Implementation of the Writing Activity Focusing on 5W1H Questions:  
An Approach to Improving Student Writing Performance

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Abstract

This article describes a pilot study investigating the effects of 5W1H writing activity on students' English texts. Specifically, the author examined whether the writing activity focusing on questioning the 5Ws and 1H improves clarity in the revisions of students’ papers. The participants of this study were 14 sophomores at a large private university in western Japan. The students were provided with 5W1H worksheets in which the key considerations for the activity were summarized. Students conducted the activity in a pair or a group setting over six classes in total. To evaluate the process, the author and one independent rater assessed students’ texts before and after the process, using a writing rubric evaluating text clarity. Also, students’ pre- and post-texts were carefully examined to identify their achievements through the process. The scoring comparison of the pre- and post-texts showed a positive influence of the treatment. Text examination showed that the revisions leading to a better text became clearer with modified 5W1H details. The activity refocused students' attention on the importance of clearly describing required 5W1H aspects of information. Thus, the author concluded that 5W1H writing activity enhanced students’ writing performance.

1. Necessity of Introducing 5W1H Writing Activity in Japanese EFL Contexts

With the rapid globalization during the last two decades, second language (L2) learners of English have more opportunities, and demands, to write English papers. In the globalized academic environment where English is entrenched as the common language of communication, more than 90 % of published research papers are written in English (Nederhof, 2006). The scholarly writings are required to have clear and explicit description so that the audience outside of the writers’ culture may clearly understand the content of the papers. The writers of academic papers, in the multilingual and multicultural society, should be responsible for constructing comprehensible texts. The writers should expressly communicate their arguments or ideas with adequate details. However, Japanese EFL students are not good at describing their arguments, ideas, or information clearly and explicitly. The vast majority of Japanese rely too much on
implicit understanding when communicating with others (Nishimura, Nevgi, & Tella, 2008). Common understandings on the rules in the community or the knowledge of backgrounds have been formulated due to the circumstance of living in a relatively mono-lingual and mono-cultural society. Influenced by such a high context culture, Japanese often omit important details as common knowledge from their statements. In addition, they tend to state their opinions or make their arguments in a roundabout way. Writing academic papers constructed by Japanese students is no exception. The aforementioned remarkable characteristics in communication can be seen in their texts every so often. Their texts lack some required details, or involve some unnecessary information. Consequently, their audience cannot fully understand what is written in the texts due to the lack of text clarity. A piece of written information with low clarity attracts much attention for further questions regarding the 5Ws and 1H (5W1H); that is, the texts with poor clarity need to incorporate further details regarding who does what, when, where and the why and how of the happening (5W1H). Focusing more on the need for Japanese student-writers to clearly describe required 5W1H elements of information, the author turned to a writing activity focusing on 5W1H questions. The 5W1H writing approach has been used for practical purposes across a wide variety of professions and universities in the world. It is an effective procedure to gather information (Shimazu, Arisawa & Saito, 2006), make a summary (Nakazawa & Oka, 2001), write an academic thesis (Regoniel, 2016), and extract news articles (Wang, Zhao & Wang, 2010). The approach helps writers avoid missing important details in reports and academic papers (Regoniel, 2016). His statement suggests that the clear descriptions of required 5W1H elements of information may develop text clarity. Therefore, the author, an instructor of Project-based English Program (PEP), determined to introduce a 5W1H writing activity in her classroom for developing text clarity. This methodology would provide students with an opening to maximize their noticing to the importance of clearly describing necessary details. Her expectation revolves around students’ improving their text clarity by clearly and explicitly describing required information. This paper defines clarity as the quality of being clearly described and easy to understand. The 5W1H in this paper includes not only the 5Ws and 1H but any interrogative questions such as in terms of what, in what way, how long, and how much.

2. Research Questions

This study investigates the efficacy of 5W1H writing activity on students’ writings. Specifically, the author examines whether the writing activity focusing on questioning
the 5Ws and 1H improves clarity in the revisions of students’ papers. Moreover, she explores how the process influences students’ learning. Thus, research questions addressed in this study include: 1) Does the 5W1H writing activity develop clarity in students’ revisions? 2) What do students learn during and after the process? The first question is related to the impact of the activity on students’ revisions, and the second seeks to identify students’ achievements through the process.

