

## Effects of Cooperative Learning on Writing Activity of English for Special Purposes in Japanese University Students

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Received: December 5, 2014

Accepted: January 10, 2014

### Abstract

With the advent of English as *lingua franca* in the modern world, learning English as a tool of communication has become increasingly important. Accordingly, particular demand by university students for learning major-specific English or English for Special Purposes (ESP) in preparation for future professional skills and job-related functions has increased. Writing is one of the most important and useful language skills for students. However, Japanese EFL (English as a Foreign Language) learners often have little or inadequate experience in writing English, leading to their lowered self-confidence. The present paper aims to incorporate cooperative learning into a writing activity to promote student fluency and gain their confidence toward writing, and the effects/results are reported herein. A total of 57 participants who took a course on Science English as ESP answered pre- and post-task questionnaires related to a short video-clip description task with their peers. The results from the questionnaires suggest that cooperative learning had a positive influence on their attitude toward writing ability/activity.

**Keywords:** cooperative learning, writing activity, ESP, science English, self-confidence

### 1. Background

Writing involves complicated and multifaceted activities such as generating ideas, drafting, revising, editing texts, and correcting errors,<sup>1</sup> and it is one of the most valuable tasks for evaluating whether learners of English as a Foreign Language (EFL) can perform active language use. For various reasons, however, it is considered substantially hard to make Japanese EFL learners engaged in said complex activities. Japanese EFL classrooms do not provide students with an ideal setting for writing, due mainly to large class-size and limited teaching time: teachers find it difficult to check all the students' work in the limited time at their disposal. Even when teacher feedback is freely available, it may not be of an appropriate perspective: i.e. while it is certain that explicit instruction by teachers is considered essential to improving student-writing, this tends to be product- and not process-oriented and overly emphasize accuracy in matters of spelling and grammar. This may be due to the fact that the learning system in Japan is exam-based, leading to over-emphasis on accuracy. In junior and high schools, students are trained to study for the purpose of passing entrance examinations, and in university most students study to score higher marks on the TOEIC (Test

of English for International Communication) test, which is by far the most widely-used examination for measuring general English proficiency in Japan (many corporations require certain level of TOEIC scores for job applicants). As a result, adherence to traditional educational (i.e. accuracy-oriented) requirements – or producing as few mistakes as possible – can actually deprive students of opportunities to further enhance their oral and written fluency.<sup>2</sup> In fact, Japanese EFL students have very limited experience in writing, suggesting that translating one-sentence text is still the standard technique used in teaching even in writing courses.<sup>3</sup> Even those who obtain high scores in TOEIC do not necessarily display excellent writing skill despite the fact that they have studied English intensively and persistently. Presumably, reflection on their lack of experience per se can also lead students to display lowered self-confidence and greater anxiety.

Meanwhile, it has long been recognized that writing performance is required at various learning stages, particularly at the university level. Through activities such as presentations, reports, and seminars, students are

occasionally required to write in English. To help bridge the gap between their needs and their lowered self-confidence from lack of experience, an effective method of teaching writing needs to be incorporated into actual EFL settings.

It has been emphasized that students can learn best in more learner-centered, collaborative settings as opposed to individual-oriented and competitive settings.<sup>4</sup> Considering the aforementioned learning situation in Japan, it may be useful to have students collaborate on writing task. In addition, it is generally reported that Japanese students are often shy and hesitate to express their opinions in language classrooms. In cooperative learning, students are expected to feel at ease and relaxed with their peers. That also allows them to focus on meaning without caring excessively about correct form, resulting in their developing greater fluency. Fluency is defined as “the learner’s capacity to mobilize an interlanguage system to communicate meaning in real time.”<sup>5</sup> To make writing a more motivated activity, focus on fluency is an important factor.<sup>6</sup> According to a previous study,<sup>7</sup> when learners are producing more fluent language, they are prioritizing meaning over form. Thus, fluency can be used to characterize a person’s level of communication proficiency. For the purpose of better teaching communication, emphasis should be placed on meaning- and form-focused approaches. Once students have developed marks of fluency such as greater writing volume and a larger vocabulary in their writing, they can regain confidence and feel the pleasure of learning. Consequently, these multifaceted experiences can effectively motivate students in English learning and bring about progress in their language proficiency. In psychological terms it is called intrinsic motive and many researchers insist that intrinsic motive leads to effective results compared to extrinsic motivation.<sup>8</sup> In this case, the experienced confidence and the pleasure motivate the students more compared to the extrinsic motivation such as scoring high TOEFL score.

