CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 INTRODUCTION

In this chapter, the data obtained from each investigation will be analyzed and reported. The investigation in this research concerns the Chinese and Malaysian engineers for their preferences for sentence-types and the frequency in usage of the scientific and technical terms. This research will examine whether there are any specific preferences for sentence-types and how frequently the scientific and technical terms are used when the Chinese and Malaysian engineers write technical reports.

To investigate the concerns of this research, as has been mentioned in Chapter three, ten reports written by the Chinese and Malaysian engineers will be examined. Findings from all these reports will be extrapolated. The individual preference for sentence-types and the frequency of the scientific and technical terms will be followed by a summary of the overall preference and frequency of usage.

A profile of the engineers will also be presented in order to provide the background information of the writers of the ten technical reports.

4.2 BACKGROUND DESCRIPTION OF THE CHINESE AND MALAYSIAN ENGINEERS

The background of the Chinese and Malaysian engineers was obtained from the data derived from the interviews with the Senior Process Engineering Manager.

4.2.1 Background of the Chinese Engineers

All of the five Chinese engineers hold the post of process engineer and they work for the department of assembly process engineering. The working experiences of the engineers in the China worksite range from three years to six years. All of the five Chinese engineers, who wrote the technical reports concerned, are graduates of the local universities.

The Chinese engineers write technical reports approximately every six months and these reports are written for the purpose of continuous improvement on the assembly processes. After writing the reports, the Chinese engineers discuss the findings of the reports and then submit the reports to the manager of the department.

Through the Senior Process Engineering Manager's experiences working with the engineers, he found that the Chinese engineers use English only with those who cannot speak Chinese when they communicate with superiors, colleagues, and

subordinates. In other words, the Chinese engineers choose to speak Chinese as long as they can communicate in Chinese.

4.2.2 Background of the Malaysian Engineers

Amongst the five Malaysian engineers, three of them are process engineers, whereas two of them are final test engineers. All of the five Malaysian engineers work for the department of assembly process engineering. The working experiences of the engineers in the Malaysia worksite range from three years to six years. Three of the five Malaysian engineers are graduates of overseas universities, whereas two engineers are graduates of the local universities.

The Malaysian engineers write technical reports roughly every six months for the purpose of continuous improvement on the assembly processes. After writing the reports, the Malaysian engineers discuss the findings of the reports among themselves and then submit the reports to the manager of the department.

Through the Senior Process Engineering Manager's experiences working with the engineers, he found that all of the Malaysian engineers use English when communicating with superiors and colleagues. However, when communicating with subordinates, Malaysian engineers use both English and Bahasa Malaysia. In other words, Malaysian engineers choose to speak English as long as they can communicate in English.

4.3 AN OVERVIEW OF SENTENCE-TYPE PREFERRED BY THE CHINESE ENGINEERS

In this section, the data obtained from the five technical reports written by the Chinese engineers will be analyzed and reported in terms of the preference for sentence-types. As has been mentioned in Chapter three, the five technical reports written by the Chinese engineers were numbered as C1, C2, C3, C4, and C5. The numbering was made randomly and each number behind C does not carry any meaning other than being referred to as one of the five reports of the Chinese engineers.

Table 1 below shows the actual number and percentage of each sentence-type used in each of the technical reports written by the Chinese engineers.

Table 1

The Number and Percentage of Sentence-Type Preferred by the Chinese Engineers

Technical Reports / Sentence-Type	C1	C2	C3	C4	C5
simple	20(49%)	33(50%)	55(57%)	29(40%)	18(41%)
compound	10(24%)	4(6%)	4(4%)	8(11%)	8(18%)
complex	4(10%)	26(39%)	31(32%)	30(42%)	14(32%)
compound-complex	7(17%)	3(5%)	7(7%)	5(7%)	4(9%)
total sentences	41(100%)	66(100%)	97(100%)	72(100%)	44(100%)

In Table 1 on page 57, the actual number and percentage of each sentence-type used in each of the five reports written by the Chinese engineers. In the C1 report, there are 20 simple sentences, 10 compound sentences, 4 complex sentences, and 7 compound-complex sentences out of the total 41 sentences counted, while in the C2 report, there are 33 simple sentences, 4 compound sentences, 26 complex sentences, and 3 compound-complex sentences out of the total 66 sentences counted.

In the C3 report, there are 55 simple sentences, 4 compound sentences, 31 complex sentences, and 7 compound-complex sentences out of the total 97 sentences counted. In the C4 report, the researcher found out that there are 29 simple sentences, 8 compound sentences, 30 complex sentences, and 5 compound-complex sentences out of the total 72 sentences counted and finally in the C5 report, there are 18 simple sentences, 8 compound sentences, 14 complex sentences, and 4 compound-complex sentences out of the total 44 sentences counted.

In Table 1, the individual percentage of each sentence-type from the five reports written by the Chinese engineers is shown. In order to come up with the percentages, the number of each sentence-type was divided by the total number of all the four sentence-types in each report.

In the C1 report, 49% of the sentences are simple sentences and 24% are compound sentences, whereas 10% of the sentences are complex sentences and 17% are compound-complex sentences. In the C2 report, while 50% of the sentences are

simple sentences and 39% of the sentences are complex sentences, 6% are compound sentences and 5% are compound-complex sentences.

In the C3 report, 57% of the sentences are simple sentences and 32% are complex sentences, whereas 7% are compound-complex sentences and 4% are compound sentences. In the C4 report, while 40% of the sentences are simple sentences and 42% are complex sentences, 11% are compound sentences and 7% are compound-complex sentences. In the C5 report, 41% of the sentences are simple sentences and 32% are complex sentences, whereas 18% are compound sentences and 9% are compound-complex sentences.

This shows that in the reports of C1, C2, C3, and C5, simple sentence is stated as the most frequently used sentence-type. Only in the C4 report, complex sentence is stated as the most frequently used sentence-type. Overall, the Chinese engineers use simple sentences much more frequently that other sentence-types.

In Table 2 on page 60, the most preferred and the least preferred sentence-type in each of the five reports written by the Chinese engineers are listed.

