing lay in diction and the linking of sentences. Similarly, other students thought they had more problems in the basic areas of word usage, grammar, and coherence than in the form of a research paper. In addition, all of them thought practice is the best policy. Therefore, they all expressed the need of academic English courses, especially those focusing on writing research papers. They indicated that most doctoral students were highly motivated towards improving their English writing ability since they realized the importance of English in the world of academia. On the other hand, although four of the students indicated the need of having someone correct or revise their papers, all of them realized that it was more important for them to be able to write good papers by

themselves. Finally, the students indicated the needs of academic writing courses, help in revising and editing papers, and good reference books.

To sum up, the case study revealed:

1. Chinese Ph.D. students were still novice writers of research papers in English though they may have had a lot of experience of reading research papers in their specialized field.
2. Their advisors as well as senior doctoral students in the same field played important roles in their process of writing a research paper. In particular, their advisors had regular and close interactions with them in which the advisors provided not only guidance in ideas but the revision and correction of the use of English in the paper.
3. In the writing process, Ph.D. students seemed to be troubled most by the Introduction section and least by the Materials and Methods section.
4. Students thought that they had more problems with the choice of words, grammar, and coherence.
5. As writing and publishing research papers were the main goals in Ph.D. study and future career, they were highly motivated towards improving their academic writing ability.
6. Ph.D. students expressed the needs of specific writing courses, help in editing and correcting their papers, and useful reference books

四、計畫成果自評 (Self-evaluation)

This project investigates the writing needs and problems as well as the composing process of Ph.D. students. It consists of a survey study and a case study. The combination of quantitative analysis with further qualitative clarification and explication, therefore, can provide a good picture of the issues we investigate. In addition, the comparison between Ph.D. students' perceptions with their advisors'

perceptions not only confirms the validity of the results but identifies some of the issues both the students and their advisors are more concerned with. Also, the findings can serve as guidelines for the practitioners and designers of university English programs. However, as this is only a small-scale study, the generalization of the results would be limited in a sense. In particular, all of the Ph.D. students in the sample are in the fields of electronics engineering and information science. We are not certain if students in different fields would have different perceptions towards the issues we investigate or have different needs and problems in English. Further research can be designed in the directions of implementing academic writing courses based on the specific needs and problems revealed in this study, or comparing the needs and problems of doctoral students in different fields.

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