3. Implementation of the 5W1H Writing Activity in the Classroom

3.1 Enhancement of the activity through a peer-review

The 5W1H writing activity introduced in the classroom should be in accordance with the theory of PEP: The classroom in PEP is student-centered, emphasizing the creation of interactive and active learning environment, and the cultivation of students’ autonomy (Suzuki, 2014). Taking them into consideration, peer-review (PR) is an appropriate methodology on the basis of the following benefits: the establishment of active learning setting (Odom, Glenn, Sanner & Cannella, 2009), and the development of students’ autonomy (Bijami, Kashef & Nejad, 2013). In addition, some studies revealed the positive impacts of a PR with empirical evidences: more engagement in writing activities (Min, 2005), and the improvement of students’ writing quality (Min, 2006). These advantages also suggest that PR is a practical methodology for writing activities. Thus, the writing activity for this study is enhanced by undertaking a PR.

3.2 Teacher assistance for the constructive activity

Teacher assistance regarding how to conduct the activity is required at a certain point (Min, 2005; Min, 2006) as the participants have never experienced the activity prior to this study. The instructor briefly provided the class with clear guidance: She instructed and demonstrated how to administer the activity with examples of experienced and inexperienced L2 texts. The instruction and demonstration were targeted towards the outline, introduction, main-body, conclusion, and abstract sections. To make the activities as productive as possible, the key considerations for the activity were summarized in 5W1H worksheets. Students made questions or commentaries by referring to the points of concern in the worksheets. The summarized points were minimal as the classroom emphasized the cultivation of students’ thinking skills. Moreover, she occasionally intervened in students’ discussion to guide them in what to look for, and shared some productive exchanges with the class for improving question or comment quality on the part of the reviewers, and developing response skills on the
part of the writers. Keeping in mind that the main role of instructors is to facilitate students’ activity (Suzuki, 2014), she attempted to keep the interventions to a minimal.

4. Method
4.1 Participants
The participants were 14 sophomores at the College of Pharmaceutical Sciences. They enrolled in Project English 4 (P4) during the fall semester of 2015 at a large private university in western Japan. Before taking P4, students were required to have taken P1, P2, and P3. Over the period of the last three courses, they had been assigned weekly writing assignments with approximately 200 words on a wide variety topic. Because of the PEP learning environment where the development of fluency is more emphasized than the achievement of surface-level accuracy, the students are open to writing L2 texts. The average of their English proficiency was approximately 515 on TOEIC, Test of English for International Communication. All participants experienced a PR focusing on the organization of L2 texts and logical development of arguments in the author’s P3 classroom. The participants, therefore, understood some fundamental writing aspects prior to this study: how L2 texts should be organized and developed. They learnt the importance of establishing the main thread of arguments (Tsuji, 2016).

4.2 Context and procedures
The P4 was a required undergraduate-level language course. This course had 15 classes in total. At every class, students were required to bring their laptop computers. Each class was 90 minutes. While the last two classes were dedicated to in-class presentations about students’ papers, the course mainly focused on writing (weeks 1 through 13). Over the course, students were weekly assigned 300-word writings on their research topic. They had the 5W1H activity on their assigned writings during the class, and revised their texts as an out-of-class activity. Students were required to write an approximately 300-word introductory paragraph, three 300-word body paragraphs, and a 300-word concluding paragraph. The completed papers were assigned to submit in week 13 to manaba course, a cloud-based educational support system.

An intense 5W1H activity was carried out over six classes in total. Each activity took nearly 90 minutes. Students were provided with the 5W1H worksheets as aids to learning. The activities were implemented in a pair or a group setting. Students were required to change pairs or group members at the beginning of each activity to have different perspectives. Other than the six 90-minute concentrated discussions, the
coursework encouraged students to exchange views on their writings with peers. To create an enabling environment for a brainstorming or suggesting talk, students sat in a group setting in every class. The instructor listened attentively to students’ discussions, and offered practical advice if necessary.

5. Writing Assessment

5.1 Examination of one particular paragraph for evaluating the 5W1H process

The academic papers are typically evaluated holistically to check whether the statement of a research purpose is clear, and the arguments are logically developed throughout the papers. This study, however, explores exclusively one particular paragraph since it is not about the examination of the global coherence over the paragraphs. The study investigates whether the 5W1H process develops clarity in the revisions of students’ papers. It primarily examines how students add or modify necessary 5W1H information to expound their compositions with more clarity. Therefore, analyzing the paper from the beginning to the end is not necessary. No matter which paragraph is selected in the composition, the efficacy of the 5W1H process can be examined. After much consideration, the author selected the first body paragraph for examination due to the following reasons: The body-paragraph section was perceived to be of relative importance in the author’s classroom, as the framework of the body paragraph section in the course paper is not far from that of other official writing examinations such as Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). For some students may take these language proficiency tests in the near future. The first body paragraph contains the strongest argument of the paper for the five-paragraph composition (Regoniel, 2016), and presents the obvious beginning point of the whole argument that shall facilitate understanding of succeeding paragraphs. An opening paragraph of the section would be reasonable to evaluate if the intention is to have a quick understanding of the information at hand: Understating of the content in the second or third body paragraph requires the reviewers to have some knowledge of the information in the preceding paragraphs. Thus, the first body paragraph was chosen for evaluating the process.

