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From need analysis to the development of web-based scholarly writing template: A
case for doctoral students in Taiwan

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Abstract

The importance of writing for scholarly purposes has increased in English as a foreign language setting these years. The purpose of the study is twofold. First, a needs analysis was conducted to determine learning difficulties encountered by Taiwanese doctoral students writing scholarly papers for publication purposes. Questionnaires were used to gather information about the needs of the students. Second, in response to the results of the need analysis, a web-based Scholarly Writing Template (SWT) was designed and developed to serve as aids to guide and assist learners' scholarly writing process. A framework for scholarly writing template was also developed to highlight important factors that contribute to the success of scholarly writing support system. Survey was conducted to evaluate learners' perception on the effectiveness of the website. The findings indicated that the responses from learners were very positive. Implications and recommendation for future research were discussed.

Keywords: Academic writing; Scholarly writing; Needs analysis; English as a foreign language; Writing instruction, Computer-assisted language learning

Introduction

The number of admission in graduate schools has increased drastically in Taiwan for the past few years in order to meet the demand of highly professional human resource from the industries. In order to make sure the quality of the graduate programs and graduates, it becomes common requirements for science-related doctoral students in Taiwan to get published in international journals (preferably journals listed under SCI,

ACM, or IEEE) before they claim for the degrees. Most of the journals listed under the above mentioned database are written in English; therefore, students not only have to demonstrate capable research skills, but also to write like a scholar in English. Thus, there is a growing demand of English proficiency, especially written skills for graduate students in Taiwan. However, unlike most graduate schools in other English speaking countries, most graduate schools in Taiwan do not set any English proficiency requirement for admission. Thus, English becomes a big challenge for most doctoral candidates due to their lack of appropriate English writing skills. Doctoral students and advisors usually suffer from students' poor English, especially on scholarly writing. For this reason, a growing number of universities in Taiwan mandate English academic writing courses for graduate students who do not demonstrate appropriate English writing proficiency and there has been an increasing interest in academic writing instruction.

Despite the popularity and importance of English scholarly writing, many questions remain unanswered for the researcher, syllabus designer, and teacher about the scholarly writing instruction. Even though there is an explosion in the number of students writing for scholarly purposes in Taiwan, there are very few accounts or research into the difficulties encountered by these students (Allison, 1998). What students need is not only how to design and carry out their research but also how to present their research in an acceptable standard of English (Allison, 1998; Rosemary, 2000). It involves not only cognitive and organizational skills but also language and even interpersonal skills (Allison, 1998). Even though Brown (1994) argues that it is the responsibility of advisors to "deliberately manage students' writing, take Taiwan's case as a example, most academic advisors in science-related field have had little experience in writing instruction and the majority of them are non-native speakers of English themselves. It is challenging for those advisors to guide students in scholarly writing. The more difficult of these questions relate to how we can offer help for students when they are engaging in scholarly writing process. Most English as a Second Language/English as a Foreign Language (ESL/EFL) teachers would agree that by just taking one or two academic writing courses usually are not sufficient to prepare students for facing complex writing process and tasks. An online support that can assist students during their scholarly writing process should be beneficial. To date, little research, if any, tries to investigate the EFL students learning needs and difficulties. Even very few studies try to explore how computer and internet can bridge the gap between learners' needs and writing support. The purpose of the study is twofold: (1) to conduct needs analysis to determine learning difficulties encountered by Taiwanese graduate students writing scholarly papers and (2) to develop a web-based scholarly writing template that addresses students' learning

difficulties and needs so that it allows students to leave the academic writing course as independent and lifelong scholarly writers in the target language.

Needs analysis

Overview

The role of a needs analysis has received much attention in English for Academic Purpose (EAP) or English for Specific Purpose (ESP) (Benesch, 1996; Ferris, 1998; Seedhouse, 1995, MORE REFERENCE). The results of a needs analysis serve as a basis for curriculum and materials design and provide guidelines on how to maintain among ideal needs, aims, and materials and what really happens in the learning setting (Benesch, 1996; Johns, 1991; Long & Crookes, 1992; Seedhouse, 1995). Cameron (1998) also mentioned that a needs analysis not only establishes a framework for curriculum designers but also provides suggestions or methods for instructors in the related context to help learners succeed in their course. The current study used surveys of opinions and attitudes to investigate the needs of the subjects in scholarly writing process. The results of the needs analysis provide a basic framework for the development of a scholarly writing support system.

Questionnaire development

A needs analysis was conducted to determine learning difficulties encountered by graduate students writing scholarly papers. Questionnaire was used to gather information about the needs of the students. The survey is a ____ items five-point Likert scale questionnaire with the following four parts. The first part is demographic information, including fields of study, year in graduate study, and experience in international and domestic journal publication. The second part focuses on academic writing difficulties in grammar, word choice, cohesion, style, punctuation, content development, organization, structure, and proofreading skills. The third part involves learners' needs for help, such as model sentences, online grammar references, automatic grammar checker, content guidelines, word choice hint, online consulting service, peer review, and writing sample for different section of research paper. The last part is an open-ended question regarding areas needed for help during academic writing process.