Table 2

The Most Preferred and the Least Preferred Sentence-Type of the Chinese Engineers

Preference / Reports	Most Preferred	Least Preferred
C1	simple	complex
C2	simple	compound-complex
C3	simple	compound
C4	complex	compound-complex
C5	simple	compound-complex

The Table 2 above shows that the majority of the Chinese engineers prefer simple sentences most of the time. As can be seen from the table, the Chinese engineers use compound-complex sentences much less frequently.

In the C1 report, the most preferred sentence-type is simple sentence and the least preferred sentence-type is complex sentence. While in the C2 report, the most preferred is simple sentence and the least preferred is compound-complex sentence, in the C3 report, the most preferred is simple sentence and the least preferred is compound sentence.

On the other hand, in the C4 report, the most preferred is complex sentence and the least preferred is compound-complex sentence. In the case of C5 report, the most preferred is simple sentence and the least preferred is compound-complex sentence.

As can be seen in Table 2 on page 60, in the reports of C1, C2, C3, and C5, the most preferred sentence-type is simple sentence, whereas only in the C4 report, complex sentence is listed as the most preferred sentence-type.

In the case of the least preferred, compound-complex is listed as the least preferred sentence-type in the reports of C2, C4, and C5. While in the C1 report, complex sentence is the least preferred sentence-type, in the C3 report, compound sentence is the least preferred sentence-type.

Table 3 shows below a summary of the number and percentage of each sentence-type used in all of the five technical reports written by the Chinese engineers.

Table 3

A Summary of the Number and Percentage of Sentence-Type Preferred by the Chinese Engineers

Sentence-Type	Total Number of Sentences	Percentage
simple	155	48%
compound	34	11%
complex	105	33%
compound-complex	26	8%
total	320	100%

As can be seen in the table on page 61, the data of the total number and the overall percentage of each sentence-type used in all of the five reports written by the Chinese engineers were obtained. The overall percentage of each sentence-type indicates that Chinese engineers prefer simple sentences the most, whereas the least preferred is compound-complex sentences.

As can be seen in Table 3, in all of the five reports written by the Chinese engineers, there are 155 simple sentences, 34 compound sentences, 105 complex sentences, and 26 compound-complex sentences out of the total 320 sentences.

The overall percentage of each sentence-type preferred by the Chinese engineers is: simple - 48%, compound - 11%, complex - 33%, and compound-complex - 8%. As the overall percentage shows, simple and complex sentences are quite obviously preferred by the Chinese engineers, whereas compound and compound-complex sentences are much less preferred.

Overall, there is an order of preference for sentence-type by the Chinese engineers. The order of preference for sentence-type is: simple sentence, complex sentence, compound sentence, and compound-complex sentence. This can be seen in Table 3 whereby the actual percentages are indicated as such.

As the percentages in Table 3 on page 61 show, the Chinese engineers use simple and complex sentences for 81% of the total writing of the technical reports. This result could be explained by the fact that the total percentage of compound and compound-complex sentences used by the Chinese engineers accounts for 19% of the total writing of the technical reports.

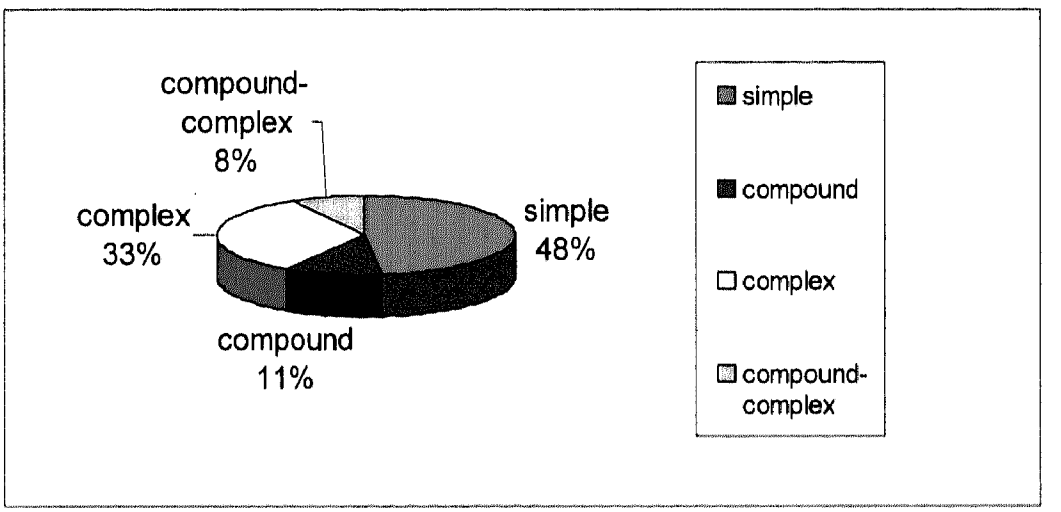
The fact that the Chinese engineers prefer simple sentences the most could be attributed to the fact that simple sentences have the most basic form of sentence structure and relatively easy to construct, as compared to other sentence-types.

On the other hand, the fact that the Chinese engineers use compound-complex sentences much less frequently could be attributed to the complexity of the compound-complex sentences, as it has indeed the most complicated sentence structure among all the four sentence-types.

Figure 1 on page 64 shows the overall percentage of each sentence-type preferred by the Chinese engineers by means of a pie chart.

Figure 1

The Overall Percentage of Sentence-Type Preferred by the Chinese Engineers



In Figure 1 above, the overall percentage of sentence-type preferred by the Chinese engineers is shown in a pie chart. A pie chart (or pie graph) is a specialized chart used in statistics. A pie chart is a circle graph divided into pieces, each displaying the size of some related piece of information.

Pie charts are used to display the sizes of parts that make up the whole chart. The pie chart above shows the percentage of each sentence-type used by the Chinese engineers when writing technical reports. The four parts of the above pie chart show each sentence-type as a percentage. The sum of the percent sizes of each part is equal to 100%.

As is shown in the pie chart on page 64, almost half of the whole chart comes from simple sentences. The portion of complex sentences makes up the second largest amount of the whole chart. The third largest portion comes from compound sentences and the smallest amount comes from compound-complex sentences.

