Students and Teacher's Attitudes and Perceptions toward a Wiki-based Collaborative Process Writing Pedagogy in a Primary Five Chinese Classroom

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Abstract

This study investigates students and teacher's attitudes and perceptions toward a Wiki-based Collaborative Process Writing Pedagogy (WCPWP). The participants were 59 students and their Chinese language teacher of a primary-five class in Shenzhen, China. The study adopted a mixed-methods design. A course feedback questionnaire and sub-structured interviews were administered to examine the students' attitudes and perceptions toward the use of WCPWP. A questionnaire was also administered to the teacher to gain her insights into WCPWP. The students' responses to the questionnaires and interviews revealed that they perceived WCPWP to be beneficial in facilitating their motivation to write, heightening group interactions, and expanding the reading audience for their writings. The results also indicated that the wiki-based learning environment "Joyous Writing Club" was easy to be used, and had more technology advantages than disadvantages. The Chinese language teacher expressed that the WCPWP would be helpful for improving students' writing interests and writing ability. This study provides practical recommendations for primary school Chinese language teachers in teaching Chinese writing using WCPWP.

1. Introduction

In the field of Chinese writing at primary school level, previous studies indicated that a significant number of students have low writing abilities (B. Dong, 2005; J. Dong, 2008; Huang, 2008; Ren, 2003) and negative writing attitudes (Wang, 2007; Yi, 2009; Zhang, 2009). The traditional teacher-centered writing approach has been criticized as one of the reasons why some students have low writing ability and negative writing attitudes (Liu, 2009; Xiong, 1995).

In recent decades, studies on innovative approaches to teaching Chinese writing have flourished (Huang, 2008; Wang, 2004; Wu, 2009; Xiong, 1995). Since 2003, the New Standard of Chinese Curriculum has emphasized group interactions in Chinese language learning ("New Standard", 2003). Recently, researchers and educators have begun to focus on the benefit of collaborative learning in Chinese writing (Wu, 2009; Xia, 2009). However, there has been much less practical research on how collaborative writing activities are orchestrated in classrooms and their effects on students' writing process, interests, and performance (Xie, 2006).

2. Literature Review

The rapid development of wiki technologies has resulted in their wide use as platforms to support collaborative writing (Mak & Coniam, 2008; Woo, Chu, Ho, & Li, 2009, 2011). There are real-time collaborative editing (RTCE) wiki systems such as PBworks.com, Wikispaces.com, Wetpaint.com, and Wikia.com, all of which have been widely adopted by educators and researchers to support writing in English as either a first or second language (PBworks, 2010; Wetpaint, 2010; Wikia, 2010; Wikispaces, 2010). For example, Woo, Chu, Ho, and Li (2009) investigated the effect of collaborative English writing with a PBworks wiki among Chinese primary five students in Hong Kong. Their study found that students enjoyed writing with wiki, and their overall perceptions were that it helped foster teamwork and improved writing. There have been wiki projects like the National Writing Project (NWP), which includes 200 university-affiliated sites across the United States that were initiated to improve the teaching and learning of English writing. The Writing for Integrated Teacher Education (WrITE) Project was established in 2002 as the NWP's first site for English learning in Asia. It is managed by the Chinese University of Hong Kong and its mission is to enhance the learning and teaching of English in Hong Kong. The WrITE project has had success in boosting Year 7 secondary school students' confidence in writing, as well as tapping into their creative skills (Mak & Coniam, 2008).

However, there are few existing wiki projects that are related to the teaching and learning of writing in Chinese, including exploring the attitudes and perceptions of teacher and students toward collaborative writing with wiki in their primary Chinese writing classes (Xie, 2006). Li, Chu, Ki, and Woo (2010) conducted a study among one class of (59) primary four students and their Chinese language teacher which lasted two months and reported that students showed improvement in their writing attitudes after engaging in collaborative writing with wiki. They perceived collaborative writing using a wiki to be beneficial in facilitating their motivation to write, heightening group interactions, and widening the reading audience for their writings. When the same group of students proceeded to primary five, what would become of their attitudes and perceptions toward the collaborative writing with wiki? This study

will attempt to address this research question.

