

## IMPROVING STUDENTS' CHINESE WRITING ABILITIES IN TAIWAN WITH THE "CONDITIONED WRITING SYSTEM"

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### ABSTRACT

This research investigates students' performance while writing Chinese essays using an interactive online writing system. Participants include students from two seventh-grade classes of a junior high school in Taoyuan County, Taiwan. The experimental group uses the conditioned writing interactive online system, while the control group receives traditional paper-and-pencil writing instruction. Findings show that this writing system makes a significant difference in students' writing performance in the areas of "argumentation" and "organization and structure", two essential elements of Chinese essay writing. This study proposes practical applications of the online interactive writing system for junior high school students' Chinese essay writing.

**Keywords:** Conditioned Writing; Computer-Assisted Writing; Online Writing System.

### INTRODUCTION

This study examines students' Chinese essay writing performance by utilising an online interactive system based on the "conditioned writing" approach. "Conditioned writing" is a new approach for teaching Chinese essay writing developed by Chen, head of the "National Examination Chinese Subject Project Taskforce" in Taiwan (Chen, 2002). Chou (2005) explains conditioned writing approach:

"[It] provides explicit instructions to the students for composing a Chinese essay. It clearly outlines requirements and helps students to a particular direction for the target performance. Therefore, it works better than simply guided writing for focusing on specific writing skills; it helps students to upgrade their overall writing skills more effectively."

Professional and academic pursuits owe a great part of their success to writing performance (Cho & Schunn, 2007). Consequently, Chinese essay writing is an important part of Chinese language learning. Since 2001 the basic competence test in Taiwan, the junior high school Chinese language test has abandoned the writing element and includes only multiple-choice questions. As subject examinations continue to lead teaching and learning in Taiwan, Chinese essay writing is no longer valued, and the skills of junior high school students are gradually deteriorating. According to the news about Taiwan's national exam in 2009, 7,884 of 310 thousand students get "zero" in Chinese writing test. The amount of students who get "zero" in 2009 is much more than in 2008, and almost thousands of students plus than before. (Jiang, Y., 2009)

Chen (2006) claims that the cancellation of the Chinese essay writing test and the rapid development of high-tech media have progressively undermined students' reading and critical thinking abilities and their grasp of Chinese language. This situation also occurs in the United States, where several documents report the decline of writing skills among American students, and students show limited success with writing tasks involving higher-order thinking and reasoning (Lohr, Ross & Morrison, 1996; Walton, 1990). The influence of cyber-speak further contributes to the degeneration of students' language skills. Writing is a basic communication skill of all citizens. It is also a fundamental tool for the study of all other subjects (Huang, 2001) and a means to further learning, thinking, and discovery (Emig, 1977). There is also a view that high tech media can also be a beneficial revolution to language and writing development. (Crystal, David, 1999)

The Internet can free students from the limits of time and space. Network technology and communication media thrive in an information society. Students can instantly and conveniently obtain the information they need while writing and receive feedback and different perspectives for mutual communication, discussion and interaction. As a result, students can experience a new way to practise writing (Yang & Chan, 2008). In recent years, Web-based educational systems have contributed to the emergence of new research and development to prepare highly qualified teacher candidates (Calandra, Lai & Sun, 2004).

A study by Ligorio, Talamo, & Pontecorvo (2005), for example, notes that an interactive mode motivates students to write. Similarly, Jang (2008) reports that the integration of writing and network technology benefits knowledge construction. Vilmi & Malmi (1996) also indicate that students could learn better by creating, writing, and playing games. In their study, participants found that learning language with computers is exciting and worthwhile. Finally, Lohr, Ross & Morrison (1996) explain that the success of the hypertext-writing environment relates to teachers and students' perceptions of its efficiency.

### **PURPOSE**

This research is located in Taiwan and its purpose is to investigate students' Chinese essay writing performance under two different conditions. In both conditions, students are under instruction of conditioned writing approach. The main differences between two groups are the access way to online interactive system during writing phase. Control group has to complete the writing task using a traditional paper-and pencil format under instruction, whereas the experiment group access the conditioned writing instruction through an online interactive system, which provides reference links and timely feedback for students' writing—resources that are not as feasible in traditional paper-and-pencil formats.

This study explores whether the online interactive system would assist students with Chinese essay writing and influence students' writing performance or not. The convenience of computer networks may help students retain better control of their writing process and reflect on their work. This will encourage students to have something to say when they need to express themselves rather than just stringing words together for the sake of saying something.

### **Conditioned Writing: A New Approach to Teaching Chinese Essay Writing**

This study employs conditioned writing to enhance Chinese essay writing skills. Chou (2005) explains that conditioned writing is one of the new approaches to teaching Chinese essay writing. It differs from guided writing in explaining questions by both directions and conditions for instruction. This approach can use on to focusing on one or more important writing skills and it requires students to respond accordingly. Details and specific guidance is offers for systematic practices, making it possible for students to develop their writing skills steadily. The style of questions designs for conditioned writing draws students' attention to writing effectively.

Chou (2005) claims traditional essay writing about a single subject only focuses on the result. The requirements of traditional essay writing are very difficult for students of limits abilities. In contrast, by combining sample reading and writing, conditioned writing can help students develop their Chinese essay writing abilities progressively, from phrases to sentences and from paragraphs to the entire essay. M. M. Chen (1994) takes "sample" as a best model and guidance for students to read and write, and to learn vocabulary, interpretation to the title, material selection, and structure arrangement. Conditioned writing instructions are more suitable and effective than traditional guided writing.

This study adopts the cognitive process theory of writing, presents by Flower & Hayes (1981). The emphasis in this research is on how to instruct students using the conditioned writing approach during the various processes of writing, such as planning, translating, reviewing, and monitoring. This research also assumes that students' Chinese essay writing skills would be enhanced by embedding conditioned writing into the process of writing, offering students a greater sense of achievement from essay writing.