4.4 AN OVERVIEW OF SENTENCE-TYPE PREFERRED BY THE MALAYSIAN ENGINEERS

In this section, the data obtained from the five technical reports written by the Malaysian engineers will be analyzed and reported in terms of the preference for sentence-types. These five technical reports of the Malaysian engineers are numbered as M1, M2, M3, M4, and M5. The numbering was made randomly and each number behind M does not carry any meaning other than being referred to as one of the five reports written by the Malaysian engineers.

Table 4 on page 66 shows the number and percentage of sentence-type preferred by the Malaysian engineers. In this table, the actual number and percentage of each sentence-type used in each of the five technical reports is listed.

Table 4

The Number and Percentage of Sentence-Type Preferred by the Malaysian Engineers

Technical Reports / Sentence-Type	M1	M2	M3	M4	M5
simple	73(50%)	37(51%)	23(31%)	42(44%)	39(45%)
compound	4(3%)	7(10%)	1(1%)	3(3%)	1(1%)
complex	67(46%)	27(38%)	50(67%)	48(51%)	45(52%)
compound-complex	1(1%)	1(1%)	1(1%)	2(2%)	2(2%)
total sentences	145(100%)	72(100%)	75(100%)	95(100%)	87(100%)

In Table 4 above, the actual number of each sentence-type used by the Malaysian engineers is shown. The researcher found that in the M1 report, there are 73 simple sentences, 4 compound sentences, 67 complex sentences, and 1 compound-complex sentence out of the total 145 sentences counted, while in the M2 report, there are 37 simple sentences, 7 compound sentences, 27 complex sentences, and 1 compound-complex sentence out of the total 72 sentences counted.

Next, in the M3 report, there are 23 simple sentences, 1 compound sentence, 50 complex sentences, and 1 compound-complex sentence out of the total 75 sentences counted, while in the M4 report, there are 42 simple sentences, 3 compound sentences, 48 complex sentences, and 2 compound-complex sentences out of the total 95 sentences counted. Lastly, in the M5 report, there are 39 simple sentences, 1

compound sentence, 45 complex sentences, and 2 compound-complex sentences out of the total 87 sentences counted.

In Table 4 on page 66, the individual percentage of each sentence-type used in the five reports written by the Malaysian engineers is shown. In order to come up with the percentages, the number of each sentence-type was divided by the total number of all the four sentence-types in each report.

In the M1 report, 50% of the sentences are simple sentences and 46% of the sentences are complex sentences, whereas 3% are compound sentences and 1% is compound-complex sentences. In the M2 report, while 51% of the sentences are simple sentences and 38% of the sentences are complex sentences, 10% are compound sentences and 1% is compound-complex sentences.

In the M3 report, 31% of the sentences are simple sentences and 67% are complex sentences, whereas 1% is compound sentences and 1% is compound-complex sentences. In the M4 report, while 44% of the sentences are simple sentences and 51% are complex sentences, 3% are compound sentences and 2% are compound-complex sentences. Lastly, in the M5 report, 45% of the sentences are simple sentences and 52% are complex sentences, whereas 1% is compound sentences and 2% are compound-complex sentences.

The result shows that in the reports of M1 and M2, simple sentence is stated as the most frequently used sentence-type. In the reports of M3, M4, and M5, on the other hand, complex sentence is stated as the most frequently used sentence-type.

As the number and percentages in Table 4 on page 66 show, the Malaysian engineers prefer to use less compound and compound-complex sentences, as compared to simple and complex sentences.

In Table 5 below, the most preferred and the least preferred sentence-type in each of the five reports written by the Malaysian engineers are listed.

Table 5

The Most Preferred and the Least Preferred Sentence-Type of the Malaysian Engineers

Preference / Reports	Most Preferred	Least Preferred
M1	simple	compound-complex
M2	simple	compound-complex
M3	complex	compound and compound-complex
M4	complex	compound-complex
M5	complex	compound

The table on page 68 shows that the Malaysian engineers prefer simple and complex sentences the most. As can be seen from the table, the Malaysian engineers use compound-complex sentences much less frequently.

In the M1 and M2 reports, the most preferred sentence-type is simple sentence and the least preferred sentence-type is compound-complex sentence. In the M3 report, the most preferred is complex sentence, whereas the least preferred is compound and compound-complex sentences.

While in the M4 report, the most preferred is complex sentence and the least preferred is compound-complex sentence, in the M5 report, the most preferred is complex sentence and the least preferred is compound sentence.

Overall, in the reports of M1 and M2, simple sentence is listed as the most preferred sentence-type. On the other hand, in the reports of M3, M4, and M5, complex sentence is listed as the most preferred sentence-type. As for the least preferred sentence-type, in the reports of M1, M2, and M4, compound-complex is listed as the least preferred sentence-type. While in the M3 report, the least preferred sentence-type is compound and compound-complex sentences, in the M5 report, the least preferred sentence-type is compound sentence.

The fact that three out of the five engineers prefer complex sentences the most could indicate that the Malaysian engineers mainly rely on complex sentences when they write technical reports. As for the least preferred sentence-type, most of the Malaysian engineers use compound-complex the least when writing technical reports.

In Table 6 below, a summary of the total number and overall percentage of each sentence-type used in all of the five reports written by the Malaysian engineers is shown.

Table 6

A Summary of the Number and Percentage of Sentence-Type Preferred by the Malaysian Engineers

Sentence-Type	Total Number of Sentences	Percentage
simple	214	45%
compound	16	3%
complex	237	50%
compound-complex	7	2%
total	474	100%

As can be seen in the table above, the data of the total number and overall percentage of each sentence-type used in all of the five reports written by the Malaysian engineers were obtained. The overall percentage of each sentence-type

indicates that the Malaysian engineers prefer complex sentence the most, whereas the least preferred sentence-type is compound-complex sentence.

As can be seen in Table 6 on page 70, in all of the five reports written by the Malaysian engineers, there are 214 simple sentences, 16 compound sentences, 237 complex sentences, and 7 compound-complex sentences. The overall percentage of each sentence-type preferred by the Malaysian engineers is: simple - 45%, compound - 3%, complex - 50%, and compound-complex - 2%. As the overall percentage shows, simple and complex sentences are quite obviously preferred by the Malaysian engineers, whereas compound and compound-complex sentences are much less preferred.

