A Multi-Sensory Approach to Enhancing Writing in Chinese

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Abstract

A multi-sensory approach to instruction on writing is tested in three Chinese language classes (N = 100). The students were taught with the approach in the writing of Chinese essays in three distinct genres: descriptive, narrative, and expressive. Essays were assessed by three assessors: the writer himself or herself, a peer, and the teacher before and after the instruction. A 2 (time) x 3 (style) x 3 (assessor) repeated-measures analysis of variance found statistically significant main effects and also interaction effects. Overall, the approach improved students’ writing over time in all three writing genres. However, the effect was found to be stronger for expressive and descriptive writings. The students did not feel the improvement in writing in the narrative genre as strongly as they did in the other genres. To improve students’ writing in Chinese, the use of a multi-sensory approach may be helpful especially in the expressive and descriptive genres.

Researchers and teachers of languages have always been in search for effective ways to enhance the quantity and quality of students’ writing output (Crookes, 1989; Foster & Skehan, 1996; Hudson & Bruckman, 2002; Kraetsch, 1981; Mehnert, 1998; Moran, 1988; Skehan & Foster, 1999; Wigglesworth, 1997). In the context of English language teaching, various approaches have been tested. For example, some researchers suggest the use of computer technology to increase students’ productivity in writing (e.g., Bloch, 2002; Stockwell & Harrington, 2003). Some researchers emphasize a focus on meaning when asking students to write (e.g., Kraetsch, 1981). Other researchers emphasize the importance of modeling in the learning process (e.g., Gottfried, 1974). In teaching Chinese-speaking students to write essays in Chinese, conventional approaches often include modeling with clear instructions on the genre of the essay (Erbaugh, 1990; Jin, 2001; Zhu, 1997). In the present investigation, we tested a multi-sensory approach to enhancing students’ self-initiation of ideas so as to
improve their quality of writing. In assessing students’ writing output in the experiment, in addition to the traditional teacher ratings, the writers of the essays and their peers in the class also rated the written work with a focus on the quality of output. This process is expected to not only facilitate a sense of self-regulation (Winne & Perry, 2000; Zeidner, Boekaerts, & Pintrich, 2000) during the learning process, but it will also provide some cross validation of the findings in the experimental study.

The Multi-sensory Approach

The idea of using sensory stimuli to enhance student learning and output in writing is not new. Since the 1970’s, a number of researchers have examined the use of sensory stimuli in facilitating learning. For example, Vaac and Vacc (1979) suggested the use of sensory and verbal cues as aids in learning manuscript writing. The approach was found to be useful not only with normal ability students but also with learning-disabled and emotionally disturbed children. Hillocks and Kachur (1979) found the sensory approach useful in developing elementary students’ writing skills and in stimulating their interest in writing. Walling (1978) also recommended the use of sense exploration exercises to help students develop descriptive writing. In the learning process, the use of sensory experiences has been found to be useful in helping students understand and remember learning materials (Pohan & Kelly, 2004).

In language output, Nelson (1976) commented that the five senses, including image, touch, smell, taste, and sound, can be used to add a creative touch to students’ writing output.

The use of sensory experiences to appeal to the students in the learning process is consistent with the important mission of creating an effective environment for learning in class (Pohan & Kelly, 2004). In providing an effective environment for learning, the teacher needs to: (a) try to motivate the students to invest an effort in their academic work (see McInerney, Yeung, & McInerney, 2001), (b) develop a positive self-concept which will subsequently lead to better achievement (see Marsh & Yeung, 1997), and (c) facilitate meaningful and deep learning (Findley, 2002). To facilitate deep learning, Pohan and Kelly (2004) described the success of a student teacher in using sensory experiences to generate meaningful connections, which are believed to help students develop deeper and more enduring understandings (Wiggins & McTighe, 1998). For example, to consolidate the student’s learning about sea creatures, the teacher asked students to have a close look at sea shells and attend to such details as the patterns, colors, shapes, and textures. To facilitate a more thorough understanding of the descriptions about scuba diving, the teacher allowed the students to actually try on the scuba diving gear including the fins, tank, weights, and regulator. The appeal to the imagery and touch of the students was found to be very powerful.
Hence research studies have indicated a close relationship between an individual’s senses and writing (e.g., Peterson-Stroz, 1997). For example, Peterson-Stroz (1997) found that by instructing students to use guided imagery and writing warm-ups in a printmaking and bookmaking course, students were not only motivated, but they showed evidence of improvements in both areas of writing and techniques in printmaking and bookmaking. There was therefore evidence showing that the teaching of sensory properties and writing could supplement each other. On the basis of these encouraging findings, researchers have continued to study the effects of involving students in the five senses (i.e., image, touch, smell, taste, and sound) when engaging them in writing tasks (Hillocks & Kachur, 1979; Jampole, 1990; Nelson, 1976; Peterson-Stroz, 1997; Pohan & Kelly, 2004; Vaac & Vacc, 1979; Walling, 1978).

