CHAPTER 4

FINDINGS

This chapter focusses on the analysis of the data collected and a summary of the results. It consists of information on the essay scores obtained by the subjects and the role of discussion in the writing process.

The data also provides answers to the research questions in this study. Generally, discussion helps adult learners in their writing. This is clearly shown in the slightly higher essay scores of the Experimental Group. Discussion, too, enables the subjects to keep in focus of the essay topic. Subjects from the Experimental Group produced less out-of-point pieces of writing than the Control Group. Other aspects the learners were helped by discussions were obtaining ideas for writing and achieving accuracy in expression and language. On the other hand, the problems faced in discussion were not having good rapport among members and prolonged arguments due to opinionated members.

4.1 Essay Scores

All of the essays written by the subjects in the Control and Experimental Groups were graded. The maximum score given was five while the minimum score was one. The researcher and another teacher collaborator evaluated the writing pieces separately.

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The essay scores were compiled and tabulated. (Appendices 8 and 9) The statistical techniques employed to analyse the data obtained were Descriptive Statistics and T-tests. The initial treatment of the data involved the calculation of the means and standard deviations of the grades obtained by the subjects from the Control and Experimental Groups. After that, a two-tailed t-test was carried out to find out if there was a significant difference between the writing pieces written with discussion as a pre-writing tool and those without.

Table 4.1 presents the means and standard deviations of the scores obtained by the subjects for their essays. Students in the Experimental Group were able to achieve slightly higher scores than their counterparts in the Control Group. The Experimental Group obtained a higher mean score (Mean = 3.3267, SD = 0.8614) than the Control Group (Mean = 3.1, SD = 0.9813). The descriptive data thus appears to indicate that discussion is useful in aiding students to produce good writing pieces.

The data was further subjected to a t-test to see if the difference between the means of the Experimental Group was statistically significant from the Control Group. The level of significance for this test was fixed at 0.05. Table 4.2 presents an overview of the t-test results. Resulting from the t-test carried out, there was no significant value between the scores obtained by the two groups.
Table 4.1: Means and Standard Deviations of Essay Scores

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Number of Essays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>3.3267</td>
<td>0.8614</td>
<td>15</td>
</tr>
<tr>
<td>Control</td>
<td>3.1</td>
<td>0.9813</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 4.2: Result of T-test between the Control and the Experimental Groups

<table>
<thead>
<tr>
<th>t-value</th>
<th>d.f.</th>
<th>P&lt;0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5069</td>
<td>28</td>
<td>Not Significant</td>
</tr>
</tbody>
</table>
4.2 Role of Discussion

The subgroups of the Experimental Group were known as E1, E2 and E3 while the subgroups for the Control Group were C1, C2 and C3. In the subsequent sections in this chapter, reference to excerpts from the transcripts of the discussion and interview will be made. Individual students are identified as S1, S2, S3, S4, S5 and when they are speaking as a group, they are identified as √S. The researcher is identified as “R” while the leader of the group is known as “L”.

4.2.1 Discussion as a Means for Obtaining Ideas

It was found that discussions could be a source for obtaining points needed in writing. More input or ideas could be obtained through discussions. Other group members could furnish them with useful points they might not be able to think of for their writing. As shown in Vignette 1 and in Vignette 2 below, the discussions of E1 and E2 showed that the subjects in the Experimental Group were able to obtain useful points from their friends for their writing task.

From the interview with E1, S1 described one of the advantages of having a discussion was obtaining points to write on. From the discussion of E1, it could be proven to be true. In Vignette 1, there were altogether four points posed by the group members. They were reducing the number of cars by increasing the price, taking the mass transit system (LRT),
filtering the fumes from cars, using unleaded petrol and controlling the use of pesticide as means to control air pollution. An individual student may not be able to think of all of these points by himself. Therefore, the advantage of using discussion is being able to have more points to write.

This is also shown below in Vignette 2.

Vignette 1 (E1)

L: Other points for essay?
S3: Reduce cars.
R: How can cars be reduced?
L: Price of cars can increase.
S3: Like in Singapore. The government doesn't encourage Singaporeans to own cars.
R: Is it successful?
√S: Yes.
L: Other points?
S3: People can take the LRT instead of driving to their destinations.
S1: Then the roads won't be jammed.
L: Any more points?
S1: The fumes from cars can filter.
S4: Also, use unleaded petrol.
R: You only have 3 minutes left.
L: Ah, let me make summary. The points are filter exhaust fumes, use unleaded petrol,

S3: What about controlling the use of pesticide?
One student, S1 from E2, too, admitted that by using discussion, students could get more points to write. It can be observed from Vignette 2 that the single point presented clearly was car-pooling as a method to control air pollution. There were a few points posed and debated upon which were the agricultural sector, recycling and replanting.