Overall, there is an order of preference for sentence-type by the Malaysian engineers. The order of preference for sentence-type is: complex sentences, simple sentences, compound sentences, and compound-complex sentences. This can be seen in Table 6 on page 70 whereby the actual percentages are indicated as such.

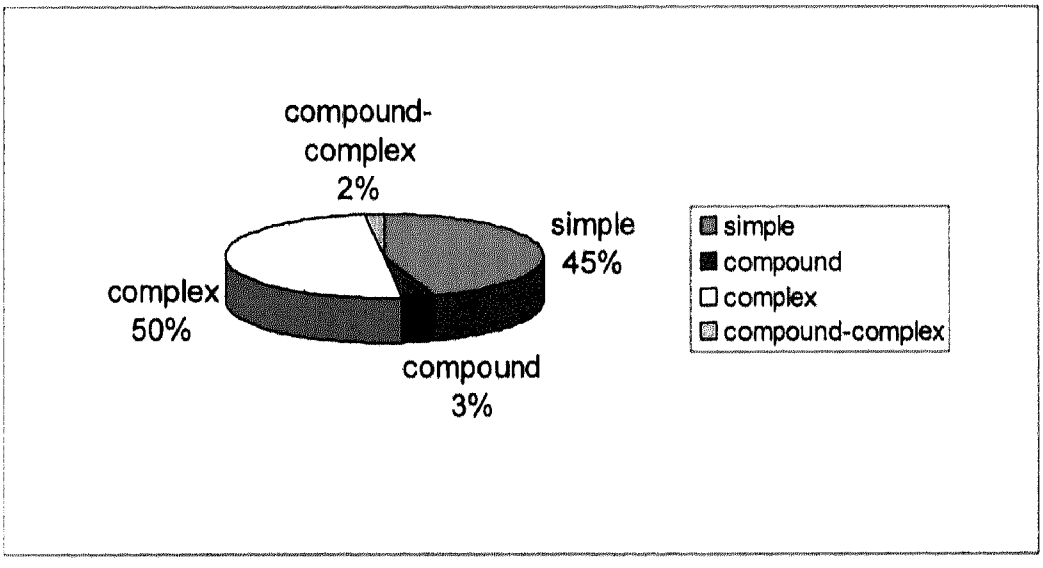
The percentage of usage of simple and complex sentences in the reports is quite substantial in the sense that the two sentence-types make up 95% of the total writing. This result could be explained by the fact that the total percentage of compound and compound-complex sentences used by the Malaysian engineers accounts for only 5% of the total writing of the technical reports,

As has been mentioned in Chapter one, the Malaysian engineers' ability to use complex rather than simple sentences could mean that they are more able in writing effective sentences. On the other hand, the Malaysian engineers' heavy dependency on those two sentence-types resulted in a lack of variety of sentences in the reports. As such, the Malaysian engineers need to try harder to vary their sentences more to maintain interests of the readers of their reports.

Figure 2 below shows the overall percentage of each sentence-type preferred by the Malaysian engineers by means of a pie chart.

Figure 2

The Overall Percentage of Sentence-Type Preferred by the Malaysian Engineers



A pie chart (or pie graph) is a specialized chart used in statistics. In the pie chart shown above, a percentage is rendered as an arc whose measure is proportional to the magnitude of the quantity. Each arc is depicted by constructing radial lines from its ends to the center of the circle, creating a wedge-shaped slice.

In Figure 2 on page 72, the overall percentage of sentence-type preferred by the Malaysian engineers is shown in a pie chart. The pie chart above shows the percentage of each sentence-type used by the Malaysian engineers when writing technical reports. The four parts of the above pie chart show each sentence-type as a percentage. As shown in Figure 2, half of the whole chart comes from complex sentences. The portion of simple sentences makes up the second largest amount of the whole chart. The third largest portion comes from compound sentences and the smallest amount comes from compound-complex sentences.

4.5 A COMPARISON OF SENTENCE-TYPE PREFERRED BY THE CHINESE AND MALAYSIAN ENGINEERS

In this section, the data obtained from the ten reports written by the Chinese and Malaysian engineers will be analyzed and reported in terms of the preference for sentence-types. It will look at a summary of the total number and overall percentage of each sentence-type used in the reports written by the Chinese and Malaysian engineers for the purpose of making comparisons. After looking into the actual number and percentage of sentence-types preferred by the Chinese and Malaysian engineers, a

comparison will be made to find out if there are any preferences for the specific sentence-types when the Chinese and Malaysian engineers write technical reports.

Bar graphs will be displayed for the purpose of comparing the differences between the Chinese and Malaysian engineers in the preference for the specific sentence-types, since bar graphs can show the differences between two events quite clearly and can be useful as a way to summarize how two pieces of information are related.

In Table 7 below, a summary of the total number and overall percentage of each sentence-type used in the reports written by the Chinese and Malaysian engineers is shown. This table was made by combining Tables 3 and 6.

Table 7

A Summary of the Number and Percentage of Sentence-Type Preferred by the Chinese and Malaysian Engineers

Engineers / Sentence-Type	Chinese	Malaysian
simple	155(48%)	214(45%)
compound	34(11%)	16(3%)
complex	105(33%)	237(50%)
compound-complex	26(8%)	7(2%)
total	320(100%)	474(100%)

The Chinese engineers' preference for sentence-types is different from the Malaysian engineers' preference. As Table 7 on page 74 shows, the Chinese engineers prefer simple sentences the most, whereas the Malaysian engineers prefer complex sentences the most. The fact that the Chinese engineers prefer simple sentences the most could be attributed to the simplicity of simple sentences that have the most basic form of sentence structure and relatively easy to construct, as compared to other sentence-types. This might be the result of the educational background of the Chinese and Malaysian engineers, whereby the Malaysian engineers started to learn English earlier than the Chinese engineers did. Therefore, it could be assumed that the Malaysian engineers are more able at writing in English.