Furthermore, with English having the status of a so-called *lingua franca*, it is predicted that Japanese EFL learners’ needs will become more specific: their demand for English education applicable to their future careers will increase even further. In fact, Japanese EFL learners enter university after being exposed to general English classes at lower grades, and then feel the need to learn ESP required for their major-specific English. In other words, in addition to further improving their already-

known English, or English for General Purposes (EGP), university students need to master relevant ESP at university (albeit within a short period of time). Despite the growing demand for ESP instruction, lack of writing experience could make it even more difficult for university students to acquire the necessary level of written English in their chosen field of study. Therefore, this study investigated on the effects of introducing cooperative writing to a Japanese EFL classroom of Science English (SE) as ESP to promote their fluency. The term “specific” in ESP refers to the learning of English, which has specific (and special) purposes. The present paper deals with SE as ESP, and where SE is defined as “a form of English medium used in describing and expressing various vital perspectives in science”<sup>9</sup> that espouses QQSO (qualitative, quantitative, specificity and objectivity respectively) perspectives toward facts and observations. Although SE shares the same grammar and sentence structures as general English, the former uses specific expressions and technical terms without distracting words related to feeling and emotion.<sup>10</sup>

In order to investigate how Japanese EFL learners’ attitudes toward writing through cooperative learning changed, pre- and post-task questionnaires were prepared. Although a video-clip description (VCD) task was used to elicit the written texts, only the results from the questionnaire are discussed in this study.

## 2. Methods

### 2.1 Video-clip description (VCD) task

Japanese EFL learners’ perceptions of writing were evaluated before and after a VCD task using a cooperative learning strategy. The task was chosen because video-clips provide students with a triggering visual stimulus for language production. The following research questions were thus formulated: (1) “What were your perceptions of writing before the task?”; (2) “How did your attitude change toward writing by doing a task with your peers in a cooperative way?”; and (3) “After the task, how did you view cooperative writing?”

### 2.2 Participants

This study, which was conducted in the second semester, employed a classroom-based design. A total of 57 first-year Japanese students (male: 25, female: 32; average age = 18.5) in a non-English major course at a private university in Japan were asked to participate in this experiment. In this university, first-year students are

obliged to take SE as an ESP class. All subjects in the study had already acquired learning certain SE basics in their first semester required by the present survey. Prior to this experiment, students were given the pen-and-pencil Oxford Quick Placement Test (OQPT: ver2),<sup>11</sup> which has been developed by Oxford University Press and Cambridge ESOL to measure general English proficiency. Based on their scores, students were all categorized as having the Common European Framework of Reference (CEFR) B1/B2 levels,<sup>12</sup> or an intermediate level.

### 2.3 Experimental Procedures and Materials

For the purpose of this study, the following resources were used: a short video-clip and pre- and post-task questionnaires. The short video-clip was played for not more than three minutes for the VCD task. It portrayed a person performing a typical science experiment in a laboratory. The questionnaires were presented so as to gather information in relation to the listed questions. For the purpose of investigating their general perceptions of writing, we designed a 12-item pre-task questionnaire (partly adapted from the Writing Apprehension Test (WAT) developed by Daly and Miller in 1975).<sup>13</sup> Meanwhile, we developed a novel post-task questionnaire specifically for the present study. It lists 15 items, which mainly ask the participants to rate their perceived benefits of cooperative writing. In both the questionnaires, there are five choices for each question item: i.e. a five-point [1-5] Likert scale<sup>14</sup> with each item on the scale fully labeled in an ascending point-order (i.e. Strongly Disagree [1], Disagree [2], Neutral [3], Agree [4], and Strongly Agree [5]).

In an attempt to gain a wider picture of participants' reactions to cooperative learning, the post-task questionnaire was designed such that open-ended questions incorporated the advantages and disadvantages of cooperative learning. Additionally, the original instructions for both questionnaires were in Japanese to prevent misinterpretation and inappropriate perception.