### **Three Essential Elements of Chinese Essay Writing Performance**

This study recognizes three essential standards of Chinese essay writing performance, based on the research of Tseng (2007). She proposes four main categories of Chinese essay writing assessment standards, such as argumentation, text organization and its structure, Chinese language use, accuracy of Chinese character writing, format, and punctuation. Three of these standards are identified as the essential elements of Chinese essay writing, according to the evaluation below.

1. **Argumentation:** Use of genre features, compliance with the topic and specific presentation of

- author's argument and viewpoints
- 2. **Text Organization and Structure:** Overall text organization and structure, consistency, and depth of the materials
- 3. **Chinese Language Use:** Word choice, sentence structure, and accuracy

These essential elements of Chinese essay writing are similar to a major scoring protocol for writing identified by Englert, Yong, Dunsmore, Collings, & Wolbers (2007). The scoring protocol is based upon one originally developed by Englert (2003). The overall holistic quality of a personal narrative essay is evaluated on a scale from 0-3 points, where 3 = proficient; 2 = developing; 1 = emerging; 0 = undeveloped. It is according to the primary trait rubric for proficient writing (a score of 3), shown below (Englert et al., 2007):

1. **Introduction to the paper's topic:** Clear introduction to the topic, purpose, and structure in a well-defined sentence that launches the topic in a general way and stages the details that follow
2. **Introduction to the Category:**
  - 2.1 Introduction to the paper's subtopics and categories
  - 2.2 Clear and consistent introduction to all categories
  - 2.3 Details adhere to the specific topic sentence or main idea
3. **Depth of Categories:**
  - 3.1 Adequate depth of sub-topical coverage through the inclusion of relevant details
  - 3.2 Details are connects and consecutive and link to categories in clear terms
  - 3.3 Main ideas are solidly backs with sufficient evidence
4. **Breadth of categories:**
  - 4.1 Breadth of content coverage through the inclusion of several subtopics that are fairly well developed
  - 4.2 Covers nearly all primary categories to provide coherent, complete information
  - 4.3 Clear and details sub-topical coverage
  - 4.4 No obvious gaps or extraneous categories
5. **Conclusion:** Clearly states conclusion that wraps up the sub-topical presentation and returns to the original topic
6. **Overall organization:** Includes all three parts of paper, including an introduction to topic, body of paper with 2-3 related details, and conclusion

Although the conventions of Chinese essay writing differs from Western essay writing, the criteria of good work, to some extent, are analogous. For instance, overall organization, argumentation and writing conventions are the assessment standards for writing good papers. This study identifies "argumentation, organization, and language use" as the essential elements of Chinese essay writing performance and designs a "Conditioned Writing-Based" (abbreviated as "CWB" latter in the article) online interactive system for seventh-grade students.

### **The Influence of Computer Networks and Technology on Writing**

Computer networks have plays an instrumental role in the teaching and learning of essay writing. Kulik (1999) claims that using computer-based instruction programs could raise student examination scores by 0.30 standard deviations significantly, and it also produces small but positive changes in student attitudes toward teaching. Studies have proven that writing practice through computer networks is more effective than conventional paper-and-pencil practice. Liu, Moore, Graham & Lee (2003) find that the computer is an efficient tool in helping pupils with language studies. Snyder (1994) notes that when students write with a computer, the teacher can more easily function as a facilitator, allowing students to be more independent. Suhonen (2006) recommends a book for teachers about using common technology to support everyday teaching activities. It gives practical ideas to instructors for enhancing their teaching with technology.

Good instruction and direction are needs to help students to experience effective network-based learning. Nancy (2006) confirms that the Internet could offer students more assistance with writing, especially when instruction from teachers is added. The convenience of computer networks enables students to search for answers and receive timely feedback as they practise writing in their own style. Lan, Hung & Hsu (2011) teaches younger students Chinese writing through web-based environment, and find that providing a learning system with high richness media online could improve their motivation and guide them to write more positively.

Yang, Ko & Chung (2005) claim that elementary students' writing performance is significantly enhanced by an interactive online writing system that includes peer review, topical prompts and comments from readers. Even without specific teaching activities, their study indicates that challenging subjects, mutual evaluation mechanisms and the frequency of writing on the computer network are important factors to improve students'

Chinese essay writing performance.

Englert et al. (2007) also observe that Web-assists writing gave students three advantages.

1. Students are able to look up words in the online dictionary.
2. The computer has an automatic correction function that helps students to spot questionable words and phrases.
3. By engaging students in Web-assists writing, the teacher can give students timely feedback on their work.

Students' writing performance shows significant improvement with the use of Web-assists writing practices. Goldberg, Russell & Cook's (2003) study indicates that students tend to write more and correct their work better when writing with a computer. The writing ability of students—especially less skilful students—progresses remarkably. Kuteeva (2010) uses "wiki" to teach writing, and the results indicate that wiki for writing activities causes students more concentrate on grammar correctness, structural coherence and being aware of "audience" in writing. Englert et al. (2007) employ Web-assists writing with a structural framework that allows flexible organization to help students connect their thoughts and free them from the constraints of memory, thereby enhancing students' organizational ability.

With better programming for teaching and learning, good instruction can be very effective. This study takes advantage of networking technology and the Internet's freedom from time and space to give writing instructions through interactive guidance, thereby providing students with real-time interaction and feedback during the writing process. This setup makes it easier for students to revise their work and gives their work a more presentable appearance. The design gives students helpful reference information through hyperlinks to outside resources, so students are no longer confined to the setup of the page (Hsieh and Liu, 2008).

This study integrates Internet-based technology into the approach of conditioned writing for the teaching and learning of Chinese essay composition. Hence, this study constructs a CWB online interactive system to give students guided questions and progressive practice. Through the program, they receive feedback on their work and use the system to review the work of their peers. The flexibility of the system design enhances students' performance. Consequently, the educational function of the writing program is maximized to make writing instruction more effective.

**THE STUDY**

**Participants.** Students (total=67, age: 7th grade) were drawn from two classes of a junior high school in Taoyuan County in Taiwan. They were divided into experimental group (n=32) and control group (n=35), see [Table 1].

Table 1: Grouping of participants.

