

The Effects of Cooperative Learning on Interactive Behaviours and Learning Attitude

Ching-ya Chiu and Feng-cheng Chiang, *Leader University, Taiwan*,
and Shu-chuan Chung, *National Chai-yi University, Taiwan*

Abstract

Writing, regarded as a thinking process, enables language learners to explore ways of communicating their thoughts and feelings effectively through words. Although English writing is highly emphasised in senior high schools in Taiwan, English teachers and students encounter various challenges. For teachers, correcting student writing significantly increases their workload. For students, some hold a negative attitude toward writing or feel powerless to meet the teacher's expectations. Therefore, how to reduce the load of teaching writing and to increase learner autonomy have become important issues for investigation. Through the employment of strategies for cooperative learning in a computer-assisted language learning or CALL environment, this research aimed to explore whether interaction between peers to discuss revisions would lead to more positive attitudes to learning writing. By means of the observation of interactive behaviour types and questionnaires about English writing in a 25-week quasi-experiment, it was found that cooperative learning made a significant difference.

Introduction

Writing has been quite highly emphasised across all levels in school settings in language education (Brown, 1994; Zamel, 1982), since it is currently thought of as a thinking process in which language learners learn to use the most effective language to communicate or express their thoughts. In Taiwan, English writing instruction is similarly emphasised in high schools as an academic subject and a test section in exams. High schools offer one to two hours a week of English writing classes for 12th graders as an elective course, and most students take these courses. In addition, for the College Entrance Exams, students have to write a 120-word composition that is evaluated on five writing elements: organisation, content, grammar, diction and mechanics. However, according to the CEEC 2000 Report (Chang, Lin, Hsu, & Lin, 2000), Taiwanese high school students do not demonstrate high writing proficiency in College Entrance Exams, and the situation is quite similar every year (Chen, 2007). In the 2007 exam, for example, over ten thousand students, around 11% of test takers, received zero points in English writing (Chen, 2007). In fact, students in Taiwan often feel frustrated in their attempts to accomplish writing assignments effectively (Liu, 1998; Yang, 2003). Several major writing problems for English learners in Taiwan have been identified, including organisation, content development and linguistic forms (Chen, 1997; Chen, 2001; Chiu, 2006; Chou, 1989). Furthermore, the attitudes of students toward writing are quite negative. They think writing is a tough task and a source of panic instead of an enjoyable process (Yang, 2003). And many teachers feel that having students write a composition is a nightmare (Cheng, 1993). The more assignments they give, the more time they need to spend correcting student work, which increases their teaching load. In addition, their revisions may concentrate mainly on grammar, limiting their focus mostly to linguistic forms and thus overlooking content aspects. They also downplay the importance of peer review in the process of writing (Chen, 2001; Tsai, 2003), impeding the ability of students to become self-learners. However, without enough opportunity to engage in writing, it is impossible for students

to improve their writing performance. Therefore, it is suggested that through teamwork, in which teachers and learners play an interactive and cooperative role, revision can become more effective (Tsai, 2003), and student writing achievement can be enhanced (Chiu, Chung & Chiang, 2008). The teamwork interaction occurring in reviewing and revision should allow students to learn more independently, instead of having to rely so much on the guidance of the teacher.

Literature Review

In the process of reviewing and rewriting composition drafts, feedback is an essential element of process-oriented writing instruction (Keh, 1990). By means of the feedback teachers or peers provide, revision is facilitated, leading to the evolution of new ideas, the clarification of meanings and the enhancement of proficient writing (Beason, 1993; Krashen, 1984). Students can learn how to improve drafts appropriately and enhance the overall quality of their writing (Ferris, 1997). Feedback given by fellow student readers is called peer review. Also known as peer response, peer editing and peer evaluation (Liu & Hansen, 2002), it has been found to be effective and crucial in process writing (Melograno, 1997; Searby & Ewers, 1997; Sivan, 2002). In peer review, students generate productive feedback to help each other revise their writing (Ashwell, 2000; Ferris & Roberts, 2001; Nelson & Carson, 1998; Paulus, 1999). Furthermore, peer review facilitates the writing process by assisting students to identify the strengths and weaknesses of their writing, to monitor the writing process and to develop reader awareness. Some students may also be able to learn to evaluate writing critically (Keh, 1990; Tsai, 2003). In addition, it helps the writers to reshape and develop their ideas from alternative viewpoints presented through discussion with peers (DirPardo & Fressman, 1998), a social behaviour of interaction and negotiation which may serve to scaffold cognitive construction (Mendonca & Johnson, 1994; Nelson & Carson, 1998).