The Multi-sensory Approach to Writing Chinese Essays

In teaching students to write essays in Chinese, traditional approaches often emphasize the teaching of genres. Students are usually required to first establish a clear structure of the essay and list an outline of the main points before starting to write the contents of the essay. In a sense, traditional approaches focus more on the structure than the content. In contrast, the multi-sensory approach focuses more on the meaning of the content, which is often influenced by the author’s senses.

Of the various senses, the visual sense is probably one of the most important. In a study with gifted elementary students, Jampole (1990) examined the effect of guided imagery on students’ writing. Academically gifted 3rd and 4th graders were tested ($N = 126$). Students with high and low creativity scores were randomly assigned to (a) an imagery training group that practiced the formation of mental images based on descriptive passages followed by a creative writing task, (b) a writing practice group that listened to short stories followed by a creative writing task, and (c) a control group in which students participated in individual projects assigned by the class teacher. A comparison of pretest and posttest scores on creative writing found that the high-creativity students in the imagery training group improved in their originality, story length, and use of sensory descriptions over time. There was evidence that the use of the visual sense could enhance the quality of writing.

To further examine the effects of imagery, Jampole et al. (1991) examined the effects of mental imagery on 4th and 5th graders’ creative writing. Again, she found that by using imagery, students improved in originality and use of sensory descriptions although the quantity of output did not differ from the control group. Similarly, Jampole, Mathews, and Konopak (1994) found positive effects of guided imagery using a sample of 43 academically gifted 3rd and 4th graders. Again, guided imagery was found to generate more original writing, which also contained more
sensory descriptions.

With strong visual impacts, students’ writing could become something like written descriptions of works of visual art. Hence, when considering the students’ attempt of putting images in writing, we may treat them as something equivalent to the visual arts presentation of the images in a graphic form. Indeed, there may be many commonalities between visual art forms and writing when both the producer’s and recipient’s visual experiences are concerned. The fact that the association between visual images and words has long been reinforced during childhood when books are read with vivid illustrations may lead to us to believe that students do have the ability to associate words with images. As long as they are motivated and guided to exercise the association, the teacher should be able to help them make such an association and put it into words. Stinson (2004), for example, supports the contention of the association of the image with words. He proposed an integration of writing into the design processes and thinking of architecture. He argued that through writing, the gaps left within the expression of design can be filled so as to facilitate a more holistic understanding of architectural experience.

Apart from imagery, the other senses may also be useful in facilitating more meaningful output in writing. For example, Sprinkle (1999) used smell as a writing stimulant to encourage writing. Galvin (1997) asked 9th graders to recall a specific sense memory involving smell and foods and then write a narrative and create a pictorial representation of it. The task resulted in students’ better output in their writing. According to Orr (2001), authors use words and expressions to convey sensory experiences to the reader such that the reader knows not just what happened, but also how it happened. Examples of such sensory experiences include image, taste, sound, smell, and feel. By using expressions about sensory experiences, we can make our writing more vivid and more appealing to the reader. Whereas experienced authors can make use of sensory stimuli in their writing to evoke the senses of the readers, students should also be able to learn to make use of their sensory experiences like these authors so as to make their writing more interesting and meaningful.

Thus, the use of a multi-sensory approach may improve students’ writing, especially in certain genres where the senses are likely to appeal to the reader. For example, Rutherford (1991) suggested that even pieces of candy can provide students with memorable lessons in writing. Whereas the scent and taste of the candy may stimulate the writer to produce a piece of writing in which the candy become more vivid, the scent and taste as presented in the words of the authors may in turn trigger the sensory experiences of the reader. For the same reason, Baart (2002) suggested that the best way to help high school student write poetry is to bring them to memories that would stimulate the expression of things more vividly and more
intensely by appealing to the writers’ various senses. Accordingly, whereas the visual sense of the image of a candy was an important stimulus used in the present study, we also emphasized the use of other senses.