3. Theoretical Foundation

In order to carry out the collaborative writing activity, a Wiki-based Collaborative Process Writing Pedagogy was proposed to improve students' writing ability and writing attitudes (Figure 1). The theoretical model of WCPWP is based on constructivist learning theory (Piaget, 1967; Vygotsky, 1978) and the social view of writing process theory (Faigley, 1986; Tobin, 2001).
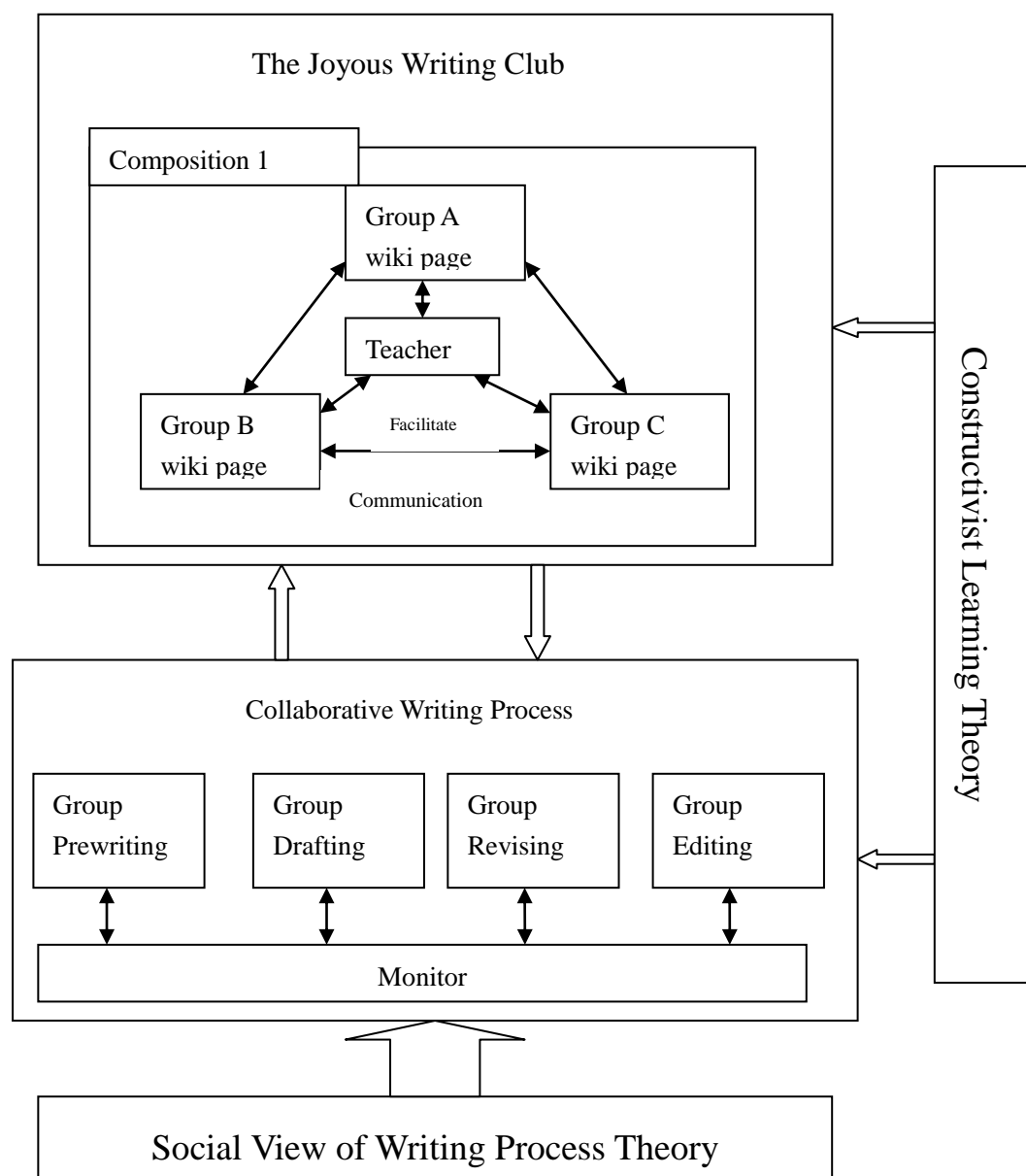