That said, peer review in L2 writing instruction has several limitations. First, students tend to focus mostly on surface-level changes (e.g., grammar, mechanics), and they neglect other issues, such as organisation and content (Bridwell, 1980; Crowhurst, 1986; Leki, 1990). Sometimes peer comments are too vague, and some students do not even know what feedback to provide (Min, 2003). Also, students can become defensive (even unpleasantly so) about their own drafts if the feedback is overly critical and hostile (Amros, 1997; Nelson & Murphy, 1992). They become reluctant to share their opinions through peer discussion and prefer to rely on teacher feedback. In addition, peer review may produce counterproductive feedback when reviewers lack sufficient L2 formal writing schemata and have inappropriate expectations about the content or structure of the texts (Bender, 1989). With these drawbacks, peer review often fails to lead to effective revisions, and the interaction between peers is often quite limited.

One approach to dealing with this problem has been through computer-assisted language learning (CALL). Computers are having an increasingly significant influence on the way learners work with language materials (Kern, 1995), and as a consequence, CALL has received lots of attention over the past couple of decades (Blake, 1992; Dunkel, 1991; Paramskas, 1993). As for the application of CALL to writing instruction, it has been suggested that online writing can have a positive influence on the development of the communicative skills and writing ability of students (Chen & Lee, 1998; Frizler, 1995; Warschauer, 1996). When computers are incorporated into writing instruction, students are able to gain a sense of community and empowerment, especially in peer review (Beauvois, 1997; Kataoka, 2000). With the assistance of computers, students can effectively evaluate the writing of their peers and maximise their own achievement, particularly in group-support system collaborative assessment (Kwok & Ma, 1999).

At the same time, according to Johnson and Johnson (1994a), it is important for students to interact with one another and work together. Olsen and Kagan (1992) state

that cooperative learning is a group learning activity organised on a socially structured basis to exchange information between learners in groups, wherein each learner is held accountable for their own learning and motivated to increase the learning of others. It has been suggested that students in a cooperative-goal learning environment perform better than others (Johnson & Johnson, 1994b; Qin, Johnson & Johnson, 1995). Also, the reward structure, a contingent relationship between student academic performance and consequential rewards, is an important motivational element to make cooperative learning successful (Slavin, 1991; 1995). Without group rewards for individual learning and rewards for students in groups who achieve some standards, it is difficult to make cooperative learning successful in promoting learning achievement (Slavin, 1983). Likewise, Cottell and Millis (1993), Gamson (1994), Kagan (1986) and Yueh and Alessi (1988) all have similar recommendations in their research.

In light of the apparent pedagogical advantages of cooperative learning and CALL, this research set out to investigate whether the employment of cooperative discussion in peer review and group rewards in a CALL learning environment could have a positive impact on promoting interaction between high school students in Taiwan in English writing. The study was also designed to discover whether the attitudes of students toward English writing could be positively influenced.

Method

Subjects

The participants were 156 students drawn from four 11th grade classes in two national senior high schools. Each intact class represented an experimental group with different treatments conditioned by the two independent variables alternately, teaching strategy and group reward structure. The teaching strategy in this research was further divided into cooperative evaluation and peer review. Online peer review was designed as the basic activity that each class would experience to provide feedback to peers. The other independent variable, group reward, was employed as an incentive. Therefore, based on the two independent variables, there were four experimental groups with different treatments, as shown in Table 1.

Table 1: Distribution of Participants in Different Groups of Cooperation and Rewards

		Cooperation	
		<i>Cooperative Evaluation and Peer Review</i>	<i>Peer Review</i>
Rewards	<i>With rewards</i>	CPR (37 participants)	PR (36 participants)
	<i>Without rewards</i>	CP (39 participants)	P (44 participants)

Research Design

There were three phases in this 25-week research project, which was conducted for two periods of class each week. The first phase, lasting eight weeks, comprised a tutorial class for the online writing system, an introduction to English writing and a pre-study evaluation of student attitudes toward writing. The second phase was the main part of the experiment, comprising six recursive writing exercises, writing tasks, evaluations and revisions. All of the writing, evaluation and revision

activities were implemented by using the online writing system, which was established based on the theory and characteristics of process writing. After completing a cycle of two writing exercises, a writing test was given. Finally, a post-study evaluation of student attitudes toward writing was given as the third and final phase. The writing tests took participants 45 minutes to complete (as did the pre- and post-study evaluations), and two experienced English teachers were employed as raters to score the 150-word paragraphs. Their scoring was based on the five domain rubrics adopted in the Pennsylvania Writing Assessment Scoring Guide developed by the Pennsylvania Department of Education and widely employed in writing centres worldwide. As displayed in Table 2, the four-point analytical scoring rubrics consist of 5 domains—focus, content, organisation, style and conventions—and each scoring level in each domain comes with a detailed explanation (see Appendix D). The Taiwanese College Entrance Examination Center employs the same analytical rubrics to assess student English writing proficiency. With regard to the writing themes, a different one was employed in each cycle, including “Description”, “Instruction/Process”, and “Opinion”. The writing theme for the pre-and post-study evaluations was either narrative or expository.