In the present study, we used a similar approach emphasizing the visual sense. For example, we asked students to describe a candy. We encouraged them to look closely at the size, colour, shape, and even the wrapping of it so that they would have a richer impression for a more detailed and interesting description of the object.

Nevertheless, considering the five senses, it seems that most research in this area has focused on the visual stimulus. That is why suggestions on using sensory experiences have often focused on the visual sense (e.g., Cole, 1997; Gorrell, 1990). Further complicating the issue in the context of writing Chinese essays is the traditional emphasis on the appropriateness of genre for different purposes of writing. Hence, while one of the senses may be particularly useful in a certain genre in stimulating richer output, another genre may benefit from yet some other experiences of senses. Surprisingly, no study to date has investigated the effects of the sensory approaches on different genres, which are often distinctive in Chinese essays.

Even though there is strong support for the use of visual senses in writing, for visual stimuli to work, it seems that the more details there were, the better would be the outcome. Furthermore, as Halpern (2003) has noted that different people may have different sensory modality preferences, when one knows one’s own modality preference, one would be likely to employ this modality in future learning tasks. Therefore, when a writer has learned that the use of imagery is his or her strength, he or she will keep on using the strategy to make the writing interesting. Hence in this study, we asked the students to touch the candy, unwrap and feel, and smell it, listen to the sound when unwrapping it, and finally taste it. In this way, the students would make use of all the senses before they attempted to describe it in written form.

In sum, the use of sensory experiences has the advantage of making a piece of writing meaningful and interesting. Although the technique of using sensory experiences in writing has been tested in western countries, it has not been tested in a Chinese context. The major difference between the multi-sensory approach and traditional approaches is that in the traditional approaches, students comply with the teacher’s instructions and the requirements of the specific genre in question. With such constraints, students hardly have any room for creativity and seldom write about their real feelings. Hence in the present investigation, we hypothesized that by incorporating a multi-sensory approach to the teaching of essay writing in Chinese, students would improve in their creativity and quality of output.
Method

The Participants

The participants were 120 students who studied in the first year of a two-year associate degree program in Hong Kong. Consent to participate in the study was obtained from the participants before the experiment started. The associate degree was designed for students who have completed a two-year matriculation program but have not obtained advanced level results good enough to be accepted into university. In the past, there was almost no possible path for these students to pursue tertiary education in a local context. However, in 2001, the advent of the associate degree (AD) programs has provided them with an alternative pathway.

The design of AD programs was in line with the Hong Kong Government’s emphasis on lifelong learning and development of Hong Kong into a knowledge-based society (Education Commission, Hong Kong, 2000). It was also consistent with the Hong Kong Government’s 1999-based Manpower Requirement Projection, which estimated that the occupation group with the most significant growth in the next five years would be “associate professionals”. However, although given the new hopes and potentials, some of these students were comparatively weak in certain academic areas, including Chinese that is our focus in the present investigation. Hence, any gain obtained in the present experiment may throw light on effective ways to the enhancement of writing output of comparatively weaker adult learners.

Design

Chinese was a core module in the associate degree program and the students needed to pass Chinese in order to obtain an associate degree. It was therefore compulsory for all the 120 students in the present cohort to attend and pass the module in order to be awarded the associate degree. In three different classes, the students were taught by the same teacher. The module was designed such that there was an ongoing assessment of student learning spanning across the 45-hour module. However, the scores in the present investigation were not counted toward their final assessment scores. In this way, students would freely practise their writing skills without any pressure due to assessment requirements.

Writing scores by teacher. For the present purpose, a total of three pretest tasks and three posttest tasks were collected. The maximum possible score for each piece of writing was 60 marks such that they could be compared directly. Whereas the teacher used a clear set of marking criteria, the marking criteria were also distributed to the students (see Appendix).

Self-rating. Parallel with the teacher ratings, the students were asked to give a rating to their own written work. The list of marking criteria was used to guide the
students to rate their own work. Again, the maximum score for each piece of writing was 60 marks.

**Peer rating.** Parallel with the teacher’s and self-ratings, each student asked a friend in the same class to rate each piece of their written work. The list of marking criteria was again used to guide the peers when rating their friends’ work. The maximum score for each piece of work was again 60 marks.