Vignette 2 (E2)

S5: Ah. Can share cars.
L: Car-pooling, you mean.
S1: Agricultural?
L: What about it? This is on air pollution.
S2: What about recycling?
S4: I thought it should be replanting.

Interview with E2

R: There’re 4 of you. Only 1 of you think otherwise. Right, how do you find discussion useful?
S1: We can get more points. If we work alone, we may not be able to have so many ideas.

There was a relationship between the subjects’ reading and writing. Ideas, terms and expressions from the passages were used in the students’ writing. As shown in Vignette 3 and in Vignette 4, the subjects managed to utilise ideas mentioned in the course of the discussion in their essays.
The smog problem was mentioned in Vignette 3. The subjects in E1 emphasised that it was a serious problem in the United States. This piece of information was obtained from the passages, "The Motorcar and Pollution" and "Kevin's Essay". Student 1 described one of the components of smog as carbon dioxide while Student 2 described the causes and effects of smog.

**Vignette 3 (E1)**

R: Can you use any ideas from the passage in your writing?

S1: The *smog* problem.

S4: Cause by cars. Very serious problem in US.

**Excerpt 1 (Student 1)**

Besides that, it can cover over the asid rain that may cause skin problem. However, vehical also polluted the environment by environment. The *smog* that came out is contain carbon dioxide.

**Excerpt 2 (Student 2)**

.....They might consists of mainly toxic substance, methane for instance, which help to form *smog*. However, if everyone also drive its own car without sharing, *smog* of course would be increase rapidly and thus if we inhaled in excessive, our health are taking risk of lung cancer.
As seen from Vignette 4, the suggested means of controlling air pollution was the public could take the LRT instead of driving to their destination; having fumes from their cars filtered and using unleaded petrol. It is evident that Student 14 and 15 were able to incorporate these points in their writing.

**Vignette 4 (E1)**

S3: People *can take the LRT* instead of driving to their destinations.

S1: Then the roads won’t be jammed.

L: Any more points?

S1: The *fumes from cars can be filtered*.

S4: Also, use *unleaded petrol*.

**E1’s Writing**

**Excerpt 3 (Student 14)**

To save the world, to save the residents, we must control the air pollution. How are we going to control air pollution? As we know, the highest automobile being used, the highest the degree of air pollution, which threaten the life of residents. So, we have to *reduce the usage of automobile* and replace it with *public transportation* like LRT, KTM. Also the automobile should use the *unleaded petrol* and reduce the smoke released.

**Excerpt 4 (Student 15)**

The main causes of the air pollution is the increasing amount of cars. At the same time, the amount of exhaust fumes also increasing the primary content in these fumes include carbon monoxide, .... It can soon cause headaches, sickness and even death. However, we can control the amount of carbon monoxide and other pollutants by *filter off these exhaust fumes before release* to the environment. Besides, we can also use *unleaded petrol* to control the amount of lead.
4.2.2 Discussion as an Organising Tool

The subjects also believed that having interactions prior a writing task would keep them in focus of the topic. They could be prevented from going off-track and going out of point. It is evident that discussions had a positive effect on their writing by keeping them on the right perspective.

As shown in Vignette 5, the students first defined the task. In the interview, Karen from E2 mentioned that the advantage of discussing their writing was being aided in concentrating on the topic. This was clearly evident in the discussion that had taken place.

The subjects discussed the scope of their writing. S4 sought his friends' opinion whether to include the different types of pollution. S1 corrected him by explaining that the focus was on the method to control air pollution. S4 tried to negotiate by deciding to write on both with less emphasis on the types of pollution. Finally, the leader of the group stated that the method should be given priority.

Resulting from the interaction, Student 5 and 6 could produce essays which presented the methods of controlling air pollution. The Thesis Statements produced further supported it. They were “There are many things that we can do to reduce and control it” and “There are several ways can be taken.”

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S4: Can we talk on different kinds of pollution?

R: O.K. Any more benefits? Karen?

S2: Just now, from our discussion, we were helped in focussing on the topic. We realise that the emphasis is on the methods not types of pollution.

S4: Can mention a bit, then on “control”.

S2: Yes, do we write on why we must control?