Table 2: Pennsylvania Writing Assessment Domain Scoring Guide

FOCUS	The single controlling point made with an awareness of task (mode) about a specific topic
CONTENT	The presence of ideas developed through facts, examples, anecdotes, details, opinions, statistics, reasons and/or explanations
ORGANISATION	The order developed and sustained within and across paragraphs using transitional devices and including introduction and conclusion
STYLE	The choice, use and arrangement of words and sentence structure that create tone and voice
CONVENTIONS	Grammar, mechanics, spelling, usage and sentence formation

Instruments & Data Analysis

In accordance with the aims of this research, participants in the CPR group and the CP group were selected in order to facilitate observations and analysis of interpersonal interactive behaviours during cooperative evaluation and group discussion. They read peer work online that was assigned by the online writing system, and they typed their feedback into the computer after oral discussion with their group members. The other two groups also read peer work online that was assigned by the online writing system but simply typed their feedback into the computer without previous oral discussions with group members. Note that this format was based on the model proposed by Hertz-Lazrowitz (1984) (see Appendix A), in which six categories of student behaviours in the classroom are presented, two non-interactive and four interactive. In this research, non-interactive on-task, non-interactive off-task, interactive on-task, and interactive off-task social events served as categories for analysis of interactive behaviours, and nine behaviour types were defined to facilitate observations during the group discussion in evaluation and revision. The observation elements included the behaviour type, definition and behaviour categories (see Appendix B). Two observers, with high inter-rater reliability ($r > .90$), checked the interactive behaviour types every 15 seconds from the tapes. One-way ANOVA was employed to examine whether there was a significant influence by the reward structure on each behaviour type.

Besides this, a 28-item questionnaire on English writing attitude (QEWA) was adapted and employed in all of the experimental groups to gather information about the

attitudes of the students toward English writing (see Appendix C). This questionnaire had three major parts designed to investigate student writing confidence, the degree of anxiety felt when writing, and perceptions of the usefulness of English writing. A two-way ANCOVA was employed to test if cooperative evaluation and group rewards had a significant interaction effect on the attitudes toward English writing of the senior high school students.

Results & Discussion

Interactive Behaviours during Cooperative Discussion

In the CPR group and the CP group, three focus groups were selected for observation. Table 3 summarises the nine behaviour types in the 6 writing exercises during the whole treatment.

Table 3: Summary of Significant Differences in Interactive Behaviours in Writing Exercises

Behaviour Type		Writing Exercise 1-1	Writing Exercise 1-2	Writing Exercise 2-1	Writing Exercise 2-2	Writing Exercise 3-1	Writing Exercise 3-2
B1 (Group Evaluation)	IO						
B2 (Asking Questions)	IO	● (<i>p</i> =.010)		● (<i>p</i> =.021)	● (<i>p</i> =.025)		
B3 (Discussion)	IO	● (<i>p</i> =.002)	● (<i>p</i> =.001)	● (<i>p</i> =.022)	● (<i>p</i> =.001)	● (<i>p</i> =.000)	● (<i>p</i> =.000)
B4 (Peer Revision)	IO			● (<i>p</i> =.002)	● (<i>p</i> =.000)	● (<i>p</i> =.001)	● (<i>p</i> =.000)
B5 (Proofreading)	IO						
B6 (Self-Revision)	NIO	● (<i>p</i> =.002)	● (<i>p</i> =.001)	● (<i>p</i> =.001)		● (<i>p</i> =.001)	● (<i>p</i> =.024)
B7 (Not Paying Attention)	NIF						
B8 (Chatting)	IF		● (<i>p</i> =.005)		● (<i>p</i> =.011)	● (<i>p</i> =.000)	● (<i>p</i> =.016)
B9 (Disturbing Others)	NIF						
IO: Interactive on-task, NIO: Non-interactive on-task, IF: interactive off-task, NIF: Non-interactive off-task ●: with a significant difference between the CPR group and the CP group							

The findings show that the use of group rewards influenced the CPR group and the CP group behaviour with regard to asking questions, discussion, peer revision, self-revision and chatting. Similar findings can also be found in Chung's research (1997). One of the findings was that the structure of group rewards differentiated the learning achievement of the subjects. The rewarded groups had higher learning achievement as well as more interactive behaviours, such as checking answers, asking questions and keen discussion. Likewise, the participants had higher frequencies in interactive on-task behaviours, including asking questions, discussion and peer revision. The students in the CPR group had higher incentives to participate in the evaluation because of the motivation to win group rewards with their group members. When encountering questions in evaluation or revision, they tended to ask questions actively to provide help. They exchanged opinions enthusiastically and maintained concentration on the task. The interactive behaviour discussion was significantly different in each writing exercise, showing that the participants in the CPR group worked really hard to involve themselves in the task. Peer revision changed

significantly in the second writing cycle, indicating that the participants increasingly understood how to help their group members. This understanding enabled peer revision to last longer and have higher frequency compared with the CP group.