**Procedure**

The Chinese module of the AD program had a tight module schedule. Of the 15 3-hour lessons, six lessons focused on the writing tasks in the present experiment, that is, two lessons for each genre (narrative, descriptive, and expressive). In each of these six lessons, a pretest was carried out in the first 30 minutes. Thus, neither any writing skill nor genre structure knowledge was taught before the pretest. The students had to use their own previous knowledge in the pretest writing task. After the pretest, the teacher provided genre-related instructions and then distributed a scoring sheet to them. Then they were told to rate the pretest essay themselves using the marking criteria. They also invited a friend to rate the essay, using the same marking criteria. The friend was also encouraged to provide some comments. These self-assessment and peer assessment activities took about 20 minutes. Finally, the teacher collected all the essays and used the same scoring sheet to rate the essays as well.

Instructions for the three classes followed the same sequence. After the pretest writing and scoring activities, knowledge about genre structure was taught for the rest of the first of two lessons for that genre. In the second lesson, after some revision of the genre knowledge, the teacher used the multi-sensory approach to lead students into the application of the genre.

Whereas the procedures were the same for all three genres, the contents were quite different when the multi-sensory approach was introduced. When teaching the narrative genre, the teacher broadcast a story-based song to the students and then asked them to rewrite the story described in the song. The instruction was to rewrite the story on the basis of the 6W technique (i.e., addressing questions of what, who, when, where, why, and how). In this way, students tried to address every possible detail. It was hoped that through the stimulation of sound and deep reasoning activities, the students would produce higher quality narrative writing output with greater details.

For the descriptive genre, a candy was given to each student. They were instructed to make full use of their senses and scribble down quickly all details of their feelings in simple words. Then, they made use of these words of feelings and rewrite and reorganize them into essay form. These activities required students to use
all the five senses: looking closely at the object (image), feeling the texture of it (feel), tasting it (taste), smelling it (scent), and listening to the unwrapping of the candy and the sound made when eating it (sound). It was hoped that the students would make more vivid descriptive essays subsequent to these multi-sensory activities.

For the expressive genre, two songs were broadcast to the students. These songs were sung in Korean so the Chinese-speaking students did not have any idea what the songs were about. One of them was in a happy mood while the other one was in a sad mood. The students were asked to write down any adjectives that may describe their feeling while listening to the songs. During the process, some of the lights in the classroom were turned down so that they would concentrate on listening to the songs. Then, they were given a writing task in which they had to describe their feelings either in a happy or a sad mood using what they had written down. It was hoped that emotions and passions evoked by the song would lead to higher quality output in expressive writing.

In the last hour of lesson 2, the teacher gave the students a topic for them to write an essay in the target genre for 30 minutes (i.e., a posttest). Similar to procedures in the pretest, the students rated the posttest essay themselves using the same set of marking criteria as in the pretest. They then asked a friend to rate their essay, using the same marking criteria. This process took about 20 minutes before the lesson concluded. Both the pretest and posttest written works were collected and rated by the teacher using the same criteria (see Appendix).

Statistical Analysis

The analysis was conducted with the scores of the 120 students. Because the pattern of results was very similar across the three classes, the result for each class is not presented separately. First, a 2 (time: pretest vs. posttest) x 3 (genre: descriptive, narrative, expressive) x 3 (assessor: self, peer, teacher) repeated-measures analysis of variance (ANOVA) was conducted with time, genre and assessor factors as within-subject factors. All statistical analysis was conducted with the SPSS10 (Foster, 2001; Green, Salkind, & Akey, 2000) statistical tool. The major purpose of the present study was to test the value-addedness of the intervention.

To the extent that the main effect of time was statistically significant, indicating noteworthy gains in scores, follow-up analyses were conducted to scrutinize the value added for each writing genre (i.e., descriptive, narrative, and expressive) separately. For the intervention to be effective in improving the students’ writing, the posttest teacher rating should be higher than the pretest teacher rating.

Results

The mean scores and standard deviations for each writing genre assessed by each of the three assessors in the present study are shown in Table 1. Given the abilities of
the students that are known to be comparatively weak, not surprisingly, the mean scores tended to be low. That is, whereas the teacher’s ratings were clearly below the 30 of the maximum possible score of 60, even the students’ self-ratings were less than 40 out of 60 at best. The mean scores showed that in general, self-ratings (e.g., posttest $M = 37.03$ for descriptive writing) tended to be higher than peer ratings (e.g., posttest $M = 31.52$ for descriptive writing), which in turn tended to be higher than teacher ratings (e.g., posttest $M = 27.34$ for descriptive writing). There was only one exception, that is, the peers rated their friends’ expressive writing more generously (posttest $M = 32.42$) than the writer (posttest $M = 25.41$) and the teacher (posttest $M = 23.88$) after intervention.