### 2.4 Procedures

This experiment consisted of a pre-task questionnaire, VCD task, and post-task questionnaire. Prior to the experiment, all the participants were informed as to purpose of the study, and given the following instructions: 1) "There are no right or wrong answers for the questions", 2) "The information they provide will be kept strictly confidential", and 3) "The word 'writing' in each statement on the questionnaires means 'writing in

English". First of all, the pre-task questionnaire (5 minutes) was conducted to examine all the participants' general views on writing. For the VCD task, students were randomly divided into small groups of three or four each. While students were watching the video-clip, they were allowed to take notes on their own. After watching the video-clip three times, the participants were instructed to describe what they had seen with their peers for 20 minutes without using a dictionary. After the task, they were asked to fill out the post-task questionnaire (10 minutes). The reason why it took twice as much time to conduct the post-task questionnaire was that it included an open-ended question asking about the advantages and disadvantages of cooperative learning.

## 3. Results

Valid questionnaire data collected from 52/57 participants were used for the analysis. The five-point Likert Scale was designed in the form of pre-task and post-task questionnaires to yield a certain degree of agreement having a numerical value of 1 - 5. After calculating the total value of all responses to each statement, they were converted to percentages. The "Strongly Agree" and "Agree" responses were summed together as the agreement level. Likewise, the responses to "Strongly Disagree" and "Disagree" were combined to yield the disagreement levels. The Window R 3.1.0 program was utilized for statistical verification.

### 3.1 Pre-task Questionnaire

The pre-task questionnaire was scored according to the 5-point Likert scale. It consisted of two sections, each of which had six items: (I) participants' valuation of writing compared to the other language skills (items 1-6), and (II) their perceptions of writing (items 7-12). The Cronbach's alpha values of reliability statistics were 0.80 for the former and 0.65 for the latter, which are considered acceptable reliability coefficients.<sup>15</sup>

#### 3.1.1 (I) Participants' valuation of writing compared to other language skills (items 1-6)

The first six-item section elicited data as to whether participants set a greater value on writing than the other skills: i.e. speaking, listening, reading, grammar, vocabulary and pronunciation (Table 1). On the whole, all the means were below 3, indicating that they did not seem to place a high value on writing compared to the other language skills. In particular, disagreement (%) about their valuation of writing compared to speaking and listening were relatively high, about 48.1% and 42.3%

respectively, although about half of the participants were neutral about all the statements.

### 3.1.2 (II) Perceptions of writing (items 7-12)

From the six items eliciting data on the participants' perceptions of writing (Table 2), it is worth mentioning that about 90% strongly felt the need to master English for academic purposes as reflected in item 9. As shown in item 8, about half of the participants (48.1%) considered that writing skills are an important part of communication. However, the majority of participants disagreed with items 7 and 12: i.e. they were neither used to writing nor confident in writing. In fact, less than 10% (7.7%) had confidence in their ability to write in English: indeed, over 70% of the participants stated that they were not confident about their writing skills. In summary, participants lacked confidence in their writing ability, although they were aware that writing skills are necessary for success in college and career.

### 3.2 Post-task Questionnaire

The post-task questionnaire consisted of three sections stressing the effect of cooperative writing which they engaged in: (i) participants' perceived benefits of being involved in cooperative writing (items 1-6), (ii) their contribution to cooperative writing during the task (items 7-10), and (iii) their impression of cooperative writing (items 11-15). Using the Cronbach's alpha reliability coefficient, reliability values of these three sections was found to be 0.82, 0.82 and 0.85 respectively (values above 0.80 indicate high internal reliability).

#### 3.2.1 (i) Participants' perceived benefits of being involved in cooperative writing (items 1-6)

For the items addressing their perceived benefits from this task, each statement is preceded by the phrase, "thanks to my peers" (Table 3). As a whole, all the responses were overwhelmingly positive. In particular, about 65% of the participants realized that they could write what they could not express without the assistance of their peers. However, about 20% did not enjoy writing through cooperative learning as in item 1.

#### 3.2.2 (ii) Contribution to cooperative writing during the task (items 7-10)

As shown in Table 4, this four-item section shows participants' willingness to cooperate in writing. Although more than half of the participants (57.7%) agreed willingly to correct their grammatical errors, only 28.9% of the participants revised their draft. Findings of special mention were: about 20% of the participants did not agree with item 10; and they were not involved in writing activity with their peers cooperatively.