For both Chinese and Malaysian engineers, the least preferred sentence-type is compound-complex sentence, as shown in the Table 7. This could be attributed to the complexity of the compound-complex sentence, as it has indeed the most complicated sentence structure among all the four sentence-types, as has been explained in Chapter two. Nevertheless, the Chinese engineers use compound-complex sentences slightly more often than the Malaysian engineers do.

In all of the five reports written by the Chinese engineers, there are 155 simple sentences, 34 compound sentences, 105 complex sentences, and 26 compound-complex sentences out of the total 320 sentences. The overall percentage of each sentence-type preferred by the Chinese engineers is: simple - 48%, compound - 11%, complex - 33%, and compound-complex - 8%.

As for the Malaysian engineers, in all of the five reports written by the Malaysian engineers, there are 214 simple sentences, 16 compound sentences, 237 complex sentences, and 7 compound-complex sentences. The overall percentage of preference for each sentence-type is: simple - 45%, compound - 3%, complex - 50%, and compound-complex - 2%, as shown in Table 7.

Although both Chinese and Malaysian engineers have distinct preferences in simple and complex sentence-types, the gap between the highest and the lowest percentage of usage indicates that Chinese engineers' preference is noticeably different from Malaysian engineers'. For the Chinese engineers, the difference between the most preferred and the least preferred sentence-type is 40%, whereas, for the Malaysian engineers, the difference is 48%. As the percentages of difference show, the gap between the most preferred and the least preferred sentence-type for the Malaysian engineers is bigger than the one for the Chinese engineers.

The findings also show that, as compared with the Chinese engineers, the Malaysian engineers use simple and complex sentences far more often than other sentence-types, as the overall percentage of sentence-types preferred by the Chinese and Malaysian engineers in Table 7 on page 74 shows.

As for the gap between the most preferred and the second most preferred, as shown in Table 7, for the Chinese engineers, the difference is 15%, whereas, for the Malaysian engineers, the difference is only 5%. This result shows that the Malaysian

engineers use both simple and complex sentences very frequently when writing the technical reports, as compared with the Chinese engineers.

As Table 7 on page 74 shows, the overall percentage of usage of simple sentences is 48% for the Chinese engineers and 45% for the Malaysian engineers. The percentage of usage of simple sentences for the Chinese engineers is slightly higher than the one for the Malaysian engineers.

The overall percentage of usage of compound sentences is 11% for the Chinese engineers and 3% for the Malaysian engineers. This result shows that Chinese engineers have more preference for compound sentences than the Malaysian engineers have. The overall percentage of usage of complex sentences is 33% for the Chinese engineers and 50% for the Malaysian engineers. As the percentage of usage shows, the Malaysian engineers prefer complex sentences more than the Chinese engineers do.

As for compound-complex sentences, the overall percentage of usage is 8% for the Chinese engineers and 2% for the Malaysian engineers. This result indicates that the Chinese engineers are more inclined to use compound-complex sentences, as compared with the Malaysian engineers.

The overall findings indicate that the Malaysian engineers use simple and complex sentences for 95% of the total writing of the technical reports, whereas the Chinese engineers use them for 81% of the total writing of the technical reports.

The overall percentage of usage in the preference for sentence-types also shows that the Malaysian engineers seldom use compound and compound-complex sentences when writing technical reports, as compared with the Chinese engineers.

The total percentage of compound and compound-complex sentences used by the Malaysian engineers accounts for only 5% of the total writing of the technical reports, whereas, for the Chinese engineers, the total percentage of usage of compound and compound-complex sentences makes up 19% of the total writing of the technical reports, as can be seen in Table 7 on page 74.

Overall, there is an order of preference for sentence-types by the Chinese and Malaysian engineers. The order of preference for sentence-types by the Chinese engineers is: simple sentences, complex sentences, compound sentences, and compound-complex sentences. As for the Malaysian engineers, the order of the preference in sentence-types is: complex sentences, simple sentences, compound sentences, and compound-complex sentences.

The background of the university education might have contributed to the fact that the Chinese engineers prefer simple sentences the most and the Malaysian engineers prefer complex sentences the most. The Malaysian engineers' ability to use complex rather than simple sentences could mean that they are more able in writing effective sentences, as has been mentioned in Chapter one. However, there is more variety of sentences used in the Chinese reports than in the Malaysian reports, as the

Chinese engineers' dependency on simple and complex sentences is lesser than that of Malaysian engineers.

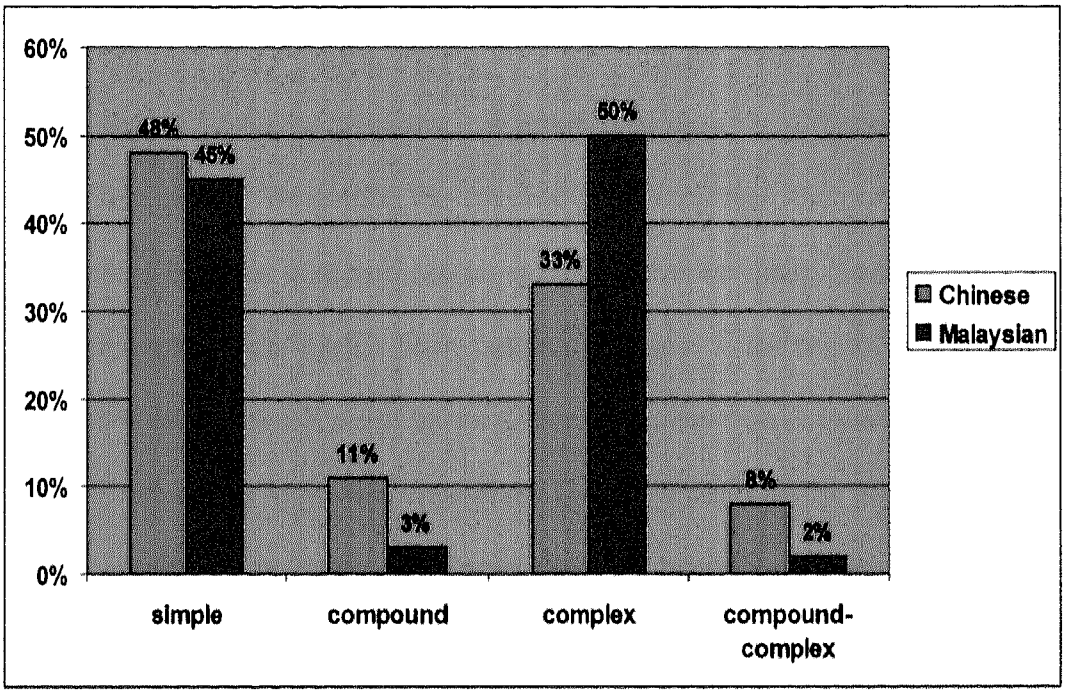
As has been mentioned in Chapter three, amongst the five technical reports that the Chinese engineers have written, four out of the five reports involve the processes of the technology of the assembly. Amongst the five technical reports that the Malaysian engineers have written, three out of the five reports involve the analysis of the technology of the assembly, as has been mentioned before.