**Insert Table 1 About Here**

A comparison of the pretest scores and posttest scores found a general pattern of higher posttest than pretest scores in the respective genre and assessor (e.g., posttest teacher rating $M = 27.34$ for descriptive writing was higher than pretest teacher rating $M = 24.82$). In other words, there seemed to be some improvement in scores over time. The only exception was found in the self-ratings for narrative writing where the posttest score ($M = 34.16$) was lower than the pretest score ($M = 34.80$).

A 2 (time: pretest vs. posttest) x 3 (genre: descriptive, narrative, expressive) x 3 (assessor: self, peer, teacher) repeated-measures analysis of variance (ANOVA) was conducted. The F-statistics are presented in Table 2. The ANOVA found statistically significant effects of time, $F(1,99) = 112.99, MSE = 38.27, p < .001, \eta^2 = .53$; genre, $F(2,198) = 214.34, MSE = 47.21, p < .001, \eta^2 = .68$; and assessor, $F(2,198) = 186.65, MSE = 37.88, p < .001, \eta^2 = .65$. These results indicated that (a) there was a general gain in scores over time, (b) the students scored differently in the three writing genres, and (c) the different assessors differed somewhat in their ratings.

**Insert Table 2 About Here**

The interaction effects were also statistically significant. The time x genre interaction was significant, $F(2,198) = 21.49, MSE = 38.72, p < .001, \eta^2 = .18$, indicating that the gain in scores due to intervention was not equivalent among different writing genres. The time x assessor interaction was significant, $F(2,198) = 54.19, MSE = 20.72, p < .001, \eta^2 = .35$, indicating that the gain in scores due to intervention was not equivalent among the different assessors of written work. The genre x assessor interaction was significant, $F(4,396) = 107.15, MSE = 23.22, p < .001, \eta^2 = .52$, indicating that whereas some assessors tended to rate works in a certain genre higher than the other genres, some other assessors did otherwise. Finally, the three-way time x style x assessor interaction effect was also significant, $F(4,396) = 10.69, MSE = 19.83, p < .001, \eta^2 = .10$, indicating that the gain in scores
due to intervention was neither equivalent across genres nor equivalent across assessors.

To examine more closely the potential gains due to intervention, a 2 (time: pretest vs. posttest) x 3 (assessor: self, peer, teacher) repeated-measures analysis of variance (ANOVA) was conducted separately for each genre. The results are presented in Table 2. For the descriptive genre, the ANOVA found statistically significant main effects of time, $F(1,99) = 16.50, \text{MSE} = 34.27, p < .001, \eta^2 = .14$, and assessor, $F(2,198) = 157.45, \text{MSE} = 38.80, p < .001, \eta^2 = .61$, indicating an increase in scores over time and that the teacher tended to rate the written works lower than the students. The time x assessor interaction effect was also significant, $F(2,198) = 4.13, \text{MSE} = 31.95, p < .05, \eta^2 = .04$, indicating that the different assessors did not perceive the magnitude of improvement the same way. For example, whereas the teacher’s ratings showed a 10% increase in scores (pretest $M = 24.82$ vs. posttest $M = 27.34$), the self-ratings did not show any significant improvement over time (pretest $M = 36.92$ vs. posttest $M = 37.03$).

For the narrative genre, the ANOVA found statistically significant main effects of time, $F(1,99) = 7.65, \text{MSE} = 25.20, p < .05, \eta^2 = .07$, and assessor, $F(2,198) = 226.33, \text{MSE} = 34.72, p < .001, \eta^2 = .70$, indicating an increase in scores over time and that again the teacher tended to rate the written works lower than the students. The time x assessor interaction effect was also significant, $F(2,198) = 5.25, \text{MSE} = 24.36, p < .05, \eta^2 = .05$, indicating that the different assessors perceived the change differently. For example, whereas the teacher’s ratings showed a 7% increase in scores (pretest $M = 21.40$ vs. posttest $M = 22.98$), the self-ratings showed even a slight drop over time (pretest $M = 34.80$ vs. posttest $M = 34.16$).