Type of Group	Conditions	Number of participants	Gender of participants
Experimental group	online interactive system	32	male: 15 female: 17
Control group	traditional paper-and-pencil print formats	35	male: 18 female: 17

**Study design.** This quasi-experimental study investigates the differences in students' Chinese essay writing performance under two conditions. One group completes writing tasks using a traditional paper-and-pencil print format with conditioned writing instructions. The other group accesses the Internet through the CWB online interactive system. To test the level of the participants' Chinese essay writing skills, a pre-test is conducted on the three dimensions of the assessment standard: argumentation, text organization and structure, and language use. (The material and content of the pre-test will be fully explained in a later section.) The formal experiment continues for ten consecutive weeks. The participants of both groups then took a post-test upon completion of the writing program.

To identify the influences on students' essay writing performance while integrating with the CWB online interactive system, different instructional modes are adopted as independent variables. Control variables that had no bearing on the outcome of the experiment are also taken into account. Changes in students' writing performance are included as dependent variables, see [Figure 1].

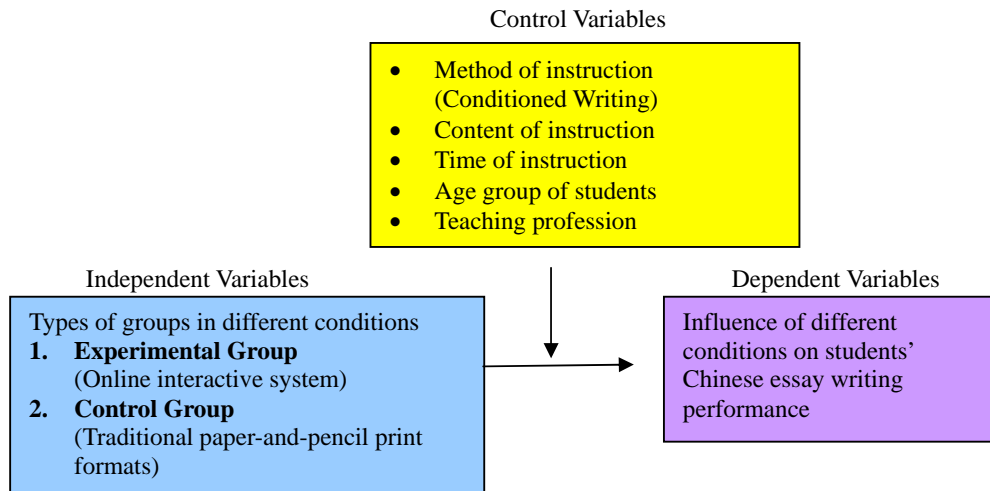


Figure 1: Study design, illustrated

**Writing test sheets for pre-test and post-test.** Writing sheets are designs for the pre-test and post-test to collect data on students' Chinese essay writing performance under the three assessment standards. Students of both groups are asked to take the writing test during one 45-minute class session. The teacher and students in the CWB interactive system group follow the same instructions and writing process as the control group. The students in the experimental group are familiar with the navigation of the CWB browser, so they did not require additional time to write their essays. The time is not a deciding factor because students participate in the same activities across both groups.

The content of the writing pre-test and post-test are different in terms of content but at the same difficulty level. The writing topics and examination questions of the post-test are topics that students had not encountered in the pre-test or during the experiment so that students would not be affected by prior practices. This formulation of test sheets allows the collection of valid data. This data is assessed after the quasi-experiment to determine whether the CWB interactive system results in a significant difference between the groups in terms of student performance.

**Rubric for Chinese essay writing assessment.** The rubric for Chinese essay writing assessment in this study includes 20 elements, which is divided into three major areas. Elements 1-8, Argumentation, focuses on students' ability to address the main issue and select appropriate materials to express the main idea. Elements 9-14, "organization," focuses on students' ability to write a coherent, well-organized essay. Elements 15-20, "language use," focuses on students' ability to use the Chinese language accurately and effectively to write sentences.

The overall quality of the papers is evaluated on a scale from 1-5 points (based on the three essential elements of good papers), where 5 = very good, 4 = good, 3 = fair, 2 = poor, and 1 = very poor.

Because the rubric is verified by Chinese literature experts to ensure its validity, the scorer could objectively rate pre-test and post-test writing according to the standards of Chinese essay writing assessments.

#### **CWB online interactive writing system.**

The CWB online interactive system is designed for the students in the experimental group. It is called "May's Writing Meadow," after its creator. On the left menu bar, the first section, "Writing Garden," is where Chinese essay writing activities took place. Students need to become members to participate in the practice.

#### **Site content**

1. *Page of "Writing Garden:"* This Web site had two subsections: "Writing Principles and Evaluation Standards of Basic Competence Test for Junior High School Students in Taiwan" and "Writing Practice Zone," see [Figure 2].

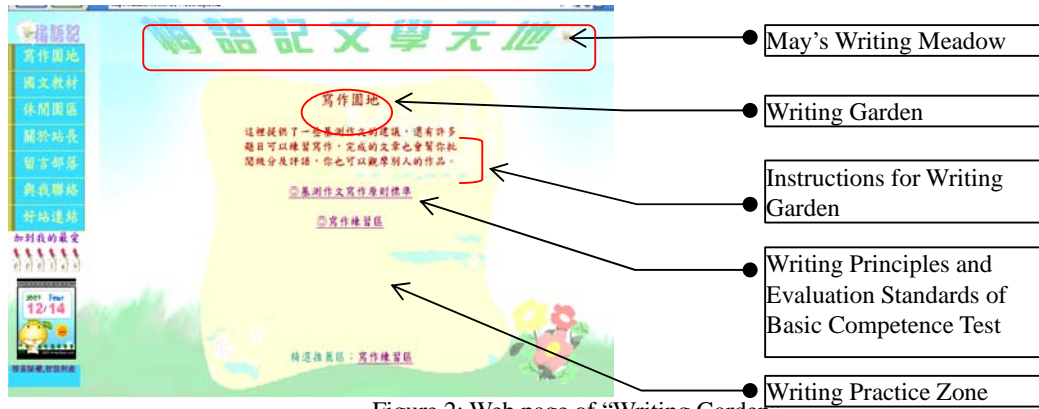


Figure 2: Web page of “Writing Garden”

2. **Writing practice zone:** This is where interactive questions for conditioned writing are given. Students are required to enter their account number and password before entering the Writing Practice Zone or changing their account information.
3. **Writing exercises:** Upon entering the Writing Practice Zone, students see a list of the writing exercises, divided into five units of question sets.
4. **Curriculum for writing exercise in writing practice zone:** This study utilizes the approach of “conditioned writing” to design question sets for interactive instructions. Following the integrate design, effective instructional interaction and guidance is used to gradually guide students through the writing process. As mentions earlier, “argumentation,” “text organization and structure” and “language use” are identified as the target assessment standards in this study, see [Table 2].