On the other hand, the CP group displayed higher frequencies of the non-interactive on-task behaviour self-revision and the interactive off-task behaviour chatting. After cooperative evaluation, they spent more time revising their own writing than working with peers. They also tended to be distracted from the cooperative learning and to chat more. However, there was no significance found in the behaviours of group evaluation, proofreading, not paying attention and disturbing others. Since group evaluation was the routine main task class activity, both the CPR group and the CP group spent similar amounts of time discussing and scoring. Accordingly, there was no significant difference found. The significance appeared mostly in the offering of feedback and in revision. In addition, perhaps because high school students are old enough to be self-disciplined, the frequency of not paying attention and disturbing others was not significantly different. As for proofreading, the reason that there was no significant difference may have been because of the observation time limit. The time allotted to observation was 20 minutes, including cooperative evaluation and discussion. After that, students were free to revise, discuss or ask questions. It is possible the participants engaged in proofreading, but this activity did not take place during the observation period.

Student Attitudes toward English Writing

This study also examined whether the attitudes toward English writing of the students were changed after the treatment. In the pre-study evaluation, the results indicated that members of each group held similar attitudes toward English writing ($p > .05$). In the post-study evaluation, the results of the QEWA showed that there was an interaction effect produced by cooperative evaluation and group rewards for the factors of writing confidence ($F=4.041, p=.046$) and anxiety ($F=4.318, p=.039$). The results indicated that the involvement of group rewards in the treatment did not make a significant difference in student confidence in English writing for the CPR group and the CP group ($F=3.122, p=.081$). The involvement of group rewards only made a significant change in the decrease of anxiety for the CPR group and the CP group ($F=11.322, p=.001$). Likewise, as with the use of cooperative evaluation or peer review with group rewards, there was no significant difference found in confidence ($F=2.960, p=.090$), but there was a significant change in anxiety ($F=4.461, p=.038$) for the CPR group and the CP group. For the PR group and P group, the use of group rewards resulted in a significant improvement in confidence ($F=24.688, p=.000$) and in a significant reduction in anxiety ($F=54.312, p=.000$). The employment of cooperative evaluation was also associated with a change in confidence ($F=22.900, p=.000$) and anxiety ($F=31.725, p=.000$) at a level of significance for the participants in the CP group and the P group. In addition, there was neither an interaction effect ($F=3.711, p=.056$) nor any main effects for the factor of perception of usefulness.

Therefore, the results show that the use of cooperative evaluation is quite important in helping participants reach an understanding of what successful writing should be and in ensuring that the feedback is correct and useful. It seems that confidence in the ability of students to write clearly and effectively can be increased in this way. They know how to transfer their thinking into words, how to initiate the topic and how to make revisions. On the other hand, giving group rewards can also make a difference, because with an offer of group rewards the participants may be more willing to work harder to achieve improvement. Once they have made such a contribution successfully, they become more confident in their writing, and this may enable them to gradually become more independent in their learning.

Besides this, there is a clear indication that a simple main effect is a significant decrease of anxiety in all four conditions. From these results, it can be inferred that the use of cooperative evaluation and group rewards can effectively help students to lower

their anxiety. By means of group discussion and reading peer writing, most difficulties the participants normally encounter are resolved. They discover the key elements to good writing from a reader's viewpoint, understand what mistakes are made most commonly in the writing, and then provide useful and clear responses to peers. The use of group rewards can also serve as an encouragement to make the participants believe they are able to accomplish the writing task. They are not as afraid when given an English writing task. Instead they realise how to start the writing process and what they can do. With the decrease in anxiety that results from this knowledge, they start to gain confidence in English writing. These findings are also supported by the conclusions of other researchers (Chang, Lin, Hsu & Lin, 2002; Jacobs, Curtis, Braine, & Huang, 1998) who found that the use of peer feedback can have a positive impact on student attitudes, because the process of communication and discussion creates the opportunity for social support and enables the lowering of their affective filters. The anxiety can be reduced in process-oriented writing, because the writing task is facilitated.

