International Society of the Learning Sciences

The Effect of Weekly Writing and Peer Reviewing Upon Students' Writing Competence

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Abstract: The importance of writing competence is being emphasized in society. One way to enhance undergraduates' writing competencies is to increase the number of WID (Writing in the Disciplines) classes. In order to introduce more WID classes and give students more opportunities to write, Park (2017) proposed a class method that utilizes writing and peer reviewing as a preparatory activity. The aim of this study was to find out whether Park's method can improve students' writing competence. Writing performances of thirty-three undergraduates in ten writing assignments were assessed by two raters based on two criteria of 'insight' and the 'flow of writing'. The results showed that the writing performance of students at the end of the semester was significantly higher than that of the students at the beginning of the semester. We hope this study provides a rationale for the expansion of writing education.

Introduction

Writing is an effective tool that allows people to share their events, or feelings, and thoughts with others. Since most of the work conducted in an organization is carried out in teams, the importance of writing, which enables clear communication, is being emphasized. For example, employees spend more and more time on using email and messages, and Amazon holds executive meetings based on six-page reports instead of using presentation slides (Cross & Gray, 2013). In this context, universities endeavor to enhance the writing skills of their students through writing education. Nevertheless, the writing skills of college graduates still do not meet the standards expected in society (National Association of Colleges and Employers, 2010).

In order to enhance students' writing competencies, improving the quality of current writing education as well as providing students with more opportunities to write is needed. One way to do this is increasing the number of WID (Writing in the Disciplines) classes, which are classes that teach writing skills within academic disciplines. This is because increasing the number of classes that teach only writing skills increases the burden on students and makes it difficult to teach appropriate writing for each discipline. Introducing more WID classes in universities can overcome this problem and allow students to organize what they learned in classes in writing, thereby helping them acquire knowledge and develop thinking skills in a balanced manner (Carter et al., 2007).

The reason why WID classes are seldom used despite their high learning effect is a greater burden on the instructors compared to lecture-centered classes. In WID classes, instructors are required not only to teach the learning material but also to select appropriate writing assignments and to assess and give proper feedback. Evaluating and providing feedback to students' writing assignments require more time than other assignments or tests because the content as well as the flow and the structure of the writing needs to be assessed (Herrington & Cadman, 1991). Therefore, some instructors in WID classes either fail to provide appropriate feedback promptly or only give minimum writing assignments to students (Kellogg & Whiteford, 2009).

One way of providing students with frequent writing assignments and feedback in WID classes by reducing the burden on the instructors is to introduce peer-assessment. The effectiveness of the peer-assessment was confirmed through several studies. The quality of the final writing assignments improved when they revised based on feedback from peers. (Liu & Carless, 2006). Also, another study showed that students who received feedback from their peers wrote a similar or better final report than students who received feedback from one expert only (Cho et al., 2008). Another advantage of peer-assessment is that it helps students understand the class content more deeply (Falchikov, 1986). Therefore, introducing peer-assessment to WID classes can reduce the burden of instructors while also enhancing students' learning (Liu & Carless, 2006).

Peer-assessment is usually used in WID classes in which students are required to write four to six-page long essays two or three times per semester. Two or three peer assessments per semester are helpful for students. However, providing only two or three writing tasks and peer-assessments per semester leaves a wide interval in between assignments, which makes it difficult for students to relate the content learned in class to their writings. In this context, Park (2017) proposed a WID class method in which students are required to write essays related to the content to be learned in the next class and to review each others' essays as a preparatory activity every week.

The WID class method developed by Park (2017) has a high learning effect since it includes the three components of effective learning, repetition, spacing, and retrieval (Yeung et al., 2021). Park's WID class method

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makes students learn a topic iteratively with moderate timing through a series of activities: reading, writing, and reviewing others' writings before class, discussing and taking a lecture during class, and finally revising their essays. These whole activities enable frequent retrieval and can also help enhance students' writing skills. However, whether this class can enhance students' writing skills has not yet been verified empirically. In this study, we tried to confirm this possibility by analyzing students' writing assignments from the actual class.

WID Class Method

The Park (2017)'s class method consists of three activities: a preparatory activity including writing and peer-assessment, a class activity with lectures and discussions, and a review activity through revising. First, a week before the first class of the week the instructor provides a writing assignment based on a part of the textbook to be covered in class and related learning materials such as recent research papers or articles. Criteria for peer-assessment, are also given. Students are required to upload a one-page essay along with the questions they had, to the online peer-review system until the night before class. The essays are distributed anonymously to all students, with each student allocated with four other students' essays. Students are required first to assess and provide feedback to the four essays anonymously, then to assess their own essay.