5.2 Construction of writing rubric

The construction of a writing rubric3 for the body-paragraph section required to firstly determine the assessment task. It is reasonable that the rubric assesses the emphasizing aspects in the classroom. The classroom emphasized the following three
aspects for the section in the 5W1H worksheets: 1) A main idea is clearly described and elaborated with necessary 5W1H elements of information. 2) The evidence of the main idea is clearly described with necessary 5W1H elements of information, and demonstrates how and why it will support the main idea. 3) Words or reference terms are clearly explained to be specific, and convey precise meanings. Therefore, these three aspects were employed to determine the assessment task. Secondly, the author determined the five-level descriptions of the assessment task (from Unsatisfactory to Excellent) by reference to Regoniel’s 2016 statement: A piece of written information with complete clarity contains answers to the 5Ws and 1H questions. Putting in another way, an excellent academic paper requires no further 5W1H inquiry due to complete clarity. Particularly, a well-written text successfully achieves the aforementioned three tasks and requires no further 5W1H details. On the contrary, a poorly-written text is seriously flawed by one or more of the tasks and attracts too much attention for further 5W1H inquiry. The rubric mainly focused on assessing clarity with which the three assessment tasks are described. A written text was rated on a five-level rating system (on a scale of 1-5) according to the level descriptors: Unsatisfactory (U), Improvement Required (IR), Standard (S), Exceeds Standard (ES), and Excellent (E). An excellent text received five, the maximum possible score. An unsatisfactory received one, the minimum score. In the case that the level of a students’ paper was above 1 but below 2, then a score of 1.5 was possible. Similarly, a score of 2.5, 3.5, and 4.5 existed.

6. Data Collection and Text’s Evaluation

Students’ first body paragraphs before and after the process were collected at different times, following the course syllabus: 1) the pre-5W1H text on week 7. 2) The post-5W1H text on week 13. The students were assigned to submit each text to manaba. Before each submission, all participants were required to use a web-based instructional writing tool for their surface-level grammatical corrections. The author and one independent rater assessed the first body paragraph of the participants’ texts before and after the process, using the rubric for this study. Moreover, students’ pre- and post-texts were carefully examined to identify the features of affecting factors contributing to more comprehensible texts. The pre- and post-text were considered as a set when being graded and examined, so that the raters could assess the individual improvement.
7. Results and Discussion

7.1 Quantitative data: scoring students’ texts before and after the process

At the end of the evaluations, the inter-rater reliability between the two raters for each test (pre- and post-test) was calculated by using Pearson's moment correlation coefficient \( r \). The \( r \) value signified sufficient strength for the correlation for each, \( r = .84, r = .72 \). The author judged that the rating was adequate for the further analyses, and simply averaged the rating scores of the two raters. Students' scores reported henceforward were all these averaged scores. Table 1 shows the difference of students’ scores before and after the process. It indicates that 11 out of 14 students (i.e. 78.6%) increased their scores, and three out of 14 students (i.e. 21.4%) experienced no impact on their post-scores. The average increase in the score was 0.5 points.

Table 1.

<table>
<thead>
<tr>
<th>Student name</th>
<th>Pre-text</th>
<th>Post-text</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3.75</td>
<td>4.25</td>
<td>0.5</td>
</tr>
<tr>
<td>B</td>
<td>2.75</td>
<td>3.75</td>
<td>1</td>
</tr>
<tr>
<td>C</td>
<td>3.25</td>
<td>3.75</td>
<td>0.5</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>E</td>
<td>3.25</td>
<td>4.25</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>3.75</td>
<td>4</td>
<td>0.25</td>
</tr>
<tr>
<td>G</td>
<td>4.25</td>
<td>4.5</td>
<td>0.25</td>
</tr>
<tr>
<td>H</td>
<td>3.75</td>
<td>4</td>
<td>0.25</td>
</tr>
<tr>
<td>I</td>
<td>2.25</td>
<td>3.75</td>
<td>1.5</td>
</tr>
<tr>
<td>J</td>
<td>2.25</td>
<td>3.25</td>
<td>1</td>
</tr>
<tr>
<td>K</td>
<td>2.75</td>
<td>3.25</td>
<td>0.5</td>
</tr>
<tr>
<td>L</td>
<td>3.25</td>
<td>3.25</td>
<td>0</td>
</tr>
<tr>
<td>M</td>
<td>3.25</td>
<td>3.5</td>
<td>0.25</td>
</tr>
<tr>
<td>N</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