S: Oh!

L: I think it’s the method.

Excerpt 5 (Student 5)
The air that we breath in now is badly affected by pollution. The state that polluted air is not good for our health and well being. Eliminating pollution completely is impossible. So, it is important that we try to keep pollution to a minimum. There are many things that we can do to reduce and control it.

Excerpt 6 (Student 6)
Nowadays human beings are said to bring in an atmosphere that full of smog. In many places, air pollution problems have become severe. However, many people do not realise that their life have been threatened by air pollution. For severe cases, air pollution can even cause lethal. Nevertheless, some of people that ignore it because they think that they would not be affected. This can make the problem become more seriously in our future. Therefore, as a user of the earth we should take some immediate actions to control air pollution. There are several ways can be taken.
In contrast, Students 16 and 23 from the Control Group failed to focus on the scope of the writing. From Excerpt 7, it can be observed that Student 6's writing included far too many unnecessary details in the Introduction. The cause and effect of air pollution and the kinds of pollution were mentioned yet the different types of pollution were not explained. In Excerpt 8, Student 23's Introduction was very general and touched on a few issues like the seriousness of air pollution, the causes of it and the tendency for developed countries to have serious pollution problems. However, all of these matters were only presented at surface level for they were not explained thoroughly.

**Excerpt 7 (Student 16)**

What we can define as air pollution? Air pollution is polluted by nowadays commercial environmental. For example of air pollution is smog from vehical, factory, chemical spy and another. It can cause many problem to our health, environment and surrounding. Mostly, what kind of air pollution can cause our health?

**Excerpt 8 (Student 23)**

Air pollution is a very serious problems that hits to this world. It's comes from many reason. The most capacity countries will be the worst places that involved in this air pollution problem.
4.2.2.1 Number of Thesis Statements and Topic Sentences

Subjects who participated in discussions before writing managed to produce more Thesis Statements and Topic Sentences than those that did not. The former produced eleven Thesis Statements and forty-four Topic Sentences respectively. Those in the Control Group wrote less four Thesis Statements and less fourteen Topic Sentences than their counterparts. (Table 4.3) It can be said that the students who participated in discussions were more aware of the use of these statements due to their peers' reminder.

Table 4.3: Number of Thesis Statements and Topic Sentences

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number of Thesis Statements</th>
<th>Number of Topic Sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>7</td>
<td>30</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>11</td>
<td>44</td>
</tr>
</tbody>
</table>

The sentences written by the Experimental Group were of better quality than the Control Group. Their points were presented clearly and they seemed confident in their writing. (Table 4.4)
In comparing the Thesis Statements, Students 1 and 2 did not elaborate on the focus of the essay while Students 6, 9 and 10 successfully posed the issue on the methods to control air pollution very clearly. The reason could be they had the confidence to do so after discussing with their friends on the task.

Again, the Topic Sentences written by Students 27 and 20 in the Control Group were indirect, causing the reader to detect the points for himself. In contrast, Students 8, 11 and 13 could present each point clearly in their Topic Sentences. This was a direct consequence from the discussions for at the end of each session, the group leader would mention the points to them again in the bid to summarise the interaction.
<table>
<thead>
<tr>
<th>Statements</th>
<th>Control Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Statements</td>
<td>Therefore, all the air pollution can be controlled. (Student 22)</td>
<td>Therefore, as a user of the earth, we should take some immediate actions to control air pollution. (Student 6)</td>
</tr>
<tr>
<td></td>
<td>Thus, we as member of this world should consider in controlling this severe of air pollution. (Student 21)</td>
<td>Due to this problem, many methods are used to control air pollution. (Student 9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Let me discuss it and point out the method that the pollution to be control. (Student 10)</td>
</tr>
<tr>
<td>Topic Sentences</td>
<td>For the industrial countries, we cannot stop their factory to stop come out with smoke. The factories can release the smoke by another way than release it to air. (Student 27)</td>
<td>Firstly, the air pollution can be controlled if the automobile on the road can be successfully reduced. (Student 8)</td>
</tr>
<tr>
<td></td>
<td>Most of the pollutant can come from car engine. As we knew when the combustion of fuel and air in an engine is inefficient, many pollutant will left. So at this point, manufacture should responsible to modified the engine which can give efficient combustion to the mixture of fuel and air. (Student 20)</td>
<td>Firstly, people should be educated about air pollution. (Student 11)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Another way of controlling air pollution is by organizing campaigns. (Student 13)</td>
</tr>
</tbody>
</table>
4.2.3 Discussion as a Tool for Expressions

The average number of words written by students who used discussions as a pre-writing tool was 326 while students from the Control Group produced 432.1 words. (Table 4.5)

Participants from the Control Group were capable of writing longer essays than the students who utilized discussion. On the other hand, it can be described that the former were not specific and accurate in their writing. They had the tendency to include irrelevant details in their essays.