Table 2: The curriculum for the writing practice zone

Writing Practice Zone					
Duration	Category of Writing Exercises	CWB Question Sets		Target Standards for Essay Performance	Assessment for Chinese Writing
		Basic Guidance	Advanced Guidance		
Week 1-2	Writing Exercise I	2	6	<ul style="list-style-type: none"> <li>• Argumentation</li> <li>• Text organization and structure</li> <li>• Language Use</li> </ul>	
Week 3-4	Writing Exercise II	1	6		
Week 5-6	Writing Exercise III	1	4		
Week 7-8	Writing Exercise IV	1	5		
Week 9-10	Writing Exercise V	1	5		

- 4.1 *Each writing exercise is conducts for two weeks during the ten-week experiment:* one week for students to complete the writing exercise, and one week for teachers to rate the writing. After a brief introduction from the teacher, the question sets in each writing exercise are assigns to students to complete in sequence; that is, students finish a complete piece of writing for each exercise.
5. **The first page of instructions for the writing exercise:** The first page presents two sections of instructions, basic guidance and advanced guidance, with questions designs according to the conditioned writing approach. Students could write ideas about their chosen topic and form a plan for the text using the cognitive process theory of writing (Flower & Hayes, 1981), see [Figure 3].

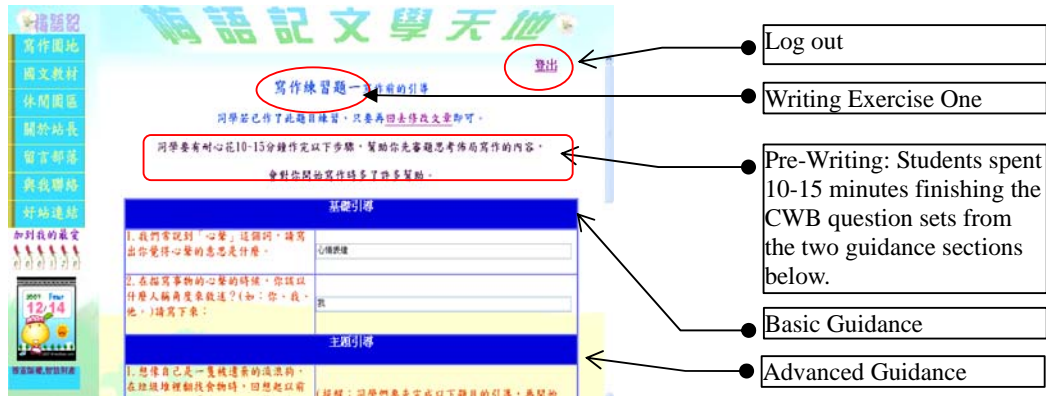


Figure 3: The first page of institutions for the writing exercise.

6. **The second page of instructions for the writing exercise:** After using words, phrases and sentences to answer the questions from the two guidance sections, students began their writing based on the topic. If they became stuck, they could access tips and references provided by a Chinese writing expert in the bottom right column. Thus, students could progress to “translating” and “reviewing” in the cognitive process theory of writing (Flower & Hayes, 1981), see [Figure 4].

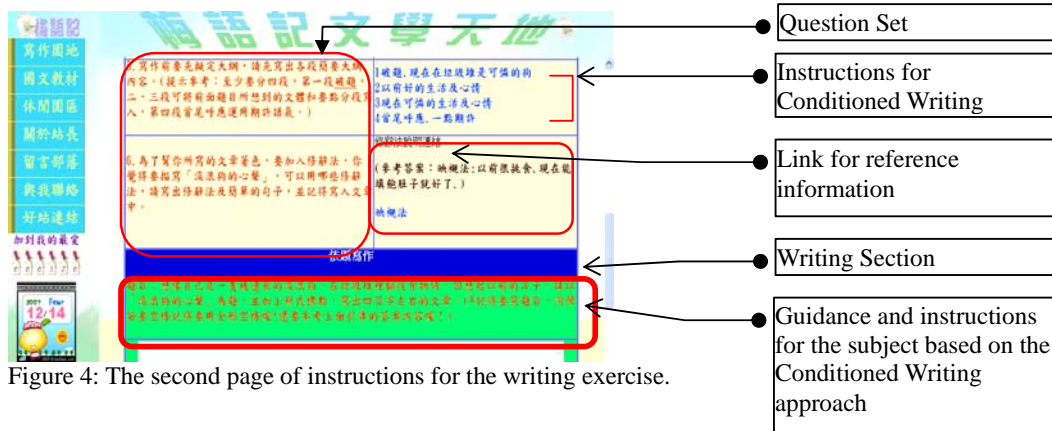


Figure 4: The second page of instructions for the writing exercise.

7. **The Completion Page of the Writing Exercise:** After completion, students click a button to view their own work on the Web page, see [Figure 5].