#### 3.2.3 (iii) Impression of cooperative writing (items 11-15)

Based on a summary of the third section (Table 5), overall, it was obvious that they willingly and affirmatively accepted the notion of cooperative writing. More than half of the respondents (63.4%) to items 12-13 regarded cooperative learning as enjoyable and considered it as useful. Regarding items 13 and 15 related

Table 1: Participants' valuation of writing compared to other language skills ( $n=52$ )

Items	M (SD)	n (%)		
		Disagree	Neutral	Agree
1. Writing is more important than speaking.	2.50 (0.93)	25 (48.1)	21 (40.4)	6 (11.5)
2. Writing is more important than listening.	2.52 (0.82)	22 (42.3)	26 (50.0)	4 (7.7)
3. Writing is more important than reading.	2.94 (0.79)	11 (21.2)	29 (55.8)	12 (23.1)
4. Writing is more important than grammar.	2.94 (0.81)	14 (26.9)	26 (50.0)	12 (23.1)
5. Writing is more important than vocabulary.	2.70 (0.82)	20 (38.5)	25 (48.1)	7 (13.5)
6. Writing is more important than pronunciation.	2.87 (0.91)	15 (28.8)	26 (50.0)	11 (21.2)

Note. M = Mean, SD = Standard deviation

Table 2: Participants' perceptions of writing ( $n=52$ )

Items	M (SD)	n (%)		
		Disagree	Neutral	Agree
7. I am used to writing.	2.46 (1.02)	28 (53.8)	16 (30.8)	8 (15.4)
8. Writing is served as a tool of communication.	3.37 (0.98)	7 (13.5)	20 (38.5)	25 (48.1)
9. Writing skill is required for academic purposes.	4.35 (0.93)	3 (5.8)	2 (3.8)	47 (90.4)
10. I enjoy writing.	2.91 (0.98)	17 (32.7)	20 (38.5)	15 (28.8)
11. I am interested in writing.	3.06 (1.07)	18 (34.6)	14 (26.9)	20 (38.5)
12. I am confident in writing.	2.15 (0.96)	37 (71.2)	11 (21.2)	4 (7.7)

Note. M = Mean, SD = Standard deviation

Table 3: Participants' perceived benefits of being involved in cooperative writing ( $n=52$ )

Items	M (SD)	n (%)		
		Disagree	Neutral	Agree
Thanks to my peers,				
1. I enjoyed this writing activity.	3.38 (0.91)	10 (19.2)	14 (26.9)	28 (53.8)
2. I found it easier to write.	3.48 (0.92)	6 (11.5)	18 (34.6)	28 (53.8)
3. I could express what I couldn't express.	3.69 (1.00)	6 (11.5)	12 (23.1)	34 (65.4)
4. I realized my grammatical errors.	3.67 (0.96)	4 (7.7)	17 (32.7)	31 (59.6)
5. The draft was well-organized.	3.52 (0.94)	6 (11.5)	20 (38.5)	26 (50.0)
6. The draft was full of detailed descriptions.	3.54 (0.85)	4 (7.7)	21 (40.4)	27 (51.9)

Note. M = Mean, SD = Standard deviation

Table 4: Participants' contribution to cooperative writing in task performance ( $n=52$ )

Items	M (SD)	n (%)		
		Disagree	Neutral	Agree
7. I willingly corrected grammatical errors.	3.54 (0.85)	7 (13.5)	15 (28.8)	30 (57.7)
8. I willingly revised the draft.	3.15 (0.78)	8 (15.4)	29 (55.8)	15 (28.8)
9. I willingly increased an amount of writing.	3.29 (0.78)	7 (13.5)	26 (50.0)	19 (36.5)
10. I willingly cooperated with my peers.	3.33 (0.96)	11 (21.2)	17 (32.7)	24 (46.2)

Note. M = Mean, SD = Standard deviation

Table 5: Participants' impression of cooperative writing ( $n=52$ )

Items	M (SD)	n (%)		
		Disagree	Neutral	Agree
11. I get to like writing better than before.	2.92 (0.84)	6 (11.5)	25 (48.1)	21 (40.4)
12. I found it useful to interact with peers.	3.73 (1.09)	7 (13.5)	12 (23.1)	33 (63.5)
13. I enjoy writing.	3.65 (1.03)	7 (13.5)	12 (23.1)	33 (63.5)
14. I am interested in writing.	3.37 (0.86)	6 (11.5)	20 (38.5)	26 (50.0)
15. I am confident in writing.	3.21 (0.89)	4 (7.7)	17 (32.7)	31 (59.6)

Note. M = Mean, SD = Standard deviation

Table 6: The Wilcoxon Signed Rank Test on the pre-and post-task questionnaire for three factors anticipated.