Figure 1. **Conceptual Model of Wiki-based Collaborative Process Writing Pedagogy**

The conceptual model of Wiki-based Collaborative Process Writing Pedagogy was negotiated between the researcher and the Chinese language teacher, as the basis for the design of the wiki platform, the teaching and learning plan and class organization. The model is based on two constructivist learning models: individual cognitive constructivism (Piaget, 1967) and social constructivism (Vygotsky, 1978).

Individual cognitive constructivism suggests that individuals construct new knowledge from their experiences through the processes of accommodation and assimilation. In contrast, Vygotsky's (1978) constructivist theory emphasizes the critical importance of culture and the social context of cognitive development. It proposes that individuals perceive the world and shape discourse according to the shared beliefs and perceptions of the community or communities to which they belong. In this study, the Chinese language teacher allocated students into groups, with each group comprising four students with mixed writing abilities: two students with higher Chinese writing ability, and two students with lower writing ability. Every group wrote their compositions in a wiki-based writing environment named Joyous Writing Club. For every composition, Students in the same group worked together on a single wiki page.

The process pedagogy of writing focuses on writing as a process rather than a product (Tobin, 2001). Faigley (1986) catalogues four distinct, competing theories of process: expressive, cognitive, social and Marxist. Among these, the social perspective of writing process is the most prominent in research on the collaborative pedagogy of writing. The social theory of writing assumes that all writing is a conversation between members of a discourse community. Reading and responding to texts within a discourse is central to this view. Tompkins (2008) divided the writing process into five stages which are nonlinear and recurrent cyclic: prewriting, drafting, revising, editing, and publishing. The labeling of the stages is simply an aid to identifying writing activities. In this study, the collaborative writing task for each group was divided into four stages which are nonlinear and cyclic: group prewriting, group drafting, revising and editing. During the class writing time, the teacher visited each group, and provided them with guidance and helps to facilitate their writing process. The collaborative process within groups has been shown to support and promote multiple perspectives through dialogue and discourse. Additionally, electronic communications between and among groups have been found to support effective constructivist instructional strategy that fosters social negotiation (Almala, 2006).

4. Methodology

4.1 Participants

The participants were 59 primary five students with an average age of ten years, and their Chinese language teacher from a primary school in the city of Shenzhen, Mainland China. The school was rated medium to high in terms of the quality of campus facilities. Teaching and learning activities were conducted in the students' classroom and in one of their computer labs. The computer lab has 56 Shenzhou-brand computers and is equipped with Asymmetric Digital Subscriber Line (ADSL). The 56 computers share the ADSL data rates, which can be as high as 4mbps downstream and up to 512kbps upstream. The students' classroom is equipped with a multi-media presentation facility from the teacher's computer. All students in the class returned signed informed consent forms from their parents. The teacher and school principal also returned signed informed consent forms. The study has been reviewed and approved by the Human Research Ethics Committee of the University of Hong Kong.

4.2 Instructional Design

To support students' collaborative writing, a constructivist learning environment named Joyous Writing

Club (JWC) was designed by the first author using MediaWiki software. Registered users could use their user names and passwords to enter JWC (www.joyouswriting.com). Only users who were authorized by the web manager (the first author) had editing rights and could edit information on the wiki. In this study, only student participants and the teacher were authorized to have the right to edit.