As for the factor of perception of usefulness of English writing, neither an interaction effect nor a main effect was found. Indeed, participant attitudes toward English writing remained unchanged after the treatment in all the groups, as evidenced by the statistical means, which were quite high in every group. It is likely that most of the participants felt that English writing is quite useful, even though they did not have much confidence in their abilities and had experienced difficulties in English writing before the treatment. Not surprisingly, after the treatment, their perception of the usefulness of English writing had not changed.

Conclusion

The results of this study indicate that when implementing cooperative learning, the use of group rewards had some significant effects on the interactive behaviours of the participants, including asking questions, discussion, peer revision and self-revision. The behaviour of chatting was reduced significantly as well. It is particularly notable that the effect on the interactive on-task behaviour discussion was identical in each writing exercise. This finding highlights the value of establishing a social support community to facilitate the writing process, so that students are better able to understand the basic elements of writing, internalise the rubrics used for evaluation and produce specific and focused feedback. At the same time, student attitudes toward English writing can be positively influenced. Their fear of English writing can be reduced and their confidence increased dramatically through cooperative evaluation and group rewards. It appears that cooperative learning in the CALL environment contributed to reducing student anxiety or embarrassment when offering and receiving suggestions for revision. Students were able to reshape their evaluation and revision abilities through interactive discussion. It is logical to conclude that the more confidence students have in their writing, the more likely they will enjoy writing.

Based on the findings of this study, it can be argued that the use of cooperative learning contributes to the fostering of independent and autonomous learning. In such a learning environment, students are inclined to take more responsibility for their own writing, whether through the process of offering feedback to peers or the revision of their own peer-reviewed work. In the drafting stage of writing, they tend to look at their own work more critically and analytically. They are no longer passive when engaging in a writing assignment, nor do they think of writing as being done just for a teacher's mark. Rather, they start to develop the notion that they are writing for a wider, more interested audience. Also, in cooperative evaluation, they read peer work more carefully, and they offer more constructive feedback by applying the scoring rubrics internalised from active group cooperation and interaction. At the same time, the revision of their own work is facilitated by the interaction with their peers during the evaluation process. In all, they will become progressively more active and confident in their writing.

The Authors

Dr. Ching-ya Chiu is an Assistant Professor in the Department of Applied English at Leader University in Tainan, Taiwan. She is highly experienced in the teaching of all English skills, and is currently teaching courses such as English Speaking and Listening, Composition, TESOL Methodology, and Teaching Practicum. Her main research interests include the integration of CALL and English writing. The application of cooperative learning to English teaching is another area in which she has been conducting research.

Dr. Shu-chuan Chung is a Professor in the Department of E-learning & Design at National Chia-yi University in Taiwan. His major fields of research are CAI and Cooperative Learning. He has also successfully conducted many nationwide projects promoting learning strategies and CAI in various subjects in elementary schools.

Mr. Feng-cheng Chiang is a Senior Instructor in the Department of Information Management at Leader University in Tainan. Having majored in Instructional Design, he specialises in the development and design of multimedia instructional material and digital learning technology. He is experienced in the teaching of programming languages, databases, and the development of CAI. He also developed an anchored-instruction interactive-based CAI system in math learning for elementary schools and a Writing and Evaluation - Cooperative Online Learning system (WE-COOL).

Appendix A: Hertz-Lazrowitz (1984), Student-behaviours in the classroom (six basic categories)

Behaviour category	Definition & examples
Non-interactive	
<u>1. On-task</u>	Pupils are engaged in the formal activity of the lesson <u>Example:</u> read, write, watch films, listen to teacher or students
2. Off-task	Pupil is engaged in an activity that is off-task <u>Example:</u> reads a comic book, daydreams
<hr/>	
Interactive	
3. On-task: Cooperation	Pupil is on-task cooperating with a peer, in means, process, or product of learning <u>Example:</u> two or more build a cell model from clay, two or more read and discuss a text
Low Cooperation (Simple)	Cooperation in means (resources) or product, without cooperating in the process <u>Example:</u> students use a common book or other materials in their learning activity, or they work individually on a task and then combine their products
High Cooperation (Complex)	Cooperation in the process of an activity, usually cooperating in a long-term process to create a cooperative product <u>Example:</u> students are engaged in a temporally extended process of working together, such as executing the clay model of a cell, where planning and executing the model are carried out in a constant interaction
4. On-task: Helping	One pupil helps another pupil who has asked for help with an on-task activity <u>Example:</u> shows how to do an experiment, explains instructions
Student initiated	Help is performed as result of a voluntary act of the student-helper or as a response to a request from a peer
Teacher initiated	Help is imposed by the teacher or by the task instruction

5. *On-task: Teacher-Student* Verbal interaction between teacher and student that is related to the learning activity
6. *Off-task: Social Event* The pupils engage in verbal exchanges unrelated to the learning activity
- Example: talk about a party or TV show
-