	Pre-task		Post-task		Z	Sig
	M	SD	M	SD		
enjoyment	2.91	0.98	3.65	1.03	-3.487	.000**
interest	3.06	1.07	3.37	0.86	-1.895	.058 <i>ns</i>
self-confidence	2.15	0.96	3.21	0.89	-5.090	.000**

Note. \* $p < .05$ , \*\* $p < .01$ , *ns* = not significant

to enjoyment and self-confidence, it was remarkable that about 60% felt more enjoyable (63.5%) and confident (59.6%) in writing than before, contrasting their responses in the pre-task questionnaire (items 10 and 12).

Three factors which particularly might affect their future attitudes toward writing were analyzed in detail here: enjoyment, interest and self-confidence as implied by 'I enjoy writing', 'I am interested in writing' and 'I am confident in writing' respectively. These three items in pre-task questionnaire (items 10-12) share the same set of post-task questionnaire (items 13-15). In order to compare between pre- and post-task questionnaire for the items, the Wilcoxon Signed Rank Test was conducted

with the alpha level set at .05. The findings of the individual tests were presented in Table 6, indicating that a significant difference was found in enjoyment ( $z = -3.487$ ,  $p = .000$ ) and self-confidence ( $z = -5.090$ ,  $p = .000$ ) but not in interest ( $z = -1.895$ ,  $p > .05$ ).

Fig. 1 indicates a larger pre-task to post-task increase of positive responses in three factors. Above all, the results regarding their self-confidence are worthy of special mention. As opposed to the pre-task questionnaire (item 12) - and thanks to cooperative writing - the participants had more confidence in writing than before tasking (item 15). While pre-task finding indicated only 7.7% agreed that they had confidence in writing, the

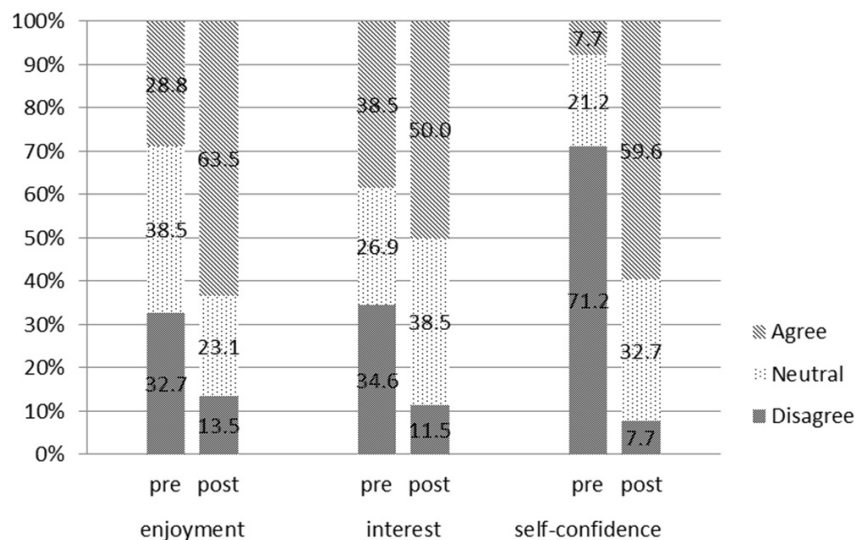


Fig. 1: Pre- and post-task changes of enjoyment, interest and self-confidence in participants.

number increased markedly to 59.6% after tasking.

As for the open-ended questions asking about the advantages and disadvantages of cooperative learning, the responses were uniform. The three most frequently cited benefits included noticing their own grammatical errors, learning about expressions that they did not already know, and enjoyment. However, responses as the disadvantages were identical: certain individuals well versed in writing were less cooperative in the task. As such, cooperative writing was ultimately reduced in individuals who were stronger in writing as they wanted to express their own concept, and felt that they did not need to cooperate with their peers.