After completing the preparatory activity, students attend 75-minute classes, which are held twice a week (Monday and Wednesday). On Monday, the instructor gives a detailed lecture on the content covered in the preparatory activity. On Wednesday, students have a discussion on the questions selected by the instructor from the whole uploaded questions. To ensure that all students actively participate in the discussion, the instructor divides students into small groups of three or four. The discussion lasts for 50 minutes, and for the remaining time, the instructor asks students to share what they discussed and gives answers to questions that were not solved. From the end of the class on Monday to Friday evening, students evaluate how helpful the feedback they received was, while also revising their own essay based on what they learned from class and the feedback. The above process is repeated every week for a total of thirteen weeks, excluding the weeks for midterm and final exams.

Method

Participants

Thirty-three undergraduates in a university in Seoul, Korea participated in this study. All participants were from "Introduction to Psychology" course in the spring semester of 2018 and consented for participation before the study, which was approved by the university's Institutional Review Board (IRB No. 1805/002-006).

Writing assignment

In this study, ten out of the thirteen writing assignments written by thirty-three participants were analyzed. In the "Introduction to Psychology" course, students were required to write a one-page essay as a preparatory activity every week for a total of thirteen weeks during a fifteen-week-semester. The writing assignment required not only understanding the given papers and textbooks, but also high-order thinking. For example, in the week teaching educational psychology, textbooks explaining the principles of educational psychology and papers related to gamification were provided. Students then summarized the content and presented their ideas and opinions about what psychological points need to be supplemented for gamification to be more effective. Among thirteen assignments, three assignments (assignments for week 1, 8, and 13) were excluded from the analysis. The reason for the exclusion was that in week 1, 8, and 13, more than half of the students did not submit the writing assignment, making a comparison between such assignments and assignments from the other ten weeks difficult.

Evaluation criteria

Both the peer-assessments by the students during preparatory activity and measurement of writing performance of students in this study used the same evaluation criteria: 'insight' and 'flow of writing' on a 7-point Likert scale. The 'insight' criterion measured the novelty of the ideas and criticisms presented in the essays. The 'flow of writing' criterion assessed how well the essay was organized and how well it was easily readable.

Analysis

In order to find out whether the WID class method proposed by Park (2017) was effective in improving writing competencies, the writing performance from the ten writing assignments was analyzed. The writing performance was evaluated by two raters based on the two criteria and then the average score of two assessors was used in the analysis. All evaluation was conducted after the end of the semester without any knowledge regarding who the writer is. Also, in order to prevent the order effect, raters evaluated the writing assignments in

a random order, so that neither the order of students nor the order of the week the assignment was given was repeated. Also, the assessors' agreement measured by ICC was higher than .7 which means that the results of the two assessors' ratings can be sufficiently trusted. Therefore, we used the average score of two assessors to confirm the change in the writing performance of each week, and then conducted a t-test to compare the difference between the writing performance in the first two weeks (week 2 and 3) and that in the last two weeks (week 11 and 12).

Method

Table 1

Mean and Standard Deviation of Writing Performance, 'Insight' and 'Flow of Writing' Score of Each Week

	Number of Essays	Writing Performance	Insight	Flow of Writing
Week 2	29	8.034(*SD*=1.700)	4.069(*SD*=1.132)	3.966(*SD*=1.117)
Week 3	30	8.121(*SD*=1.139)	4.071(*SD*=.825)	4.125(*SD*=.824)
Week 4	28	8.625(*SD*=1.425)	4.464(*SD*=.962)	4.161(*SD*=.695)
Week 5	30	8.367(*SD*=1.852)	4.267(*SD*=1.065)	4.1(*SD*=.968)
Week 6	29	8.371(*SD*=1.323)	4.081(*SD*=.828)	4.290(*SD*=.656)
Week 7	31	8.375(*SD*=1.442)	4.0(*SD*=.833)	4.375(*SD*=.751)
Week 9	29	8.45(*SD*=1.700)	4.101(*SD*=1.321)	4.34(*SD*=.942)
Week 10	29	9.257(*SD*=1.704)	4.657(*SD*=.856)	4.6(*SD*=.976)
Week 11	30	9.086(*SD*=1.396)	4.603(*SD*=.828)	4.483(*SD*=.726)
Week 12	28	9.304(*SD*=1.853)	4.643(*SD*=.922)	4.661(*SD*=1.046)