In Li, Chu, Ki and Woo's (2010) study, students had writen their compositions in the first writing community of JWC. In this study, students wrote their compositions in the second writing community of JWC (Figure 2). The writing community page was divided into two main parts: Teacher's Bulletin Corner and Students' Activity Corner. The Writing Guidance, Rating Criteria and Rules, Reward and Punishment Rules were linked to the Teacher's Bulletin Corner in JWC. The writing guidance was developed based on Tompkins (2008)'s theory of collaborative writing process, including group prewriting, group drafting, revising, and editing (Table 1). As for the Rating Criteria, the researcher and the Chinese language teacher rated group compositions based on elementary school high-grade composition scoring criteria (Mo, 2010). Since the Chinese language teacher likes to offer a range of rewards to improve students' performance in their normal lessons, following the Chinese teacher's suggestion, extrinsic rewards were used in this study in order to help students to maintain their engagement. Rules included rewarding two groups and two students with certificates and small gifts (10 students) provided in the Teacher's bulletin corner.

Table 1
Collaborative Writing Stages

Stage	Name	Description
1	Group Prewriting	During the prewriting stage, students in each group would consider and discuss the context, purpose, audience, and genre for their writing. They would also consider whether they knew enough about their topic and what their writing topic was. Students would gather ideas and information by reading books, searching the Internet, and discussing with their group members. The group leader would make a final decision on their writing, and post their final ideas on the wiki page.
2	Group Drafting	In this stage, students in each group would write the first draft together on their wiki page. The students would all develop their own content based on their previous ideas. All the students in the group would organize the structure and express their ideas and feelings quickly, collaboratively, and with little concern about the character writing, correctness and punctuation. In this stage, their drafts would emphasize the ideas and content of their writing.
3	Group Revising	Revising would be a complex process comprising three activities: rereading the rough draft, sharing the rough draft, and revising based on peers' comments and feedback. Students might choose to change some words, or reorganize a part completely on the wiki.
4	Group Editing	Editing would be a stage in which the piece of writing would be put into its final form. When editing, students would view the piece in terms of word choice and correctness of content, sentence structure, spelling errors and punctuation problems. Students would be encouraged to edit their group work again on the wiki a few days after they finished their composition. The period of waiting might provide students with a fresh perspective and the enthusiasm necessary to finish the writing process. At the end, the leader needed to confirm the completion of their writing.

Figure 2. **The Layout of Second Writing Community in Joyous Writing Club**

On the Students' Activity Corner, there was a list of composition tasks (stages of work) in the form of different forums. For instance, for the first composition, Writing Topics and Requirements, Group wikipage (e.g. A Group 14), and Teachers' Comprehensive Review and Comments were linked in a forum. Students in each group could click and read the Writing Topic and Requirements. They selected their group leader to facilitate face-to-face group discussion and the collaborative writing process, and then wrote a composition collaboratively on their wiki page. For example, for Composition A, Group 14 students wrote their compositions on the wikipage of A Group 14 (Figure 3).

Figure 3. **The wikipage of "A Group 14"**

The Chinese teacher and the researcher co-developed the composition topics (Table 2) based on the Primary Five Chinese language syllabuses. This study lasted for three months, and each group of students produced four compositions, one of which (Composition C) was not valid and did not been analyzed. The other three compositions were marked as assignments by the Chinese language teacher and the researcher, and were analyzed in this study. Each composition occupied two consecutive lessons and certain amount of after-school time. Both two lessons were conducted in computer lab.

Table 2
Topics of Composition Assignments

Number of Compositions	Introductions of Compositions
A	Please write an expository essay. You can choose to introduce an item to us, such as one kind of vegetables, fruits, toys, stationery, or electrical appliances. Before your writing, try your best to know more about your writing objects through observation, visiting, learning, interviews, reading brochures and so on. Consider you can introduce the object from what aspects, in what order, and use which description methods. Each group should write no less than 400 words, and finish it by October 24th.
B	We often get inspiration from life. A little thing, a maxim, a cartoon…can inspire us to think. Refer to the suggestions on textbook, page 72. Think in your life, what are the things that inspired you? Choose one from them, and write out what inspiration you get from it. Each group should write no less than 400 words, and finish it by November 7th.
D	In this writing, please write a book review. After reading articles or books, write down your own experience and thoughts. Write book review, "read" is the foundation, you should understand what the paper intends to tell you by reading; "feeling" is the key point, you should write your own feelings. You should not repeat the content of the paper too much. In order to express your feelings better, you are able to refer to relevant materials. Please write a book review in terms of the articles you have read. Each group should finish a book review with no less than 400 words by December, 20th.