Appendix B: Types of student-student interactive behaviours and definition

Behaviour Types	Definition	Behaviour Category
Group evaluation	A student discusses with peers to evaluate peers' writing based on scoring rubrics	Interactive on-task
Self-revising	A student revises or works on the writing alone	Non-interactive on-task
Peer revising	A student offers ideas or answers to peers to revise the writing	Interactive on-task
Proofreading	A student helps peers to see if the revision is correct	Interactive on-task
Discussion	A student discusses with peers about a learning issue and holds a certain viewpoint	Interactive on-task
Asking questions	A student raises questions related to learning	Interactive on-task
Not paying attention	A student does not participate in any learning activities for 15 seconds	Non-interactive off-task
Disturbing others	A student interrupts or disturbs peers' learning	Non-interactive off-task
Chatting	A student talk to peers about non-related learning activity	Interactive off-task

Appendix C: Questionnaire on English Writing Attitude (QEWA) (English Version)

I. Basic information

1. Gender: Male Female

2. Length of time learning English: 0-3 years 3-5 years 5-7 years
 more than 7 years

3. Length of time learning English writing: 0 year less than 1 year 1-2 years 2-3 years more than 3 years

4. Number of times English writing is practiced every week: 0 0-3 times
 3-5 times 5-7 times more than 7 times

II. Multiple choice (AC=agree completely; A=agree; D=disagree; DC=disagree completely)

		AC	A	D	DC
1	I like to write down my ideas in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	English writing ability will be important for work in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Before writing, I can discuss my ideas with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	I think English writing ability will have a great impact on my study in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	I don't know how to begin to write.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	I feel nervous about participating in the activities in English writing class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	I'm confident in writing narrative writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	I'm not confident in writing argumentative writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	I have poor understanding of grammatical concepts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	I think I have the talent to write in English.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	I like having English writing class and participate actively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	I don't know enough English vocabulary to express my ideas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	I think the main purpose of learning English is for the exams.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	English writing is a big headache for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	I revise my writing until I'm satisfied.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	It's challenging to organize my ideas in writing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 17 | I like reading my classmates' writing. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18 | I can express my ideas in English quickly. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19 | I think teachers' explanations can facilitate the process of my writing. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20 | I can apply the theory of writing skills in writing practice. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21 | Learning English writing can help me make more foreign friends. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22 | I like sharing my writing with my classmates and receiving their feedback for revision. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 23 | I don't know how to revise based on teachers' feedback. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24 | I know clearly who my audience is. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25 | I feel embarrassed to share my writing with others. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26 | I think my writing content is poor, because I have no ideas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27 | I will not be active to write a composition if the teacher does not request. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28 | I know English writing is a tool to communicate with others. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Appendix D: Pennsylvania Writing Assessment Domain Scoring Guide

	4	3	2	1
FOCUS	Sharp, distinct controlling point made about a single topic with evident awareness of task	Apparent point made about a single topic with sufficient awareness of task	No apparent point but evidence of a specific topic	Minimal evidence of a topic
CONTENT	Substantial, specific, and/or illustrative content demonstrating strong development and sophisticated ideas	Sufficiently developed content with adequate elaboration or explanation	Limited content with inadequate elaboration or explanation	Superficial and/or minimal content
ORGANISATION	Sophisticated arrangement of content with evident and/or subtle transitions	Functional arrangement of content that sustains a logical order with some evidence of transitions	Confused or inconsistent arrangement of content with or without attempts at transitions	Minimal control of content arrangement
STYLE	Precise, illustrative use of a variety of words and sentence structures to create consistent writer's voice and tone appropriate to audience	Generic use of a variety of words and sentence structures that may or may not create writer's voice and tone appropriate to audience	Limited word choice and control of sentence structures that inhibit voice and tone	Minimal variety in word choice and minimal control of sentence structures
CONVENTIONS	Evident control of grammar, mechanics, spelling, usage and sentence formation	Sufficient control of grammar, mechanics, spelling, usage and sentence formation	Limited control of grammar, mechanics, spelling usage and sentence formation	Minimal control of grammar, mechanics, spelling usage and sentence formation