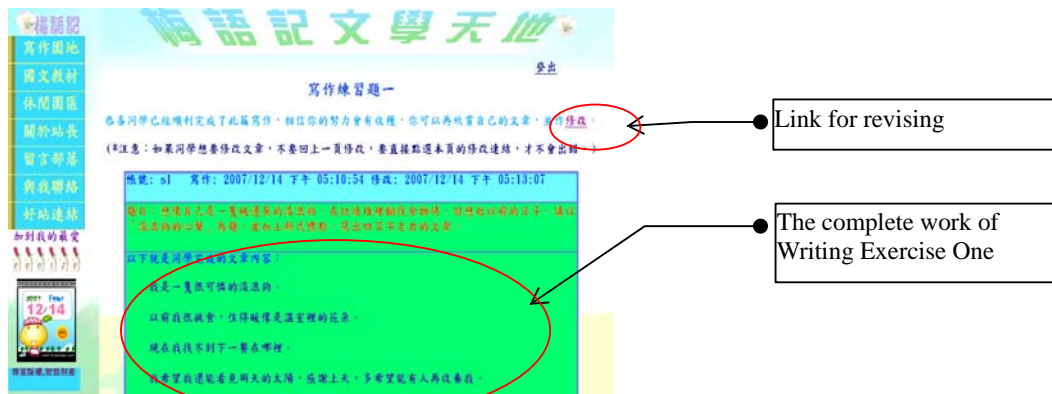


Figure 5: Completion page of writing exercise.

8. **The Web Page for Revision:** This Web page provides students with a link to revise and proofread their own work. The convenience of Internet technology allows students to reread for new ideas or to evaluate and revise the physical text in the “reviewing” stage of the cognitive process theory of writing (Flower & Hayes, 1981), see [Figure 6].

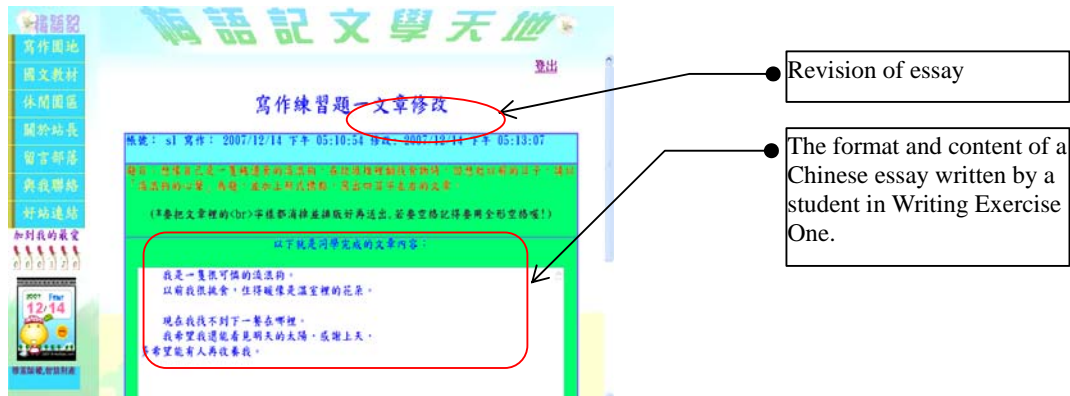


Figure 6: Web page for revision

## RESULTS

After the pilot study, there is a high correlation between the writing test sheet of the pretest and post-test. The Pearson product-moment correlation value of the total score is .997, and the significance is  $.000 < .05$ . In “argumentation,” “organization” and “language use,” the correlation is also significant, meaning that the content of the writing test sheets in the pretest and post-test are significantly correlated. Therefore, the writing test sheets could be used reliably in the pretest and post-test of this study.

**The scores of two groups of students in the pre-test and post-test.** From the pretest to the post-test, the scores of students in the two groups, processed by an independent sample *t*-test, are significantly different. As shown in Table A.4 (below), prior to the experiment the *t*-value of the pretest score of both the experimental group and the control group in “argumentation” is 1.278 and the *p*-value is  $.206 > .05$ , which did not indicate a significant difference. Furthermore, no significant difference is found for “organization” and “language use.” According to the statistical analysis of the scores, there is no significant difference between the pretest scores of the two groups of students in “argumentation,” “organization” and “language use.”

Table 4: the scores of students’ Chinese essay writing performance

Major Dimensions	Protest/ Post-test	Group	Numbers		Mean	SD	<i>t</i>	Significance
			of	Students				
Argumentation	Protest	Experiment	32	24.00	4.635	-1.278	.206	
		Control	35	22.43	5.359			
	Post-test	Experiment	32	28.44	4.899	-4.675	.000***	
		Control	35	21.97	6.266			
Organization	Protest	Experiment	32	18.06	3.636	-1.686	.097	
		Control	35	16.49	3.988			
	Post-test	Experiment	32	20.59	3.500	-4.302	.000***	
		Control	35	16.20	4.708			
Language Use	Protest	Experiment	32	18.22	3.358	-1.289	.202	
		Control	35	17.03	4.119			
	Post-test	Experiment	32	18.53	3.818	-1.630	.108	
		Control	35	16.80	4.770			

\*\*\*  $p < 0.001$

As shown in Table A.4, the *t*-value after the experiment in the area of “argumentation” is 4.675 and the *p*-value is  $.000 < .05$ , indicating a significant difference. The *t*-value in “organization” is 4.302 and the *p*-value is  $.000 < .05$ , also indicating a significant difference. However, the *t*-value in “language use” is 1.630 and the *p*-value is  $.108 > .05$ , indicating no significant difference.

Based on this statistical analysis result, the experimental group writing with the CWB online interactive system shows a significant difference in “argumentation” and “organization” but no significant difference in “language use.” The three dimensions are discussed as 5.1 to 5.3.



## DISCUSSION

**Discussion of the result of “argumentation.”** The experimental group shows significant improvement in “argumentation” on the post-test, see [Table 4]. Using the online interactive system together with the “conditioned writing” question sets may help students with pre-writing thinking, so the “planning” stage of the cognitive process theory of writing (Flower & Hayes, 1981) is more comprehensive. This system offers assistance while students think and try to answer the questions.