4.3 Research Design and Instruments

A course feedback questionnaire which was modified from previous studies (Hazari, North, & Moreland, 2009; Liang, 1995; Li, Chu, Ki, & Woo, 2010) was used to explore students' perceptions

and attitudes toward the WCPWP. The questionnaire (Table 4) comprises of 30 questions using a five-point Likert-type scale and is divided into five subscales: motivation (6 items), interaction (6 items), teacher's role (6 items), audience (6 items) and technology factor (6 items). Cronbach alpha reliability value for the overall scale was 0.88. For the different subscales, motivation had an alpha of 0.84, group interaction alpha was 0.60, teacher's role had an alpha of 0.39, audience alpha was 0.76, and technology alpha was 0.66. The standard for instrument reliability for Cronbach's alpha by Robinson, Shaver, and Wrightsman (1991) were used to evaluate the quality of the scales of the attitude measures. These standards were: 0.80 or better – exemplary reliability; 0.70 – 0.79 – extensive reliability; 0.60 – 0.69 – moderate reliability; and < 0.60 – minimal reliability. Based on the above guidelines, the overall scale exhibited exemplary reliability, and four subscales including motivation, group interaction, audience and technology exhibited exemplary reliability, moderate reliability, extensive reliability, and moderate reliability respectively. Hence, four subscales were analyzed in the second cycle of this study. Out of the 59 students, cases with missing data were excluded, such that the final sample size for data analysis was 56 (97%).

A questionnaire for the teacher was modified based on the study of Woo et al. (2009). Ten open-ended questions probed the teacher's perceptions and attitudes toward WCPWP. For instance, the question "how would you define your role regarding the whole process of students' collaborative writing" asked teacher's perceptions toward her role. All the questions in the questionnaire were double checked by two experts to ensure the content validity and reliability of the questionnaire.

Semi-structured interviews with 24 students were conducted to help understand students' experiences and examine specific issues. Five student groups and four randomly selected individual students were interviewed. The questions were asked in terms of the course feedback questionnaires, and each interview lased for 20 to 30 minutes. Individual students were interviewed because one downside to focus group discussions is that some participants may be overly outspoken and overshadow quieter participants, and affect weak-minded participants (Gay & Airasian, 2003). The interview questions for focus groups and individual students are the same. Interviews were coded by the first author into themes, and each theme was given a label, the percentage of students who contributed to the theme was calculated, and representative statements for each were selected. Finally, the coded data were cross-checked by a research assistant to ensure the validity and reliability of data interpretation.

5. Results and Discussion

The course feedback Likert 5-point scale (from 1 = strongly disagree to 5 = strongly agree) tested students' attitudes and perceptions toward WCPWP. Table 3 shows that the mean score of each item in the Motivation, Interaction, Audience subscales was higher than 3 (Neutral = 3), standard deviation was lower than 1.5, which reveals that most students perceived collaborative writing using a wiki as beneficial in facilitating their motivation to write, heightening group interactions, and widening the target audience for their writings. Besides, the mean score of each item in the Technology subscale was higher than 3 (Neutral = 3), standard deviation was lower than 1.5, which indicated that most students perceived that the wiki-based learning environment "Joyous Writing Club" was easy to be used, and had more technology advantages than disadvantages.

Table 3

Students' Perceptions toward the Wiki-based Collaborative Process Writing Pedagogy