Student 6 in Excerpt 9 who used discussion as a pre-writing tool managed to present her point on the effectiveness of imposing regulations clearly. She argued her point convincingly in the paragraph. (Excerpt 9)

Student 20 from the Control Group in Excerpt 10 was unable to present his point successfully. The reader would be forced to read the entire paragraph to search for the point and to understand his explanation. (Excerpt 10)
The Control Group again produced more sentences than the Experimental Group on the average. The former produced 21 sentences while the latter only wrote 16 sentences. (Table 4.5) The subjects in the Control Group produced long sentences because they might be unsure of how acceptable their points were and could not argue effectively for they were not guided in their task. In contrast, subjects in the Experimental Group might be assured of their ideas for they were accepted in the course of their discussion.

**Excerpt 11 (Student 15)**

To reduce the amount of car, government can take action to increase the price of car taxes. This can reduce the ability of public to buy their own car. In addition, we can share the car with others. The government can raise the campaign to encourage the public to use the public transport such as buses, LRT, taxi and so on.

**Excerpt 12 (Student 18)**

Another action which is taken by government also seems to work. That is, the cars which are imported to sale must get high taxes within it. So, this circumstances due to the consumers to pay more. In fact of this, the demanding of cars also getting reduce. Indirectly, cars reducing can be proportional reducing the air pollution too. An example which reported by Popular Science of September, 1990 (Richard Marini) states that the air of Los Angeles is "the most polluted in the United States" majority cause by automobile exhaust, is smog.
From Excerpt 12, Student 18 who was in the Control Group wrote on the point of reducing the number of cars as a means to reduce air pollution. It was not presented clearly. Even the quotation by Richard Marini was too long and not directly linked to her writing. In total, she used six sentences to explain her point.

As seen in Excerpt 11, Student 15 from the Experimental Group was able to present his point on reducing the number of cars as a method to control air pollution effectively. The other sub-points used to support it such as increasing the price of car taxes, car-pooling and organizing campaigns were evident to the reader, as well. The writer only needed four sentences to convey his message to his reader clearly.

The Control Group produced more words and longer sentences than the Experimental Group. As a result, the mean sentence length for the Control Group was slightly higher at 20.6 compared to the Experimental Group which was 20.4. (Table 4.5)

4.2.4 Discussion as a Tool for Linguistic Accuracy

On the whole, the number of error-free sentences differed greatly between the two groups. Subjects who used discussion as a pre-writing tool did better by writing 92 correct sentences while the other group could only produced 37 correct sentences. It can be concluded that discussion helped in producing correct sentences.
The Experimental Group used more frequent and a wider range of complex structures and transitions correctly compared to the Control Group. (Table 4.6) The latter only used “if then”, “because”, “whereas”, “although”, “but”, “due to this” and “as a result” in their essays. Students who used discussion as a pre-writing tool seemed to use a variety of sentence connectors ranging from “if then”, “because”, “although”, “but”, “due to this”, “therefore”, “while”, “however”, “moreover”, “hence”, “furthermore”, “consequently” and “in addition”. The only two exceptions were “whereas” and “as a result”. In total, the Experimental Group used the structures 38 times while the Control Group only used them 16 times.

Table 4.6: Complexity Structures and Transitions Used

<table>
<thead>
<tr>
<th>Structures</th>
<th>Frequency Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control</td>
</tr>
<tr>
<td>If ...... then</td>
<td>2</td>
</tr>
<tr>
<td>.....because .....</td>
<td>1</td>
</tr>
<tr>
<td>.....whereas .....</td>
<td>2</td>
</tr>
<tr>
<td>Although .....</td>
<td>3</td>
</tr>
<tr>
<td>.....but .....</td>
<td>4</td>
</tr>
<tr>
<td>Due to this .....</td>
<td>2</td>
</tr>
<tr>
<td>As a result, ...</td>
<td>2</td>
</tr>
<tr>
<td>Therefore, .....</td>
<td>0</td>
</tr>
<tr>
<td>While .....</td>
<td>0</td>
</tr>
<tr>
<td>However, ...</td>
<td>0</td>
</tr>
<tr>
<td>Moreover, ...</td>
<td>0</td>
</tr>
<tr>
<td>Hence, ...</td>
<td>0</td>
</tr>
<tr>
<td>Furthermore, ...</td>
<td>0</td>
</tr>
<tr>
<td>Consequently, ...</td>
<td>0</td>
</tr>
<tr>
<td>In addition, ...</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

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Despite the encouraging use of transitions by the subjects in the Experimental Group, there was no evidence that it was due to their discussion. There was no mention on their use in the interaction.