For the expressive genre, the ANOVA found statistically significant main effects of time, $F(1,99) = 287.22, \text{MSE} = 20.23, p < .001, \eta^2 = .74$, and assessor, $F(2,198) = 56.02, \text{MSE} = 20.13, p < .001, \eta^2 = .36$, indicating an increase in scores over time and that the teacher tended to rate the written works lower than the students. The time x assessor interaction effect was also significant, $F(2,198) = 45.15, \text{MSE} = 22.06, p < .05, \eta^2 = .31$, indicating that the different assessors did not perceive the magnitude of improvement differently. For example, whereas the teacher’s ratings showed an 18% increase in scores (pretest $M = 20.31$ vs. posttest $M = 23.88$) which was very close to the 17% increase in the self-ratings (pretest $M = 21.69$ vs. posttest $M = 25.41$), the peer ratings increased by 54% (pretest $M = 21.05$ vs. posttest $M = 32.42$).

Discussion

Overall, the multi-sensory approach seemed to have improved students’ writing over time in all three writing genres. Taking the teacher ratings as a more accurate indication of the effects of the multi-sensory approach, the results imply that the
approach is more effective in enhancing students’ Chinese writing in the expressive and descriptive genres. Although positive gains were also detected for the narrative genre (7%), the gain was comparatively smaller than for descriptive (10%) and expressive (18%) writings. The students’ self-ratings and peer ratings also seemed to support this implication. Although the change in peer ratings over time for the expressive genre was overwhelmingly high (54%), this increase may also suggest how impressed the peers were by their friends’ improvement in that genre. For the narrative genre, even though both the teacher and the peers perceived some improvement in the writing, the writers themselves did not seem to perceive any improvement. This result seems to show that although the multi-sensory approach has been useful in enhancing students’ writing in Chinese, there may be more positive gains in the expressive and descriptive genres than in the narrative genre.

The reason for the comparatively weaker effects for the narrative genre is unclear. Perhaps the contents for the approach for the expressive and descriptive genre have been more effective than the contents of materials for the narrative genre. Although judging from the teacher’s rating, there was some noteworthy improvement in the narrative genre, even the students themselves did not feel the improvement in the narrative genre as strongly as they did in the other genres. We speculate that the nature of the activity of listening to a song had caused some distraction to some students. Although they were not required to write down the lyrics of the song, some students did try to transcribe it on paper. Hence, although the purpose of the activity was to get them involved in a deeper reasoning process through the use of the 6W strategy, they had spent their time and mental effort on the surface features of the song itself. Since the attempt to make a complete dictation of the words in the song was almost impossible given the vast difference between the speed of writing and singing, at least some of the students may have focused on tidying up the lyrics of the song and missed the more important process of deeper thinking. Although this is only our speculation, the finding suggests that further research needs to test a variety of ways to maximize the effects of the approach for the narrative genre.

Despite seemingly weaker effects for the narrative genre, there was good evidence that the multi-sensory approach was effective in adding value to the students’ essay writing in Chinese. In the context of Chinese writing, the findings are important because first, this is the first study investigating the effects of the multi-sensory approach in different genres of writing. Second, the findings have reinforced previous research showing that the approach is useful for learners of different levels of ability (Baart, 2002; Jampole, 1990; Ruthford, 1991), including those academically weaker adult students in the present sample. To language teachers, it would be amazing to find such quick results from the approach with lower ability
learners within two 3-hour lessons. It would also be interesting to find that by using this approach, the students could produce writing with more detailed and meaningful contents which are also appropriate to the genre as often emphasized in Chinese writing. Therefore, the positive effects found in the present study have important implications for the teaching of writing in Chinese and in languages that emphasize genre and structure.

In interpreting the results, we used the teacher’s rating as the major variable, but used the students ratings for cross validation of the teacher scores. In general, the analysis shows that the students’ self-ratings tended to be higher than ratings from their peers (e.g., posttest self-rating $M = 37.03$ for descriptive writing vs. posttest peer rating $M = 31.52$), and peer ratings, in turn, tended to be higher than teacher ratings (e.g., posttest $M = 27.34$). There was only one exception, that is, the peers rated their friends’ expressive writing more generously (posttest $M = 32.42$) than both the writer (posttest $M = 25.41$) and the teacher (posttest $M = 23.88$) after intervention. Hence, the teacher and student ratings were reasonably consistent.

The fact that the students tended to give higher ratings than the teacher is reasonable. While the teacher may have higher expectations than do the students, the students’ ratings could be a mix of an objective assessment of the writing with a score which they wish to obtain. Although we might speculate that these students, who are relatively weaker than most other tertiary education students academically, may not have very good ability to assess their own work and their friends’ work, the scores among the assessors in the present study did show that they were quite consistent. Hence, the use of a clear set of marking criteria (Appendix) has proved to be useful. The provision of a set of marking criteria has not only helped the teacher to assess each piece of written work more objectively, but has also helped students to understand and focus on the requirements during the writing process as well as to make an appropriate assessment of their own work after the writing. That may be why the students’ ratings were reasonably consistent and close to the teacher ratings, although also consistently higher.