This finding that the Chinese engineers wrote more about processes might have contributed to the fact that they used more simple sentences as required when describing the processes, when compared with the Malaysian engineers. However, the Malaysian engineers used more complex sentences, as compared with the Chinese engineers, since they wrote more analytical reports which required them to explain and analyze.

In Figure 3 on page 80, two bar graphs are shown to display the overall percentage of sentence-types preferred by the Chinese and Malaysian engineers. In this figure, two bar graphs are displayed together for the purpose of comparing the differences in the percentage of sentence-types preferred by the Chinese and Malaysian engineers. Figure 3 is introduced to summarize the differences between the Chinese and Malaysian engineers in the preference for sentence-types.

Figure 3

The Overall Percentage of Sentence-Type Preferred by the Chinese and Malaysian Engineers



As can be seen in the figure above, the overall preference for sentence-types for the Chinese and Malaysian engineers is displayed in the form of bar graphs and the percentage of each sentence-type is placed on top of the each bar.

All the bars in Figure 3 above have the same width or equal intervals. The equal intervals are shown on one of the axes. The frequency of the data is represented by the height of the each bar. In Figure 3, bar graphs are shown as a way of displaying data with vertical bars whose height or length indicates its value. Since bar graphs are useful for comparing a number of discontinuous events or values against the same

scale, two bar graphs are shown together in Figure 3 for the purpose of comparing the differences of preference for the particular sentence-types between the Chinese and Malaysian engineers.

As Figure 3 on page 80 shows, bar graphs can show the differences between two events quite clearly. By putting the two bar graphs together, the purpose of showing relationships between data sets can be served. There are many characteristics of bar graphs that make them useful. For example, In Figure 3, the bar for simple sentence shows 48% of the overall usage by the Chinese engineers, as compared to 45% of the overall usage by the Malaysian engineers. The discrepancy of the percentage in these two bar graphs can be easily calculated, since bar graphs can make the comparisons between different variables very easy to see.

Figure 3 also shows the overall preference of the Chinese and Malaysian engineers for sentence-types by means of two bar graphs shown together. In this figure, two bar graphs are used together as a way to summarize how two pieces of information are related.

As can be seen in the Figure 3 on page 80, the bar graphs are a useful tool when it comes to visual characteristics and the two points for each of the sentence-types can be recognized very easily.

With one glance, the 3% of the discrepancy in simple sentences can be measured. While the discrepancy in compound sentences is 8%, the discrepancy in complex sentences is 17%, as can be seen in Figure 3. Lastly, the discrepancy in compound-complex sentences is 6%. As such, the highest discrepancy is displayed in the usage of complex sentences and the lowest discrepancy is shown in the usage of simple sentences.

This result indicates that although both Chinese and Malaysian engineers use simple sentences very often, the Malaysian engineers use complex sentences much more frequently than the Chinese engineers.

The fact that the Malaysian engineers use complex and simple sentences far too often than compound and compound-complex sentences can be seen in the percentages of usage evidently. Similarly, the Chinese engineers are also dependent upon simple and complex sentences. However, the dependency is lesser that that of Malaysian engineers. Thus there is more variety of sentences used in the Chinese reports, as compared to the Malaysian reports.

4.6 THE FREQUENCY OF THE SCIENTIFIC AND TECHNICAL TERMS USED BY THE CHINESE ENGINEERS

In this section, the data obtained from the five technical reports written by the Chinese engineers will be analyzed and reported in terms of the scientific and technical terms and nouns. In order to measure how frequently the Chinese engineers use the scientific and technical terms, all of the scientific and technical terms and the nouns in each of the five technical reports written by the Chinese engineers were counted. The percentage of usage of the scientific and technical terms was calculated based upon this counting. The total number of the scientific and technical terms was counted after the total number of nouns had been counted.

The five Chinese reports that had been used for the analysis of sentence-types were used to investigate the frequency of the scientific and technical terms used by the Chinese engineers when writing technical reports.

As has been mentioned in Chapter three, the five reports written by the Chinese engineers are numbered as C1, C2, C3, C4, and C5. The numbering was made randomly and each number behind C does not carry any meaning other than being referred to as one of the five reports written by the Chinese engineers.

Table 8 on page 84 shows the total number of the scientific and technical terms and nouns as well as its percentage of usage in each of the five reports written by the

Chinese engineers. The percentage of usage of the scientific and technical terms was calculated based upon the actual counting of the scientific and technical terms used in each of the technical reports.

Table 8

The Total Number and Percentage of the Scientific and Technical Terms Used by the Chinese Engineers

No. & Percentage / Technical Reports	No. of Sci. and Tech. Terms	No. of Nouns	% of Usage of Sci. and Tech. Terms
C1	598	733	82%
C2	412	543	76%
C3	794	953	83%
C4	391	497	79%
C5	480	547	88%

In the table above, the number of occurrences of the scientific and technical terms as well as nouns is listed. The percentage of usage of the scientific and technical terms in each of the five technical reports was obtained by dividing the total number of the scientific and technical terms used by the total number of the nouns used in each of the five reports written by the Chinese engineers.