References

- Amros, M. J. (1997). A new perspective on peer-editing. *Foreign Language Annals*, 30, 513-523.
- Ashwell, T. (2000). Patterns of teacher response to student writing in a multiple-draft composition classroom: Is content feedback followed by form feedback the best method? *Journal of Second Language Writing*, 9, 227-251.
- Beason, L. (1993). Feedback and revision in writing across the curriculum classes. *Research in the Teaching of English*, 27, 395-422.
- Beauvois, M. H. (1997). High-tech, high-touch: From discussion to composition in the networked classroom. *Computer-Assisted Language Learning*, 10, 57-70.
- Bender, C. F. (1989). A study of teacher and peer comments in the revision process of college writers. *Dissertation Abstracts International*, 51, 437A. University Microfilms No. 90-186, 66.
- Blake, R. J. (1992). Second-language reading on the computer. *ADFL Bulletin*, 24, 17-22.
- Bridwell, L. S. (1980). Revising strategies in twelfth grade students' transactional writing. *Research in the Teaching of English*, 14, 197-222.
- Brown, H. D. (1994). *Teaching by principles*. Englewood Cliffs, NJ: Prentice Hall Regents.
- Chang, W. C., Lin, C. Y., Hsu, C. M., & Lin, L. S. (2000). *CEEC Report III: The planning & research on English writing proficiency test*. Taipei: College Entrance Exam Center. (In Chinese).
- Chen, H. C. (2001). Diagnosis in English writing difficulties and suggested remedial instructions. *Proceedings of the Tenth International Symposium on English Teaching* (pp. 300-309). Taipei: Crane.
- Chen, P. C., & Lee, Y. (1998). A study of an experiment on teaching English writing through Internet. *Journal of National Cheng-Kung University*, 33, 65-103.
- Chen, Y. C. (2007, July 19th). Five indexes Announced From CEEC: No full marks on Chinese composition; 11% of zero on English composition. Retrieved on 20 July 2007 from <http://news.sina.com.tw/life/bcc/tw/2007-07-19/114412615930.shtml>
- Chen, Y. M. (1997). A study of the effects of single-drafted and multi-drafted contexts on EFL students' writing performances and their perceptions of revision. *The Journal of Chung Cheng University*, 8, 421-464.
- Cheng, Y. L. (1993). A study of writing theories and strategies of EFL teachers in senior high schools. *The Journal of National Kaohsiung Normal University*, 4, 195-207.
- Chiu, C. Y. (2006). *The effects of cooperative evaluation and group rewards with Writing & Evaluation- Cooperative Online Learning (WE-COOL) system on senior high school students' English writing achievement and attitudes*. Unpublished doctoral dissertation. National Chia-yi University. Chia-yi, Taiwan.
- Chiu, C. Y., Chung, S. C., & Chiang, F. C. (2008). The effect of cooperative learning & online peer review on high school students' writing achievement. In S. M. Wu, T. R. Tupas, M. L. Chew, M. L. Sadorra & C. Caraprasad (Eds.), *The English language teaching and learning landscape: Continuity, innovation and diversity*. (pp. 79-92). National University of Singapore: Singapore.
- Chou, H. L. (1989). *Contractive rhetoric: Chinese and English*. Paper presented in the sixth conference on English teaching and learning in the Republic of China.
- Chung, S. C. (1997). *The research on computer cooperative learning of elementary school students: Group friendship, reward structure, and student factors*. Taipei: Notational Normal University Bookstore.
- Cottell, P. G. Jr., & Millis, B. J. (1993). Cooperative learning structures in the instruction of Accounting. *Issues of Accounting Education*, Spring, 40-59.