| Average      | 3.32     | 3.82      | 0.5        |

Table 2 presents descriptive statistics for students’ score before and after the process. The outcomes showed a positive increase in average mean between the pre and post-scores. Effect size measures \( d \) and \( r \) were calculated to estimate the effect size for the treatment. The values showed the large levels of effects, \( d = 0.94, r = .75 \).
Furthermore, the scores were submitted to a paired *t*-test, which revealed that there was a statistically significant difference, *t*(13) = 4.07, *p* < .05. The analyses showed evidence for a positive influence of the treatment. Additionally, the correlation between the pre and post-test was .70. This value suggests that the less variant effects for the individuals. It can be said that the treatment enhanced students’ writing abilities.

Table 2.

Descriptive statistics for students’ score before and after the 5WIH process (*N*=14)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>3.32</td>
<td>0.64</td>
<td>0.17</td>
</tr>
<tr>
<td>Post</td>
<td>3.82</td>
<td>0.40</td>
<td>0.11</td>
</tr>
<tr>
<td>Difference</td>
<td>0.50</td>
<td>0.46</td>
<td>0.12</td>
</tr>
</tbody>
</table>

7.2 Qualitative data: examining students’ texts before and after the process

To identify students’ achievement through the process, the raters examined how students revised their texts. The method to improve the revisions differed from student to student: incorporating or modifying required 5W1H aspects of information, deleting unnecessary information, entirely reordering the arguments/statements in the paragraph, presenting a completely different evidence to support an idea, identifying reference terms more specifically, or clarifying some vague words with further explanation. The following four texts are the excerpts of students’ revisions. Student E and I successfully integrated required 5W1H information in their revisions. Student C and M clarified words or reference terms with some additional explanation, and improved the clarity of some information. The added or modified details after the process is shown in Italics. The deleted information is shown crossed. No modifications were made while citing the texts. Student E, I, C, and M are relevant to student name in Table 1.

Text of student E: Doctor should support the patients from the view of medical treatment. According to Asahi Shinbun, the main medical treatment of food allergy is immunotherapy. *In immunotherapy, patients take in the small amount of the ingredient which is the cause of food allergy. After the patients are able to take in more and more amount of the ingredient, the patients heal food allergy. It is important therapy for patients.*

Text of student I: America and China create a highly charged atmosphere today. Seen from trading strategy, China and America are competing. *Both countries make a trading group,*
TPP that is made by America and RCEP that is made by China, which are promise of reducing the customs in trade, and compete to increase members of each groups. America have asked Japan to join TPP, and (t)hese days Japan joined TPP(,) which is promise of reducing the customs. When China know this fact, China plan to make other trading promise group “RCEP”. Because of these two group, some countries are separated to America side and China side. On the other hand, China ask ASEAN countries to make other trading promise group “RCEP” to block America get the initiative of south-east Asia by making good relationship with part of south-east Asia countries. As a result, ASEAN countries joined RCEP.

Text of student C: Japan should take some money when people want to use an ambulance car. In most developed countries, you need pay some money to use the ambulance car, people who use the ambulance car pay some money. Examples include the United State. In the United State, you American must pay at least 25,000 yen to use the ambulance car, and it is added to every 1 mile. Moreover, some countries adopt the system that you people must pay the charge to ride the ambulance car but you do not need to pay money when you are in serious case patient who is in serious case do not need to pay money.

Text of student M: It is a problem in Japan that measures about the smoking are not taken very much. As spoke in introduction, in Japan, smoking is only prohibited in an airplane. Therefore, people can smoke at the place of other community. For example, there is a station. Though here is smoking space and separates it for smokers and nonsmokers, the smoke drifts in the outskirts. Because of it, passive smoking will happens. . . . There are other problems in Japan. Japan does not have the legal regulation about the cigarette unlike the world. Therefore, the Japanese Government cannot prohibit the mass media and the campaign about the cigarette, in other words, Japan cannot forbid promoting the sale of the cigarette.