When the writing is completed, students who use the CWB online interactive system receive timely feedback from the teacher, including scores and suggestions for revision. As the students continuously revise their work, the teacher simultaneously offers suggestions. The pace of the interaction is faster, and students receive direct feedback on the mistakes they made in argumentation. Revising writing on the computer is also more expedient, so students did not easily tire of the task. They had more opportunities to practise argumentation in the revising process. Even when both groups receive instruction through the conditioned writing approach, students in the experimental group tend to be more attentive to the “planning,” “translation” and “reviewing” stages in the cognitive theory process of writing (Flower & Hayes, 1981) while working on the interactive system with timely feedback. This advantage came from the convenience of computer typing and from online communication with the teacher. From the logging record in the “Writing Garden” section, it could be inferred that students care about the scores and comments given by the teacher.

**Discussion of the result of “organization.”** The experimental group shows more progress in the post-test in the area of organization, see [Table 4]. Students are able to spend more time on conceptualisation and arrangement of the structure of their writing. They could also more effectively revise it based on the teacher’s suggestions. With the online interactive system, students are able to make drastic revisions to sentences and are no longer bound by the space of the writing sheet. This process increases the number of revisions, and students’ ability to organise their works is significantly enhanced.

**Discussion of the Result of “Language Use.”** There is no significant difference between the two groups of students in language use, see [Table 4]. This phenomenon could be ascribed to the fact that it takes time to develop language ability, and reading is required to produce an effect. In just ten weeks, therefore, it is not possible to show a significant difference between the two groups of students. Both groups improve their ability to handle “language use” in the course of practice, but more time would be needed before significant results could be seen.

Based on the results of the pre-test and post-test, the average score of the post-test among the control group decreases and the standard deviation increases. During its limited duration, this study found that the traditional paper-and-pencil writing class is more helpful for those who already knew how to write well. For students of limited writing skills, it is not as useful. The difference could be perhaps ascribed to the process of interaction and modification, as well as writing through a CWB online interactive system.

**Total scores of the two groups and their discussion.** The dimensions of the scoring rubric include “Argumentation,” “Organization” and “Language Use.” Adding the scores of these three dimensions produces the total score. This study found the difference in total score between the two groups of students to determine their progress in Chinese essay writing, see [Table 5].

Table 5: Independent sample t-test of the total scores.

Rubric Score	Pretest/ Post-test	Group	Number of Students	Mean	SD	<i>t</i>	Significance
Total Score	Pretest	Experiment	32	60.28	11.312	1.476	.145
		Control	35	55.94	12.630		
	Post-test	Experiment	32	67.56	11.427	3.798	.000***
		Control	35	54.97	15.234		

\*\*\*  $p < 0.001$

As shown in Table A.5, the statistical analysis of the scores during the writing pre-test of the experimental group (in the CWB online interactive system) and the control group (in the traditional paper-and-pencil method) shows that the *t*-value is 1.476 and the *p*-value is .145 > .05, indicating a lack of significant difference. Statistical analysis of the scores in the post-test of the experimental group and control group shows that the *t*-value is 3.798 and the *p*-value is .000 < .05, indicating a significant difference. Therefore, it is evident that the experimental group experiences significantly more progress than the control group in essay writing performance.

The results of the experiments shows that students who wrote using the CWB interactive system made better overall progress than students who wrote using the traditional paper-and-pencil method. This indicates that the CWB online system with question sets for guidance could indeed influence students' performance in Chinese essay writing. The CWB online interactive writing system provides effective assistance for students during the "planning," "translating" and "reviewing" stages of the cognitive process theory of writing (Flower & Hayes, 1981).

With the conditioned writing question sets, students are encouraged to think comprehensively when "planning" the writing process and had timely access to assistance resources. When students proceeds to the "translating" part of the writing process, answers to the question sets helps them organise content. After completing the article, students who use the CWB online interactive system receive timely feedback from the teacher during the "reviewing" stage of the writing process. The teacher's suggestions enhance students' grasp of the key issue of the article and allows them to correctly revise the organization of their work. Because students want to present good work to their peers, they are more careful about the quality of their work. Through these factors, the overall performance of the experimental group is improved.

### CONCLUSIONS

According to National Exam Center in Taiwan, data shows students' Chinese essay writing performance is getting down quickly in recent years. (Jiang, 2009) Even though, writing proficiency is an indispensable part of Chinese language learning. Students' writing performance suffers because they lack reading and writing training. The Internet also exposes them to the adverse influence of cyber-speak, making their writing increasingly difficult to comprehend. Understanding these causes, we begin to seek solutions. This study takes full advantage of the convenience of information technology by offering writing instruction through an online interactive system, but more appropriate guidance still needs to be adds to the teaching process. This study designs "conditioned writing" question sets to guide students and explore the influence of this interactive writing system on students' Chinese essay writing performance.

Lai & Calandra (2009) indicate that the use of computer-based support enhances participants' reflective writing experience. Their study had positive quantitative and qualitative results. In this study, students are divided in two groups: the experimental group, which wrote using the CWB online interactive writing system, and the control group, which wrote using a traditional paper-and-pencil format. The experiment for ten-tee involves five CWB writing exercises with question sets, each covering "argumentation," "organization" and "language use," the three essential elements of Chinese essay writing performance. Research findings indicate that students who use the combination of the CWB writing exercise with question sets and interaction during the writing process made more significant progress than students who receive the traditional paper-and-pencil writing instruction. The improvement of students in the experimental group in "argumentation" and "organization" is obvious, indicating that the CWB online interactive system is an excellent way for students to improve their writing performance.

An online interactive system frees writing instruction from the constraints of time and space. Students with access to the Internet can utilise the writing system for practise and can use the instructions and assistance links. Moreover, following completion of their work they benefit from convenient interaction with instructors and peers. Timely feedback allows them to revise according to the teacher's comments. Because their work is on display to their peers, students are also motivated to write better.

An online interactive writing system involves posting question sets on the Web site as well as guiding students through the process of writing to assist them in the "planning" stage of the cognitive process theory of writing (Flower & Hayes, 1981). Therefore, suitable question sets are required for effective guidance. To improve students' writing performance, they must be allows to practise progressively to give them a sense of achievement and the confidence and motivation to write.