4.3 Problems Faced During Discussions

Occasionally, some discussion groups would lack group dynamics. There would not be much rapport among the group members. They might react in such a manner because they were uncomfortable with each other or they could not adapt well to the situation. (Vignette 6)

As shown in Vignette 6, it can be said that the interaction of E1 was not very fruitful for the researcher was forced to prompt the subjects continually. This happened especially at the beginning of the interaction. When the subjects were interviewed, they confessed that they were unable to discuss well because they did not know each other very well.

The subjects stated that they preferred to select their own friends to form a discussion group. This might be a solution to inactive groups during discussions. When learners felt more comfortable in each other’s presence, feelings of animosity could be reduced. When they were relaxed, they could contribute effectively for they could anticipate the kind of response from their group members. This, in turn, would foster good group dynamics that would result in effective sharing of ideas.
Vignette 6 (E1)

R: Why don’t you start by discussing the passages?

L: Oh. The passages, what you can understand?
(Silence for some time)

R: Do you want to talk about the ideas in the passages?
(Nobody talked for a few minutes)

R: Never mind. Did you face any difficulty in understanding them?
(Students shake their heads)

R: Can you use any ideas from the passage for your writing?
S1: The smog problem.
S4: Cause by cars. Very serious problem in US.

Interview with E1

R: What about the rest? Did you face problems?

S5: Waste time.

R: Can you explain?

S5: Don’t talk much. So, others get impatient.

R: Why do you think that happens? Li Sze?

S4: Aah ... we don’t know each other well. So we can’t discuss well.

In the interview, too, the subjects complained that they were discouraged by unfruitful and lengthy discussions. This happened due to the over-zealously of members who spent too much time at one stage. Opinionated members usually contributed to this situation for they might argue with others for a long time over an issue.
Vignette 7 (E3)

S3 The car in Singapore is very expensive. Very hard to buy. They tax one car like $10 000. Something like that.

S2: Parking have to pay.

L: But not successful. If in rich families, they can buy many cars.

S5: Only rich people can do that! Not everyone!

L: Many rich people in Singapore buy cars. All expensive cars.

R: What do the rest feel?

S4: I think reduce cars is good.

Interview with E3

R: O.k. Did you face any problems in your discussion?

S2: Waste time only.

R: How can it be a waste of time?

S1: There's too much argument. Then some may talk a lot on a matter.

R: How do you people feel when that happens? Chin Lih?

S5: Err ... angry and discouraged.

From Vignette 7, it can be said that the leader (L) was against the idea of increasing the price of cars as a good measure to control air pollution. He persisted in arguing against the point even though his explanations were quite baseless. He claimed that despite the rise in the price of cars, the action did not have any effect for rich people could still own them. S5 argued by saying that only the affluent fitted into the category. L was adamant that there were many rich people who were not
affected by the move. In reality, increasing the price of cars is effective in reducing air pollution in Singapore.

Consequently, the researcher (R) had to seek the opinion of the rest on that matter. If the argument had continued, there would be bad feelings among them because the rest of the students might feel that L was wasting time by being so opinionated. This might also result in the group being unable to undergo all the stages recommended in the interaction.

On the whole, the students when interviewed felt that they did not have sufficient time to discuss the topic. In their opinion, if they were given more time, they could explore the issue at great depth. Most of the groups did not have enough time to discuss their task.

E1, especially wasted a lot of time due to their passivity. E2 and E3 had productive sessions yet E3 complained that they still needed more time. In E3's discussion, much time was spent in arguing over trivial matters which could be overlooked. The leader was too involved in participating in the argument and did not realize that he was depriving
others the chance to contribute. In order to prevent such a situation in the future, leaders of discussion groups could be advised not to get too emotionally involved in the interaction.

As a conclusion, discussion does help adult learners in the writing process. Help comes in the form of keeping in focus of the scope, obtaining input for their writing and achieving accuracy in expression and language.