Table 8 shows that the highest percentage of usage of the scientific and technical terms is 88% amongst the five reports of the Chinese engineers, whereas the lowest is

76%. In the C1 report, there are 598 scientific and technical terms out of the 733 nouns used, while in the C2 report, there are 412 scientific and technical terms out of the 543 nouns used. In the report of C3, there are 794 scientific and technical terms out of the 953 nouns used. In the C4 report, there are 391 scientific and technical terms out of the 497 nouns used and in the C5 report, there are 480 scientific and technical terms out of the 547 nouns used.

The percentage in each of the reports was obtained by calculating the total number of scientific and technical terms used against the total number of nouns used. In C1 report, the percentage of using the scientific and technical terms is 82%, while in the C2 report, the percentage is 76% which is the lowest percentage of usage of the scientific and technical terms among the five reports written by the Chinese engineers. In the C3 report, the percentage of usage of the scientific and technical terms is 83% and in the C4 report, the percentage is 79%. In the report of C5, the percentage is 88% which is the highest percentage of usage of the scientific and technical terms among the five Chinese reports.

As shown in Table 8 on page 84, the C3 and C5 reports used the scientific and technical terms more frequently than the rest of the reports. The difference between the highest percentage and the lowest percentage of usage is 12%, as the highest percentage is 88% and the lowest percentage is 76%.

The difference of 12% between the highest percentage and the lowest percentage indicates that the frequency of the scientific and technical terms used by the Chinese engineers vary distinctively among themselves. In other words, some engineers would use the scientific and technical terms more than 80% and some would use less than 80% when writing technical reports.

Table 9 below shows a summary of the total number and percentage of the scientific and technical terms used in all of the five reports written by the Chinese engineers.

Table 9

A Summary of the Total Number and Percentage of the Scientific and Technical Terms Used by the Chinese Engineers

Sci. and Tech. Terms	**2675**
Nouns	**3273**
Percentage	**82%**

The table above shows the overall frequency of the scientific and technical terms used by the Chinese engineers, in terms of the total number of the scientific and technical terms and nouns as well as its percentage. The overall percentage of usage of the scientific and technical terms was obtained by dividing the total number of the

scientific and technical terms used by the total number of the nouns used in all of the five technical reports written by the Chinese engineers.

The total number of the scientific and technical terms used in all of the five reports of the Chinese engineers is 2675, as shown in Table 9. The total number of the nouns used in all of the five reports written by the Chinese engineers is 3273. Therefore, the overall percentage of the scientific and technical terms used by the Chinese engineers is 82%.

This indicates that the Chinese engineers use 82 scientific and technical terms per 100 nouns when writing technical reports.

4.6.1 List of the Scientific and Technical terms Used by the Chinese Engineers

All of the scientific and technical terms used in the reports of C1, C2, C3, C4, and C5 are listed in this section. The words are alphabetically arranged and compound nouns that are nouns with two or more separate words are in italic. These compound nouns are used to refer to one object or one process. For the purpose of listing, words that are repeated in the reports are listed only once. The scientific and technical terms that are listed in this section can be found in the McGraw-Hill Dictionary of Scientific and Technical Terms (sixth edition, 2003).

Table 10 below shows the list of the scientific and technical terms used in the technical report of C1.

Table 10

The Scientific and Technical Terms Used in C1 Report

Analysis	Angle	Application
Assembly	Average	Ball
Ball bonding	Bond	Bonder
Bonding	***Bonding pad***	Bone
Capability	Capillary	Chart
Circuit	Composition	Compound
Connection	Contact	Copper
Data	Definition	Degree
Device	Diagram	Die
Dimension	Energy	Environment
Epoxy	Equipment	Error
Experiment	Factor	Feasibility
Flow	Force	Frame
Gap	Gold	Heat
Height	Impact	Improvement
Information	Key	Laboratory
Lead	Level	Line

Loop	Looping	Lot
Machine	Material	Maximum
Method	Microprocessor	Minimum
Model	Molding	Operation
Output	Package	Pad
Parameter	Peeling	Percent
Performance	Phase	Pitch
Plant	Plating	Point
Power	Precision	Process
Product	Production	Profile
Program	Pulling	Ramp
Range	Ratio	Reliability
Report	Response	Section
Semiconductor	Set	Shear
Shift	Site	Size
Specification	***Standard deviation***	***Standard error***
Sweep	Target	Temperature
Test	***Thermo compression***	Thickness
Time	Tool	Transistor
Trend	Type	Valve
Vehicle	Velocity	Welding
Wire	Wire bonding	Year
Yield		

In the C1 report, there are five compound nouns: ball bonding, bonding pad, standard deviation, standard error, thermo compression. In this report, a total of 118 different scientific and technical terms are counted.

Table 11 below shows the list of the scientific and technical terms used in the technical report of C2.

Table 11

The Scientific and Technical Terms Used in C2 Report

Absorption	Adhesion	Analysis
Aspect	Assembly	Body
Bond	Bonding	Capability
Chemistry	Chip	Circuit
Coefficient	Combination	Comparison
Compound	Concentration	Condition
Contents	Copper	Crack
Cross link	Cure	Curing
Curing time	Cycle	Data
Day	Degree	Design
Device	Elastomer	Element
Environment	Epoxy	Expansion
Exposure	Extent	Factor

Failure	Filler	Fissure
Force	Fraction	Frame
Function	Glass	Hand
Heat	Hour	Humidity
Impact	Item	Key
Lead	Level	Lot
Material	Metal	Modulus
Moisture	Mold	Molding
Network	Order	Origin
Oven	Package	Peak
Performance	Period	Plant
Pressure	Process	Product
Property	Quality	Reliability
Resistance	Room	Rubber
Sample	Semiconductor	Series
Silicon	Specification	Stage
Standard	Standardization	Step
Storage	Strength	Stress
Surface	Table	Temperature
Test	Time	Type
Vehicle	Volume	Water
Year		

In the C2 report, there are two compound nouns: cross link and curing time. In this report, a total of 103 different scientific and technical terms are counted.

Table 12 below shows the list of the scientific and technical terms used in the technical report of C3.