Offering writing instruction through the CWB online interactive writing system is different from writing on the Internet. Even though writing on the Internet involves similar online display and discussion functions, these functions are insufficient to encourage students to complete writing tasks systematically, to think independently, to complete an essay in response to topical questions, and to revise their work. This is where the CWB online interactive writing system can be beneficial.

### REFERENCES

- Calandra, B., Lai, G., & Sun, Y. (2004). *TEPSS: Initial steps in the design of electronic support for novice teachers*. In M. Simonson & M. Crawford (Eds.), *Selects papers from the 2004 national convention of the Association for Educational Communications and Technology*. Chicago, IL.

- Chen, M.M. (1994). *Guidelines toward Teaching Essay Writings for Teachers*. Wan-Guen-Low Publication. ISBN: 9789577391230.
- Chen, R.T. (2006). Understanding of and Strategy for Effective Writing Education for High School Students. *Educator's Monthly*, 473, 68-72.
- Cho, K. & Schunn, C. D. (2007). Scaffolds writing and rewriting in the discipline: A Web-bass reciprocal peer review system. *Computers & Education*, 48(3), 409-426.
- Chou, S.P. (2005). *Theory and Application of Restricts Writing*. Taipei: Wanjuan.
- Crystal, David. (1999). Interlanguage on the Internet. *The Hong Kong Linguist*. [On-line] 19(20), 12-15. Retrieved from: [http://www.davidcrystal.com/DC\\_articles/Internet5.pdf](http://www.davidcrystal.com/DC_articles/Internet5.pdf)
- Emig, J. (1977). Writing as a Mode of Learning. *College Composition and communication*, 28, 122-127.
- Englert, C. S., Yong, Z., Dunsmore, K., Collings, N. Y., & Wolbers, K. (2007). Scaffolding the Writing of Students with Disabilities through Procedural Facilitation: Using an Internet-bass Technology to Improve Performance. *Learning Disability Quarterly*, 30 (1), 9-29.
- Goldberg, A., Russell, M., & Cook, A. (2003). The Effect of Computers on Student Writing: A Meta-analysis of Studies from 1992 to 2000. *The Journal of Technology, Learning, and Assessment*, 2(1), 1-52.
- Hsieh, S. M. & Liu, Y. C. (2008). Study and Design of Interactive Writing Website. *National Education*, 48 (3), 74-83.
- Huang, C.K. (2001). Writing Education and Thought Training. *Newsletter for Teaching the Humanities and Social Sciences*, 12 (4), 51-59.
- Jang, S. J. (2008). The effects of integrating technology, observation and writing into a teacher education method course. *Computers & Education*, 50(3), 906-914.
- Jiang, Y. (2009). News: Zero Writings; Typo Error in Article Title. UDN News in Taiwan. [On-line] Retrieved 2009/06/03 from: [http://mag.udn.com/mag/campus/storypage.jsp?f\\_ART\\_ID=197287](http://mag.udn.com/mag/campus/storypage.jsp?f_ART_ID=197287)
- Ke, H. W. (2004). Study of Writing Scoring Standard. *Chinese Education Study*, 1 (2), 15-32.
- Kulik, Chen-Lin C. & Kulik, James A. (1999). Effectiveness of computer-based instruction: An updated analysis. *Computers in Human Behavior*, [On-line] 7(1-2), 75-94. Retrieved 2002/9/4 from <http://www.sciencedirect.com/science/article/pii/0747563291900305>
- Kuteeva, M. (2010). Wikis and academic writing: Changing the writer-reader relationship. *English for Specific Purposes*, 30(1), 44-57.
- Lai, G., & Calandra, B. (2009). Using online scaffolds to enhance preservice teachers' reflective journal writing: A qualitative analysis. *International Journal of Technology in Teaching and Learning*, 3(3), 66-81.
- Lan, Y. F., Hung, C. L., & Hsu, H. J. (2011) Effects of Guided Writing Strategies on Students' Writing Attitudes Based on Media Richness Theory. *TOJET: The Turkish Online Journal of Educational Technology*, 10(4), 148-164. Retrieved 2012/3/2 from <http://www.tojet.net/articles/v10i4/10415.pdf>
- Ligorio, M. B., Talamo, A. & Pontecorvo, C. (2005). Building intersubjectivity at a distance during the collaborative writing of fairytales. *Computers & Education*, 45(3), 357-374.
- Liu, M., Moore, Z., Graham, L., & Lee, S. (2003). A look at the research on computer-bass technology use in second language learning: A review of the literature from 1990-2000. *Journal of Research on Technology in Education*, 34(3), 250-273.
- Lohr, L., Ross, S. M. & Morrison, G. R. (1996) Using a Hypertext Environment for Teaching Process Writing: An Evaluation Study of Three Student Groups. *ETR&D*, 44(3).
- Nancy, P. (2006). Computers and Writing: the Research Says Yes! *Voices from the Middle*, 13(4), 64-69.
- Snyder, I. A. (1994). Re-inventing Writing with Computers. *Australian Journal of Language and Literacy*, 77(3), 182-197.
- Suhonen, J. (2006). Book review: Using Technology in Teaching (William Clyde and Andrew Delohery). *Educational Technology & Society*, 9(2), 235-237.
- Tseng, F.L. (2007). *Basic Competence Test Writing Test Scoring Mechanism and Score Utilization*. National Taipei University of Education Graduate School of Curriculum and Instruction Chinese Language Learning Achievement Examination and Assessment Forum Series (III).
- Vilmi, R. & Malmi, L. (1996). Learning English by Creating, Writing and Playing WWW Adventure Games. *ETR&D*, 44(3).
- Walton, C. (1990). *Critical thinking and "the nation's report card": 1990 reflections*. Las Vegas, NV: Walton.
- Yang, J. C. & Chung, I. L. (2005). Web-bass interactive writing environment: Development and evaluation. *Educational Technology & Society*, 8(2), 214-229.
- Yang, Y. T. C. & Chan, C. Y. (2008). Comprehensive evaluation criteria for English learning websites using expert validity surveys. *Computers & Education*, 51(1), 403-422.