The mean and standard deviation of the students' writing performance for each week are shown in Table 1. As can be seen from Table 1, students' writing performance in week 2 and 3 was about 8.2 points, which was close to the average. However, in week 11 and 12, which were almost at the end of the semester, the writing performance improved to 9.3 points. Also, the average scores of 'insight' and 'flow of writing' were about 4 points in the beginning, but they improved to 4.6 points at the end. In order to figure out whether the students' writing performance has improved through this WID class, the difference between the writing performance at the beginning and those at the end of the semester was analyzed by the t-test. Before comparing the writing performances of students at the beginning with those at the end of the semester, the difference in scores between the two weeks at the beginning of the semester and the difference in scores between the two weeks at the end of the semester were analyzed first. A t-test revealed that there were no significant differences ($t(55) = .377$, $p = .708$, $d = .060$; $t(49) = .267$, $p = .791$, $d = .133$). This shows that the students performed the writing tasks at a similar level in the first two weeks and the last two weeks respectively, even though topics for each week were all different. Then, we compared the average writing performance of the first two weeks and that of the last two weeks to verify the effectiveness of the WID class method. The results showed that the average writing performance of the last two weeks was significantly higher than that of the first two weeks ($t(112) = 3.559$, $p < .001$, $d = .667$; $M = 9.193$ vs. 8.114). We also conducted a t-test on each criterion: 'insight' and 'flow of writing'. 'Insight' and 'flow of writing' scores of the last two weeks were significantly higher than those of the first two weeks ($t(110) = 3.181$, $p = .002$, $d = .596$; $t(111) = 2.998$, $p = .003$, $d = .562$). These results show that the whole series of processes of the suggested class method can help enhance students' writing competencies.

The above results suggest that the WID class method using writing and peer-assessment as a preparatory activity improves students' writing competencies. Although there was little feedback on the writing assignments from the instructor in this class, the writing performance improved significantly by just providing opportunities to write and review each others' writing assignments. In conclusion, the WID class method of Park (2017) can help improve the writing competencies of students while reducing the burden of evaluation on instructors.

Discussion

The importance of writing, a useful tool for developing thought and sharing ideas, is being emphasized in education as well as in organizations. However, it is difficult to witness major changes aimed at improving writing education. This study introduced a new WID class method proposed by Park (2017), which utilizes peer reviewing as a preparatory activity, and verified its effectiveness. The WID class method proposed by Park incorporates the three components confirmed to be effective in achieving higher learning effect, repetition, spacing, and retrieval. Every week, students study the learning material, write an essay, ask questions, and review other writings before class. During class time, students take a lecture and then discuss with other students. After class, students are required to revise their essays. In order to verify whether the process of this proposed WID class method could improve the writing skills of students, we analyzed the essays from the actual class.

The analysis of ten different writing assignments each performed by thirty-three students showed that the students' writing performance improved significantly at the end of the semester compared to the beginning of the semester. Not only did the 'insight' scores related to class content but also the 'flow of writing' scores related to writing skills improved. Although an absolute comparison of writing performance was difficult since each writing assignment had a different topic, nevertheless the result showed that making students write essays and review peers' essays as well as their own every week throughout a semester helps students write better. Also, considering that such results were obtained with minimal feedback from the instructor, the proposed WID class method can be easily adopted in the educational scene.

The effectiveness of the Park's WID class method can also be supported by the lecture evaluation conducted by students at the end of the semester. More than half of the students stated in the lecture evaluation that the weekly preparatory activity helped them become more accustomed to writing and improve their writing skills. The results of this study may be self-evident, which is that students' writing competencies improved after they wrote essays every week and reviewed each other's essays. However, a point worth noting is that the aforementioned result was achieved with minimal intervention from the instructor.

However, further studies are needed before introducing the Park's method to various educational fields. First, more objective methods for evaluating the writing performance of students are needed. For example, comparing the results from group who were taught with the Park's WID class method with results from a control group taught with a different method can re-verify the effectiveness of the proposed class method. Another room for further development is to increase the credibility of peer-assessment. Some students pointed out in their lecture evaluation that they could not fully trust the evaluation and feedback given by other students. Thus, methods to improve the credibility of peer-assessment should be developed to apply Park's method in various fields.

Despite the above, this study revealed that improving writing competencies via frequent writing and peer reviewing can be achieved without intervention from the instructor. If the effect of the WID class method proposed by Park is re-verified through further studies, we expect that it can be adopted in various educational fields. In conclusion, we hope that this study and follow-up studies will contribute to the development of the proposed class method, and that students' writing skills are improved as universities widely adopt the method.

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Acknowledgments

This work was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (NRF-2021R1A6A3A13039453).