This finding also implies that by providing a clear set of criteria before asking students to start writing may be an effective strategy to improve the quality of students’ writing output. Nevertheless, this finding also suggests a potential limitation of the present study. Because the students were not provided with a set of marking criteria before they started to write the pretest essay whereas the set of marking criteria was provided for the posttest, it was unclear whether the improvement found in the posttest as compared to the pretest was solely due to the effects of the marking criteria. It could be that given the marking criteria, the students became aware of the requirements and therefore wrote their essay in accordance to such requirements. If
the students were able to focus on the requirements, it would not be surprising for them to gain higher ratings in the posttest. Then, the improvement found in the present study could be attributed to the marking criteria instead of the multi-sensory approach. Therefore, in future research on the effects of the multi-sensory approach, if any requirements were to be made known to students, they should be announced even before the pretest.

Furthermore, we should also note some of the limitations in the present study. First, as suggested above, further investigations are necessary especially for the narrative genre. Second, also as suggested above, in future investigations, the effects of providing students with a clear list of scoring requirements should also be tested. Third, the conclusion of positive effects due to the multi-sensory approach was drawn from a comparison of pretest and posttest results showing significant gains of scores over time, there was a lack of a comparison group. Although the consistent gains in three classes and three genres did provide clear evidence of added value, further research should include a control group for comparison of the effects. Fourth, although it was reasonable to use the teacher ratings as the major variable for testing the effects of the multi-sensory approach and the general consistency found between the teacher and student ratings did provide some cross validation of the measure, future research should attempt to include more than one teacher’s ratings such that there would be stronger support for the reliability of the measure. Fifth, although we recommend the use of marking criteria, we also need to emphasize that it could be rather time consuming. Particularly for lower ability students who often rely much on the teacher, they would spend a lot of time trying to figure out what each requirement means. For educational purpose, it is good that the list of requirements could guide the student to focus on relevant aspects to be included in the essay, but from the perspective of experimenting, the time spent on familiarizing the students with the list could be excessive. Therefore, the list for rating should be made as simple as possible and the instructions regarding the use of it should be clear and to the point.

In future research, we could also try to improve the intervention. For the narrative genre, scripts of the lyrics of the song can be provided to the students so that they will not need to attend to the surface features of the song and put their effort appropriately in deeper thinking instead. For the expressive genre, in addition to the stimulus of sound that we used in the present study, we could also include other senses (such as touch) to evoke their feelings. For the descriptive genre, although the activities did involve a variety of senses, we could attempt to help students transfer the skills acquired through the present activity to the description of a variety of other objects, sceneries, or persons. It would be important to investigate how skills learned through the multi-sensory approach could be transferred to other topics and
In sum, the present study found that the multi-sensory approach improved students’ writing over time in all three writing genres. However, the effects were found to be stronger for expressive and descriptive writings and not so strong for narrative writing. To improve students’ writing in Chinese, or in any other language which emphasizes genre and structure, the use of a multi-sensory approach may be helpful especially in the expressive and descriptive genres.

References


Tsang, W. K. (1992). *The class structure in Hong Kong*. Hong Kong Institute of Asia-Pacific Studies, the Chinese University of Hong Kong, Hong Kong.


Table 1. Means and (Standard Deviations) of Variables by Time, Genre, and Assessor

<table>
<thead>
<tr>
<th>Time</th>
<th>Assessor</th>
<th>Descriptive</th>
<th>Narrative</th>
<th>Expressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self</td>
<td>M 36.92</td>
<td>34.80</td>
<td>21.69</td>
</tr>
<tr>
<td></td>
<td>SD (8.13)</td>
<td>(7.65)</td>
<td>(5.39)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Peer</td>
<td>M 28.32</td>
<td>24.94</td>
<td>21.05</td>
</tr>
<tr>
<td></td>
<td>SD (6.56)</td>
<td>(7.41)</td>
<td>(5.48)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Teacher</td>
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<td>21.40</td>
<td>20.31</td>
</tr>
<tr>
<td></td>
<td>SD (6.46)</td>
<td>(6.37)</td>
<td>(2.94)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Self</td>
<td>M 37.03</td>
<td>34.16</td>
<td>25.41</td>
</tr>
<tr>
<td></td>
<td>SD (5.97)</td>
<td>(6.21)</td>
<td>(6.85)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Peer</td>
<td>M 31.52</td>
<td>27.41</td>
<td>32.42</td>
</tr>
<tr>
<td></td>
<td>SD (6.53)</td>
<td>(6.22)</td>
<td>(4.06)</td>
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</tr>
<tr>
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<td>Teacher</td>
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<tr>
<td></td>
<td>SD (4.11)</td>
<td>(5.35)</td>
<td>(3.50)</td>
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</tr>
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</table>