Appendix

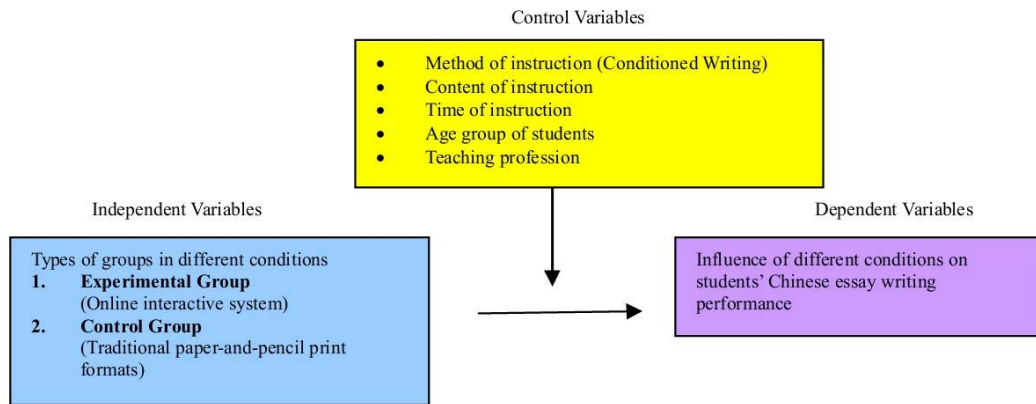


Figure 1.

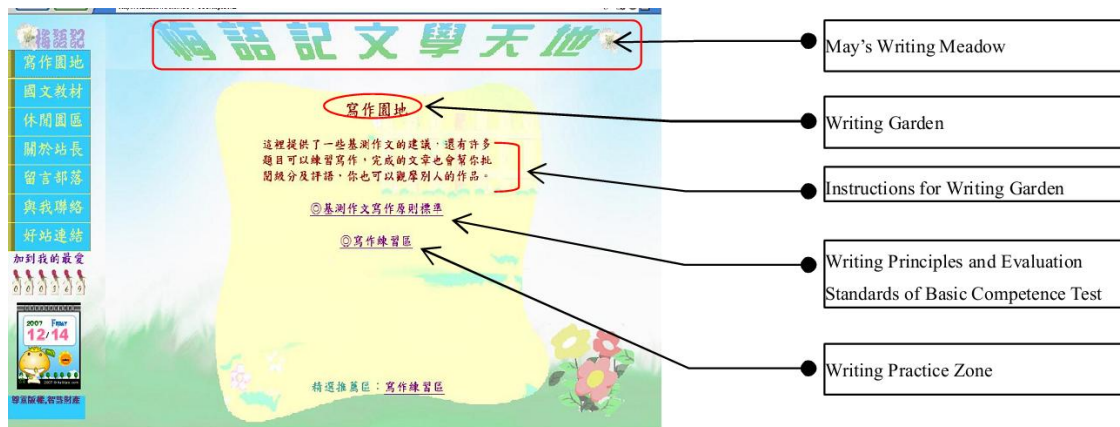


Figure 2.



Figure 3.

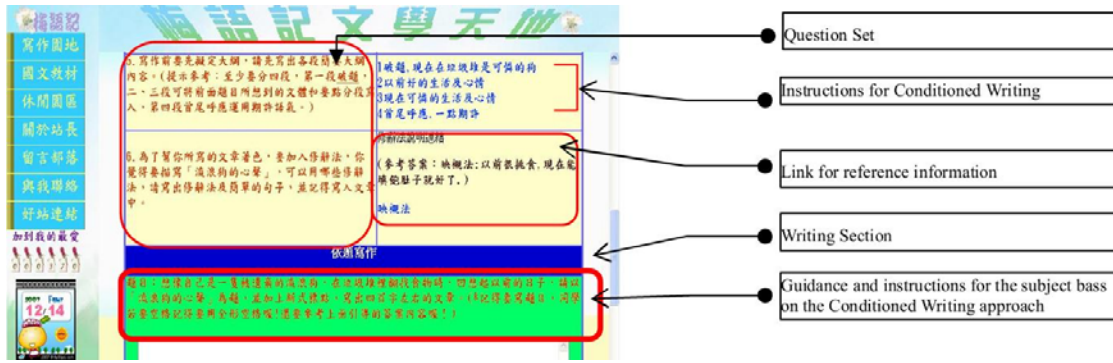


Figure 4.



Figure 5.

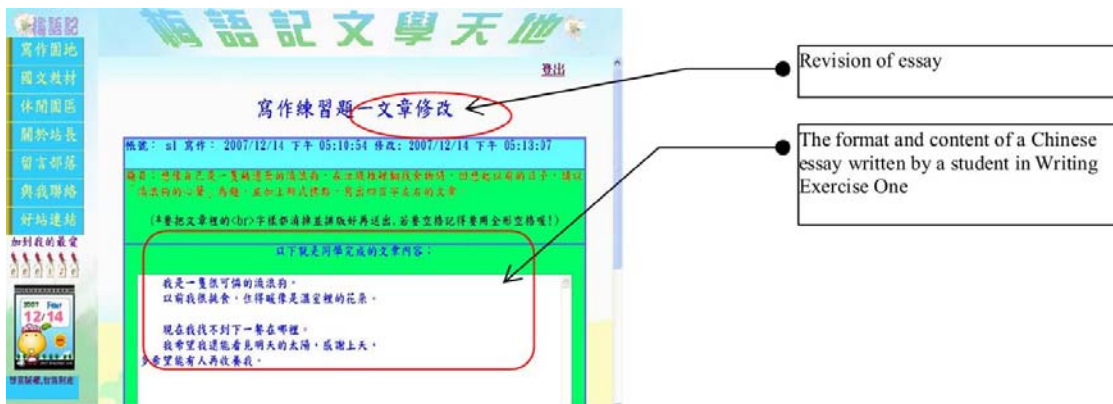


Figure 6.