Overview of Scholarly Writing Support System

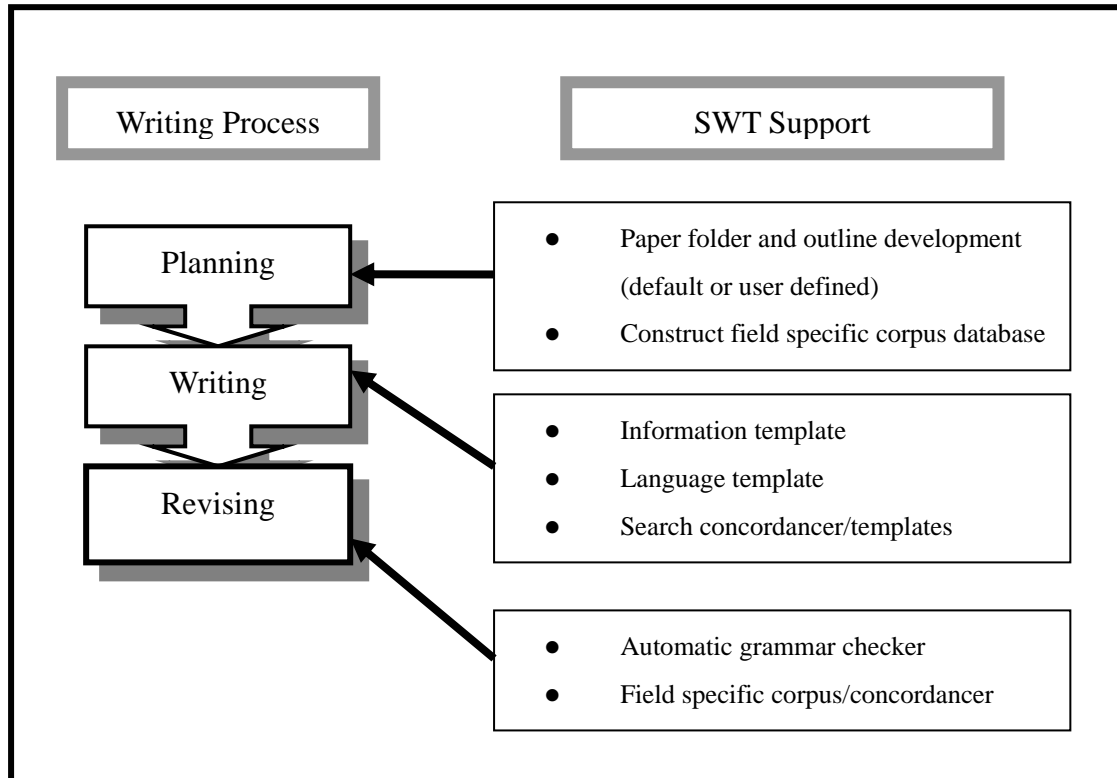


Figure 1.

In the following sections, the author highlights some unique function in SWT.

Results

Descriptive analysis of evaluation on SWSS design

No.	Question	Mean	S.D.
1.	The SWSS is beneficial for my scholarly writing.	4.39	0.59
2.	I will use the SWSS as my future scholarly writing supporting tool.	4.08	0.88
3.	Sorting language examples by field of discipline is helpful for me.	4.05	0.90
4.	The interface design of SWSS is user-friendly.	3.95	0.87
5.	The concordancer tool in the SWSS can help me find language examples.	3.92	0.94
6.	The language examples I kept on the SWSS is helpful.	3.76	0.91
7.	The display of language examples is appropriate.	3.76	0.75
8.	It is difficult for me to choose appropriate keyword to search language examples.	3.74	1.03
9.	The searching method of language examples is appropriate.	3.74	0.83

Table 2

Descriptive analysis of areas of improvement in academic writing process

No.	Degree of helpfulness in the following areas	Mean	S.D.
1.	Sentence structure	4.40	0.68
2.	Idea development	4.21	0.78
3.	Organization	4.11	0.95
4.	Prompts of section/stage information	4.05	1.00
5.	Word choice	3.95	0.70
6.	Paraphrasing	3.79	0.74
7.	Grammatical rules	3.76	0.71
8.	Punctuations	3.50	0.69

Conclusions and future projects

The current study sketches a framework of scholarly writing support system by employing a needs analysis first to understand learners' needs and difficulties in scholarly writing process and illustrated how computer can assist doctoral students to undertake scholarly writing. Further study should be conducted by using empirical approach to investigate if a writing template system like this can significantly enhance learners' scholarly writing abilities and in what aspects. Also, it would be interesting to investigate qualitatively how learners integrate and make use of the SWT in the process of scholarly writing and what factors may influence their use and approaches in the process.

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