Items	Mean	SD	Subscale Reliability Coefficient
Subscale 1: Motivation			0.84
1. I like writing collaboratively on "Joyous Writing Club".	4.34	0.92	
2. Compared with writing with pen and paper, I prefer writing on "Joyous Writing Club" more.	4.45	0.99	
3. I participated in writing more because of "Joyous Writing Club".	4.09	1.03	
4. I want to spend more time in writing because of using "Joyous Writing Club".	3.95	1.18	
5. "Joyous Writing Club" increased my writing interest.	4.18	1.10	
6. I hope to continue using "Joyous Writing Club" next semester.	4.64	0.84	
Subscale 2: Group Interaction			0.60
7. I learned a lot from my group members, which enriched my writing content.	4.32	1.13	
8. I think that whether or not students collaborate successfully in a group affects collaborative writing significantly.	4.34	1.05	
9. In my opinion, communication and interaction among us increase when we wrote on JWC. This characteristic of JWC helped our writing compared with the traditional writing approach.	4.39	0.99	
10.In collaborative writing, the opinion conflicts among team members brought more good than harm.	3.89	1.47	
11. I think the contribution of every member is important. In order to write the best composition, everyone needs to try his/her best.	4.62	0.73	
12. I think interacting with my classmates can improve my writing ability more than only interacting with the teacher.	4.36	0.96	
Subscale 3: Teacher's Role			0.39
13. I think that during our collaborative writing process, the teacher provided us with enough help and direction.	3.13	1.66	
14. When we wrote with WCPWP, the teacher left more time for our discussion, and taught us "how to write" instead of "what to write". This is good.	4.41	1.06	
15. I think teacher's guidance during the writing process is very important, for example, the guidance about "how to write".	4.46	0.99	
14. I think during the collaborative writing process, teacher's direction and help are very important.	4.32	0.97	
15. When we wrote with WCPWP, the teacher guided us to think more and discuss more, gave us more autonomy and freedom which is good for improving our writing ability.	4.52	0.79	
16. In the collaborative writing course with wiki, we are satisfied with teacher's guidance and help.	4.45	0.89	
Subscale 4: Audience			0.76
19. Since more people can know our compositions on JWC, I have become more active in writing.	4.02	1.12	
20. I feel that there are more audiences who can see our compositions on JWC, which is one of the advantages of the WCPWP.	3.93	1.23	
21. Every time I think of a lot of people can read my composition on JWC, I am more eager to write, write seriously and better.	4.02	1.24	
22. I want my composition to be read by lots of people, so I like to write on JWC.	4.07	1.32	
23. When I was writing on JWC, my classmates, parents, and teacher become the audiences of my composition, which brought me excitement.	4.05	1.21	
24. When I was writing on JWC, the large number of audiences brought me pressure, which drove me to write better.	3.75	1.35	
Subscale 5: Technology			0.66
25. Writing on "Joyous Writing Club" brought us more advantages than technology disadvantages	3.50	1.44	
26. When I wrote on JWC, both reviewing and editing are easy.	4.21	1.26	
27. The technology characteristics of wiki such as open editing function are good for our writing.	4.36	0.98	
28. The interface and features of "Joyous Writing Club" were easy to be understood.	4.21	1.14	
29. We feel that the website of JWC is easy to be used, but the computer and network problems brought us trouble sometimes.	4.29	1.23	
30. When we wrote at home, the website of JWC is easy to be used.	4.46	0.85	

Notes. N=56 ** The standards for Cronbach alpha reliability value for evaluating attitude measures were: 0.80 or better – exemplary reliability; 0.70 – 0.79 – extensive reliability; 0.60 – 0.69 – moderate reliability; and < 0.60 – minimal reliability (Robinson, et al., 1991, p. 13)

Table 4 shows the analysis of interviews among students as the supplement of the course feedback questionnaire, which reflects students' perceptions toward the Wiki-based Collaborative Process Writing Pedagogy (WCPWP). Students' statements were initially examined to group similar comments into themes. The fit between each statement and the theme were evaluated. Finally, each theme was given a label, the percentage of students who contributed comments to the theme was calculated, and representative statements were selected.