- Crowhurst, M. (1986). Revision strategies of students at three grade level. *English Quarterly*, 19, 216-226.
- DirPardo, A., & Fressman, S. W. (1998). Peer response in the writing classroom: Theoretic foundations and new directions, *System*, 58, 119-149.
- Dunkel, P. (1991). *Computer-assisted language learning and testing: Research issues and practice*. New York: Newbury House.
- Ferris, D. R. (1997). The influence of teacher commentary on student revision. *TESOL Quarterly*, 31, 315-339.
- Ferris, D. R., & Roberts, B. (2001). Error feedback in L2 writing classes: How explicit does it need to be? *Journal of Second Language Writing*, 10, 161-184.
- Frizler, K. (1995). *The Internet as an educational tool in ESOL writing instruction*. Unpublished master's thesis. San Francisco State University, San Francisco.
- Gamson, Z. F. (1994). Collaborative learning comes of age. *Change*, 26, 44.
- Hertz-Lazrowitz, R. (1984). Understanding interactive behaviours: looking at six mirrors of the classroom. In R. Hertz-Lazrowitz & N. Miller (Eds.), *Interaction in cooperative groups* (pp. 71-101). New York: Cambridge University Press.
- Jacobs, G., Curtis, A., Braine, G., & Huang, S. Y. (1998). Feedback on student writing: taking the middle path. *Journal of Second Language Writing*, 7, 307-317.
- Johnson, D. W., & Johnson, R. T. (1994a). An overview of cooperative learning. In J. S. Thousand, R. A. Villa & A. I. Nevin (Eds.), *Creativity and collaborative learning* (pp. 31-44). London: Paul H. Brooks Publishing.
- Johnson, D. W., & Johnson, R. T. (1994b). Cooperative, competitive, and individualistic learning. In D. W. Johnson & R. T. Johnson (Eds.), *Learning together and alone: Cooperative, competitive, and individualistic learning*. Needham Heights, Massachusetts.
- Kagan, S. (1986). Cooperative learning and sociocultural factors in schooling. In California Department of Education (Ed.), *Beyond language: Social and cultural factors in schooling language minority students* (pp. 231-298). Los Angeles, CA: Evaluation, Dissemination and Assessment Center, California State University, Los Angeles.
- Kataoka, K. (2000). Computers for English language learning in Japanese schools. (ERIC Document Reproduction Service No. ED439600)
- Keh, C. L. (1990). Feedback in the writing process: A model and methods for implementation. *ELT Journal*, 44, 394-404.
- Kern, R.G. (1995). Restructuring classroom interaction with networked computers: Effects of quantity and characteristics of language production. *The Modern Language Journal*, 79, 457-476.
- Krashen, S. (1984). *Writing: research, theory, and application*. New York: Pergamon Press.
- Kwok, R. C., & Ma, J. (1999). Use of a group support system for collaborative assessment. *Computers and Education*, 32, 109-125.
- Leki, I. (1990). Potential problems with peer responding in ESL writing classes. *CATESOL Journal*, 3, 5-19.
- Liu, C. K. (1998). The errors of English composition: from another perspective. *Newsletter for Teaching the Humanities and Social Sciences*, 9(4), 9-21. (In Chinese)
- Liu, J., & Hansen, J. G. (2002). *Peer response in second language writing classrooms*. Ann Arbor: University of Michigan Press.
- Melograno, V. J. (1997). Integrating assessment into physical education teaching. *Journal of Physical Education*, 68, 34-37.
- Mendonca, C. O., & Johnson, K. E. (1994). Peer review negotiations: Revision activities in ESL writing instruction. *TESOL Quarterly*, 28, 745-769.
- Min, H. T. (2003). Why peer comments fail. *English Teaching & Learning*, 27(3), 85-103.

- Nelson, G. L., & Carson, J. G. (1998). ESL students' perceptions of effectiveness in peer response groups. *Journal of Second Language Writing, 7*, 113-131.
- Nelson, G. L., & Murphy, J. M. (1992). An L2 writing group task and social dimensions. *Journal of Second Language Writing, 1*, 171-193.
- Olsen, R., & Kagan, S. (1992). About cooperative learning in C. Kessler (Ed.), *Cooperative language learning: A teacher's resource book* (pp. 1-10). NJ: Prentice Hall.
- Paramskas, D. (1993). Computer-assisted language learning (CALL): Increasingly integrated into an ever more electronic world. *Canadian Modern Language Review, 50*, 124-143.
- Paulus, T. M. (1999). The effect of peer and teacher feedback on student writing. *Journal of Second Language Writing, 8*, 265-289.
- Qin, Z., Johnson, D. W., & Johnson, R. T. (1995). Cooperation versus competition efforts and problem solving. *Review of Educational Research, 65*, 129-143.
- Searby, M., & Ewers, T. (1997). An evaluation of the use of peer assessment in higher education: A case study in the School of Music, Kingston University. *Assessment of Evaluation in Higher Education, 22*, 371-383.
- Sivan, A. (2002). Implementing peer assessment to enhance teaching and learning. *New Horizons, 1*(2), 10-11.
- Slavin, R. E. (1983). When does cooperative learning increase student achievement? *Psychology Bulletin, 94*, 429-445.
- Slavin, R. E. (1991). Group rewards make groupwork work. *Educational Leadership, 48*(1), 89-91.
- Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice* (2nd ed.). Needham Heights, Massachusetts: Allyn & Bacon.
- Tsai, H. (2003). Examining teacher response to student writing. *Proceedings of the 21st International Conference on English Teaching & Learning in the Republic of China* (pp. 739-754). Taipei: Crane.
- Warschauer, M. (1996). Comparing face-to-face and electronic communication in the second language courses. *CALICO Journal, 15*, 129-143.
- Yang, I. L. (2003). A viewpoint of the English writing instruction in high schools. *Newsletter for Teaching the Humanities and Social Sciences, 14*(1), 92-113. (In Chinese)
- Yueh, J., & Alessi, S. M. (1988). The effects of reward structure and group ability composition on cooperative computer-assisted instruction. *Journal of Computer-based Instruction, 15*(1), 18-22.
- Zamel, V. (1982). Writing: The process of discovery meaning. *TESOL Quarterly, 16*, 195-208.