Note: N = 100. Maximum possible score for each writing task was 60 marks. In the repeated-measures ANOVA, Time 1 = pretest, Time 2 = posttest. The three genres of writing were Descriptive, Narrative, and Expressive. The three assessors were self (the writer), peer (another student in the same class), and teacher (the same teacher in all three classes).
Table 2. Summary of $F$-Statistics for ANOVA

Overall

<table>
<thead>
<tr>
<th>Effect</th>
<th>$F$</th>
<th>df</th>
<th>MSE</th>
<th>$\eta^2$</th>
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</thead>
<tbody>
<tr>
<td>Time</td>
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<td>38.27</td>
<td>.53</td>
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<tr>
<td>Genre</td>
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<td>.68</td>
</tr>
<tr>
<td>Assessor</td>
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<td>.65</td>
</tr>
<tr>
<td>Time x genre</td>
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<td>2,198</td>
<td>38.72</td>
<td>.18</td>
</tr>
<tr>
<td>Time x assessor</td>
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<td>20.72</td>
<td>.35</td>
</tr>
<tr>
<td>Genre x assessor</td>
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<td>4,396</td>
<td>23.22</td>
<td>.52</td>
</tr>
<tr>
<td>Time x genre x assessor</td>
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<td>19.83</td>
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</table>

Descriptive

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<th>df</th>
<th>MSE</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
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<td>.14</td>
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<tr>
<td>Assessor</td>
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Narrative

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<th>df</th>
<th>MSE</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
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<td>25.20</td>
<td>.07</td>
</tr>
<tr>
<td>Assessor</td>
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<td>.70</td>
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<td>Time x assessor</td>
<td>5.25*</td>
<td>2,198</td>
<td>24.36</td>
<td>.05</td>
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</table>

Expressive

<table>
<thead>
<tr>
<th>Effect</th>
<th>$F$</th>
<th>df</th>
<th>MSE</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
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<td>Time</td>
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<td>1,99</td>
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<td>.74</td>
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<tr>
<td>Assessor</td>
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<td>2,198</td>
<td>20.13</td>
<td>.36</td>
</tr>
<tr>
<td>Time x assessor</td>
<td>45.15*</td>
<td>2,198</td>
<td>22.06</td>
<td>.31</td>
</tr>
</tbody>
</table>

*Note: $N = 100$. * $p < .05$. ** $p < .001$. 
Appendix
Marking Criteria for Chinese Written Work

Descriptive
1. Relevancy: Contents and background and are relevant
2. Arrangement: Contents are well arranged with focus on main theme
3. Objectivity: No excessive judgmental phrases
4. Image: Presentation of image descriptions
5. Color: Description of color and shape
6. Sound: Description of sound
7. Feel: Description of touch
8. Cohesion: Unrestricted by time and space limitations
9. Concentration: Detailed descriptions within limited scope
10. Impact: Moved by the essay

Narrative
1. Time: Logical in sequence
2. Place: Concrete and clear
3. People: Vivid
4. Story: Beginning, development and consequences are clear
5. Ending: Interesting and appealing
6. Choice of content: Appropriate and precise
7. Clues: Well organized
8. Central theme: Clear and focused
9. Overall: Appropriate to the topic
10. Impact: Moved by the essay

Expressive
1. Intensity: Filled with phrases of passion
2. Vividness: Expression of feelings through physical, behavioral, and verbal features
3. Reaction: Using descriptions of body responses
4. Behavior: Using descriptions of behaviors
5. Conversation: Using verbal cues
6. Association: Clear relationship between feelings and stimulating factors
7. Flexibility: Using descriptions of people, events and things to express feelings
8. Authenticity: True feelings
9. Clarity: Saying what is to express
10. Impact: Moved by the essay

Note: Ratings from 1 = poor to 6 = excellent. Maximum possible score is 60.