The texts of student E and I had a specific feature in common: The newly added or modified necessary 5W1H aspects of information not only developed the clarity of each information, but also increased text clarity. They filled information gaps over the sentences. Because of that, these texts attracted much less attention for further 5W1H inquiry compared to their pre-texts. Specifically, student E added the information regarding how the treatment called immunotherapy cures the patients suffering from food allergy, which resulted in the establishment of more comprehensible texts. Student I added the information concerning the reasons for the rift developing between America and China. After having deleted poorly written information, student I illustrated how Japan’s participatory process of TPP had some involvement in the strained relations between the big two countries, and why the trading-group RCEP was established.
The texts of student C attracted less attention mainly for further word-level inquiry. Students C used the person referent ‘you’ in different contexts in her pre-text. To specify ‘you’, she clearly explained the ‘who’ in her post-text. The person whom a reference term indicated became clearer. Student M mentioned ‘a station’ as an example of ‘other community’. He also added the explicit explanation of reference term ‘it’ in the fifth line from the top in his excerpted passage. The further word-level explanation established a certain clarity. It is assumed that these two texts could have been more comprehensible if they had included appropriate 5W1H elements of information. Student C’s text did not identify the merits of other countries' ambulance systems nor why Japan must adopt them. Just because another country is operating their ambulance system in a certain way is not reason enough for Japan to adopt a similar system. A positive correlation was not found between the ambulance system of Japan and the systems present in other countries. Student M’s text also attracted some attention for further 5W1H inquiry as follows: Why does Japan need to take some measures about smoking? What kind of legal regulations do other countries have? What caused Japan to be behind in terms of the actual enforcement on smoking regulation? Some pieces of significant information regarding the 5Ws and 1H were separated from the contexts in these two excerpts. Considering it, the accurate identification of missing required 5W1H elements should have been emphasized more during the process.

Lastly, Table 3 presents the examples of modified 5W1H information with no influence on the post-score. The modified details after the process is shown in Italics. While students’ attempts to describe a more detailed information were seen, these changes had no significant impact on increasing clarity in their post-texts. These newly added or modified information was already understood within the contexts.

Table 3.

<table>
<thead>
<tr>
<th>5W1H</th>
<th>Pre-text</th>
<th>Post-text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who</td>
<td>we</td>
<td>people in Japan</td>
</tr>
<tr>
<td>What</td>
<td>methods of easy training</td>
<td>methods of <em>easily training muscle that anyone can do</em></td>
</tr>
<tr>
<td>When</td>
<td>over the few decades</td>
<td>over the <em>last</em> few decades</td>
</tr>
<tr>
<td>Where</td>
<td>the pacific coast</td>
<td>the pacific coast, <em>especially Miyagi, and Fukushima</em></td>
</tr>
<tr>
<td>Why</td>
<td>examine the brain</td>
<td>examine the brain <em>for the prevention of aging</em></td>
</tr>
</tbody>
</table>
8. Concluding Remarks

The scoring results of students’ pre- and post-texts showed a positive influence of the treatment: Comparisons of students’ scores indicated that 11 out of 14 revisions became clearer or more explicit with newly added or modified 5W1H information. Based on a thorough examination of students’ texts, the improved revisions suggested that students (n=11) internalized the importance of clearly describing required 5W1H details, and revised the particular information more clearly. Amongst these 11 students, four improved their revisions to a greater degree than the average score increase. The notable achievements were seen in the excerpted texts of Student E and I. Four revisions including these two students’ texts suggested that the 5W1H process contributed to students’ understanding of how information gaps should be filled and elaborated over the course of writing the papers. Students who considered and identified what 5W1H element would close information gaps successfully improved text clarity in their revisions, and produced more understandable texts. All results of the analysis considered, the author concludes that the writing activity focusing on questioning the 5Ws and 1H enhanced clarity in students’ writings.

The outcomes presented in this pilot study contributed to understanding the relationship between the 5W1H activity and the increased clarity in students’ writings. The results, however, cannot be generalized to other educational contexts due to the small number of students involved and a lack of no treatment group. Several reasons could account for the results, including the fact that the data were collected from one small selective class at a private university in Japan. The students might have been more proficient academically and of a higher writing ability than their counterparts at other departments or universities throughout the country. To eliminate such alternative explanations, the future research needs to be replicated with a more diverse and larger sample divided into two groups: one set of students with the process, and the other with no treatment. These studies may provide examples of academic writing practices that could be used to enhance students’ writing performance in language education.

Note
1 The 5W1H worksheets can be found at http://bit.ly/2iaBsBH. The web link should be copied and pasted into a web browser. Appendix A shows key considerations during the activities, and B shows the points of concern for the body paragraph. Appendix B was constructed using Suzuki’s (2014) framework for an academic writing: A body paragraph needs to clearly state a main idea responsive to a project purpose, elaborate on the idea with a couple sentences, present evidence with appropriate references to support the idea, and use transition or concluding sentences to connect paragraphs.
2 The course syllabus for the activity can be found at http://bit.ly/2iXL3Qd.
The writing assessment rubric can be found at http://bit.ly/2iaEiag.

References