#### 4. Discussion

Cooperative learning is defined as a variety of teaching methods in which students work in small groups to help one another learn academic content:<sup>16</sup> an approach which has been applied to various EFL settings. In other words, cooperative learning aims to encourage free production of language by asking students to help each other cooperatively and collaboratively. When doing a cooperative writing task, learners are given an opportunity to engage in social interaction with their peers in a small group in that they not only write together but also revise their draft together during the process of writing. Cooperative writing also involves peer response, or peer review, in which students share their views and give each other feedback without teacher involvement. According to documented literature, peer response has been gaining increasing popularity in EFL classrooms since the 1990s.<sup>17</sup>

Cooperative learning methods vary widely in their details. Although cooperative learning strategies are generally considered to be effective for the purpose of enhancing learners' academic performance,<sup>16</sup> it is uncertain how and which type of grouping is more advantageous in actual EFL classrooms. In short, findings of more positive outcome in homogeneous than heterogeneous groups have been inconclusive: viz., homogeneity/heterogeneity has been defined according to various parameters such as size (e.g. pair work or group work), gender (e.g. all males or all females), familiarity (e.g. all strangers or all friends), and proficiency level (e.g. the same levels or different levels). Moreover, it remains unknown whether or not cooperative learning did actually improve language proficiency. It has been pointed out, there are concerns whether or not a student per se has enough linguistic skills to judge and revise writing material.<sup>18</sup> Although such issues should be taken into consideration, it is worth noting here that cooperative learning may be associated with gains in thinking and interpersonal skills as well as attitudes toward the classroom situation.<sup>19</sup>

Based on responses to the pre-task questionnaire (first research question), participants did not place a high value on writing in relation to the other language skills on the whole. Although writing is considered a productive skill, students seem to be passive in learning because of the test-driven educational system in Japan where writing is not emphasized.<sup>20</sup> However, their valuation of speaking as a productive skill was remarkably high in the present study.

Considering that they were also focused on improving their listening skills, they were more likely to value interacting with people directly in English. Their tendency to pursue such language learning may have enhanced with cooperative learning. In addition, it was revealed that they perceived a lack of confidence and experience in writing. However, they realized that they have to learn English for their academic life as related to their future careers.

The findings from the post-task questionnaire answer the remaining two research questions. After analyzing the answers to the questionnaire, it was concluded that the participants were generally positive toward the notion of cooperative learning: students seemed to appreciate and enjoy the writing activity with their peers. Above all, it turned out that the participants significantly gained more self-confidence in writing compared to pre-tasking.

In particular, the responses to the open-ended question aimed to answer the last research question, which tended to obtain suggestive comments. The answer most frequently provided was as follows: through cooperating with their peers, they often came to notice their grammatical errors and expressions they did not already know. This can be said to be consistent with previously described findings,<sup>21</sup> which emphasize the role of output, or meaningful production of language. EFL learners may be able to “notice a gap between what they want to say and what they can say, leading them to recognize what they do not know, or only know partially”<sup>22</sup> in producing the target language: the activity of producing target language could enable EFL learners to realize their linguistic problems. In short, the notion of noticing - in Swain’s terms<sup>21,22</sup> - is significant for learning even though when there seems to be no sign of achievement. Additionally, most of them have also pointed out that they could increase their written texts without feeling nervous.

However, as a negative side of cooperative writing, the issue of fairness has to be addressed. When someone who is better at writing ends up writing individually in a group, the other members of the group feel less involved in cooperative learning. Conversely, there were some who seemed to behave less responsibly in a group by being reluctant to get engaged in the activity. This negative comment/observation seems to show a correlation with the participants’ enjoyment toward this activity. Although most of them enjoyed cooperative writing, the result of post-task questionnaire also indicates that 10 of 52

participants (20%) did not enjoy writing activity with their peers.

## 5. Conclusion

Although there are some issues, we need to work on to invent/develop more effective ways of cooperative writing involving as many students as possible, the questionnaire-based survey reveals that cooperative learning can generally play a positive and affirmative role in ESP and general EFL learning, as suggested in previous studies.<sup>16,19,23</sup> Cooperative writing would be a great step forward to increase self-confidence toward writing once learners have built a strong sense of confidence in writing. It is likely that EFL learners will learn to cope well with writing more positively with increasing confidence, even on an individual basis.

## Acknowledgements

We would like to express our sincere gratitude to Professor Foong FW of Kyoto Pharmaceutical University for giving us constructive advice and insightful comments throughout this research.

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