Table 4
Summary of Interview Findings

Positive Themes	N	Percentage	Representative Comments
Learning Benefits	20	83%	Improved their writing ability (S1), writing interest (S1), computer skills (S9), and collaborative ability (S1).
Group Interaction	18	75%	Wiki facilitated communication and collaborative learning within a group (S1).
Technology Advantages	14	58%	Students could write anytime in and after class, it was easier for peer edition and comments (S5).
Audience	16	67%	More audiences motivated their writing; at the same time, as audiences themselves, they learned from others' compositions (S10).
Negative Themes			
Collaboration Problems	9	38%	It was difficult to reach an agreement when they had different opinions, and the division of labor was also controversial which reduced the speed of the writing (S3). Some members did not write, or wrote very few words (S22).
Time Issue	3	13%	Sometimes they could not finish their writing on class, and they could not write well at home (S1).
Technology disadvantages	8	33%	Some bad/naughty students in other groups went to their writing place and changed their writing contents on purpose (S3). Website problem and computer problem hindered their writing (S4).
Other Themes			
Teacher's Role	11	46%	Teacher became constructor, facilitator, and helper rather than instructor during their writing process (S2).
Writing Topics	5	21%	Some writing topics are not good for writing collaboratively, such as the topic of "Father/Mather, I want to tell you" (S4).

Note: N = 24

According to Table 4, four positive themes emerged which are Learning Benefits (83% students), Group Interaction (75% students), Technology Advantages (58% students), and Audience (67% students). For instance, S1 was very happy with Wiki-based Collaborative Process Writing Pedagogy (WCPWP).

> S1: I like writing on JWC, which increased my interest in writing. And I could share my ideas about writing with my group members, and listen to their suggestions [...] After writing together with my group members, I have learned from their writing styles […] By reading and commenting, I have learned more rhetoric methods like metaphor, personification, and so on [...] Once, I thought I had written very well, but after reading others' compositions, I found some of my classmates wrote better than me, this encouraged me to improve my writing [...] My mother taught me how to write before, after writing on JWC, she found that I could write better and better, she was very satisfied and happy with the JWC.

Students also put forward three negative themes which are Collaboration Problem (38%), Time Issue (13% students), and Technology Disadvantages (33% students) (see Table 4).

> S4: When we discussed the division of labor, some of our group members scrambled to write

the same paragraph, it was a problem [...] We also met technology problems in classroom, for example, sometimes the school network speed was too slow, sometimes, we even could not open the wikipages.

Students also expressed their perceptions toward Teacher's Role (46% students), and indicated that Writing Topics (21%) (see Table 4) may affect the collaborative writing result, since some writing topic is not suitable for using WCPWP.

S2: When we wrote on JWC, teacher guided us more on how to write instead of what to write. She shared less idea with us on what to write, but asked us to think hard ourselves. As a result, we had to think more ourselves and got help from our group members.

Analysis of the responses to teacher's questionnaire after the experimental teaching indicates that the participating Chinese language teacher was satisfied with WCPWP, and she had interest in using it in her future teaching activities. She also expressed that students' compositions were getting better and better. Besides, when she was using WCPWP, her role was more that of a facilitator than an instructor.

Teacher: Students were interested in writing collaboratively in groups on JWC, and I can tell that their writing has been improving [...] The WCPWP is good for improving their writing ability, modification ability, collaboration ability and computer skills [...] I acted as a facilitator rather than an instructor...

6. Conclusion

This case study focused on teacher and students' perceptions and attitudes toward Wiki-based Collaborative Process Writing Pedagogy (WCPWP). The result found that most students became more interested in writing after using a WCPWP. Both students' responses to the course feedback questionnaire and the interviews revealed that they perceived the collaborative writing using a wiki as beneficial in facilitating motivation to write, heightened group interactions, and expanding the potential audiences activated their writing interest. Besides, students perceived that the wiki-based learning environment "Joyous Writing Club" was easy to be used, and had more technology advantages than disadvantages. Furthermore, student interviews showed four positive themes: Learning benefits, Group interaction, Technology advantages, and Audience; and three negative themes: Collaboration problem, Time issue, and Technology disadvantages. Students also expressed their perceptions of the teacher's role, which changed from that of an instructor to that of a facilitator, and indicated that not all writing topics were suitable for writing collaboratively.

Further study is still needed to explore the effect of Wiki-based Collaborative Process Writing Pedagogy on students' writing ability, and how do primary students learn to write composition collaboratively using wiki in Chinese writing class.

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