Table 12

The Scientific and Technical Terms Used in C3 Report

Adhesive	Analysis	Attachment
Average	Block	Bond
Bonder	Bonding	Center
Clamp	Clamping	Comparison
Condition	Copper	Cube
Cure	Curing	Data
Deformation	Degree	Design
Device	Die	Direction
Epoxy	Equipment	Error
Estimate	Experiment	Factor
Feature	Fit	Fixture
Flag	Focus	Force
Frame	Function	Hand
Heat	Impact	Information

Input	Jig	Lead
Level	Line	Location
Lot	Machine	Maximum
Mean	***Mean square***	Measurement
Medium	Method	Minimum
Model	Note	Number
Order	Output	Oven
Pad	Parameter	Part
Pattern	Performance	Plot
Point	Position	Pressure
Probability	Process	Production
Profile	Quality	***Random error***
Range	Ratio	Reliability
Residual	Response	Room
Root	Sample	***Set up***
Shear	Side	Size
Snap	Solution	Source
Specification	Square	Standard
Standard deviation	***Standard error***	Strand
Strength	Stress	Sum
Surface	Table	Temperature
Term	Test	Thickness
Time	Tool	Tunnel

Unit	Vacuum	Value
Variance	Variation	Weight
Wire	***Wire bonding***	

In the C3 report, there are six compound nouns: mean square, random error, set up, standard deviation, standard error and wire bonding. In this report, a total of 119 different scientific and technical reports are counted.

Table 13 below shows the list of the scientific and technical terms used in the technical report of C4.

Table 13

The Scientific and Technical Terms Used in C4 Report

Adhesive	Alloy	Analysis
Angle	Assembly	Attachment
Ball	Basis	Block
Bond	Bonder	Bonding
Capability	Capillary	Cavity
Charge	Clamp	Clamping
Combination	Compound	Condition
Contact	Contamination	Contrast
Control	Conversion	Copper

Count	Cure	Data
Degree	Design	Detail
Die	Difference	Dimension
Energy	Epoxy	Equipment
Experiment	Finger	Force
Form	Frame	Gas
Gold	Heat	Impact
Inch	Inspection	Key
Layer	Lead	Level
Limit	Line	List
Lot	Material	Maximum
Metal	Minute	Modification
Nickel	Optimization	Oxidation
Package	Palladium	Parameter
Part	Peel	Performance
Pipe	Plating	Point
Power	Process	Production
Quality	Root	Sample
Sampling	Sector	***Set up***
Shear	Silver	Site
Snap	Solution	Specification
Stamping	Storage	Strategy
Strength	Structure	Surface

System	Temperature	Term
Test	Thickness	Tilt
Time	Tip	Tool
Tunnel	Type	Unit
Verification	Wire	***Wire bonding***
Year		

In the C4 report, there are two compound nouns: set up and wire bonding. In this report, a total of 112 different scientific and technical terms are counted.

Table 14 below shows the list of the scientific and technical terms used in the technical report of C5.

Table 14

The Scientific and Technical Terms Used in C5 Report

Absorption	Assembly	Attachment
Band	Condition	Copper
Crack	Cycle	***Cycle time***
Data	Day	Defect
Degree	Delamination	Device
Environment	Experiment	Factor
Flow	Form	Hour

Humidity	Impact	Inspection
Key	Level	Loss
Mass	Maximum	Metal
Method	Minimum	Moisture
Mount	Oven	Pack
Package	Position	Process
Product	Production	Rate
Reel	Room	***Shelf life***
Solution	Strip	Suction
Tape	Temperature	Term
Test	Time	Trim
Tube	Unit	Water
Weight	Year	

In C5 report, there are two compound nouns: cycle time and shelf life. In this report, a total of 59 different scientific and technical terms are counted.

4.7 THE FREQUENCY OF THE SCIENTIFIC AND TECHNICAL TERMS USED BY THE MALAYSIAN ENGINEERS

In this section, the data obtained from the five technical reports written by the Malaysian engineers will be analyzed and reported in terms of the scientific and technical terms and nouns. In order to measure how frequently Malaysian engineers use the scientific and technical terms, all of the scientific and technical terms as well as the nouns in each of the five technical reports written by the Malaysian engineers were counted. The percentage of usage of the scientific and technical terms was calculated based upon this counting.

The five Malaysian reports that had been used for the analysis of sentence-types were used to investigate the frequency of the scientific and technical terms. As has been mentioned in Chapter three, the five reports written by the Malaysian engineers are numbered as M1, M2, M3, M4, and M5. The numbering was made randomly and each number behind M does not carry any meaning other than being referred to as one of the five reports written by the Malaysian engineers.

Table 15 on page 99 shows the total number of the scientific and technical terms as well as the nouns and its percentage of usage in each of the five reports written by the Malaysian engineers. The percentage of usage of the scientific and technical terms was calculated based upon the actual counting of the scientific and technical terms out of all the nouns used in each report.

Table 15

The Total Number and Percentage of the Scientific and Technical Terms Used by the Malaysian Engineers

No. & Percentage / Technical Reports	No. of Sci. and Tech. Terms	No of Nouns	% of Usage of Sci. and Tech Terms
M1	1040	1231	85%
M2	350	399	88%
M3	678	792	86%
M4	725	822	88%
M5	465	542	86%

In the table above, the number of occurrences of the scientific and technical terms as well as the nouns is listed. The percentage of usage of the scientific and technical terms in each of the five technical reports was obtained by dividing the total number of the scientific and technical terms used by the total number of the nouns used in each of the five reports written by the Malaysian engineers.

Table 15 above shows that the highest percentage of usage of the scientific and technical terms is 88% amongst the five reports of the Malaysian engineers, whereas the lowest is 85%. In the M1 report, there are 1040 scientific and technical terms out of the 1231 nouns used. While in the M2 report, there are 350 scientific and technical terms out of the 399 nouns used, in the report of M3, there are 678 scientific and technical terms out of the 792 nouns used. In the M4 report, there are 725 scientific

and technical terms out of the 822 nouns used and in the M5 report, there are 465 scientific and technical terms out of the 542 nouns used.

In the M1 report, the percentage of usage of the scientific and technical terms is 85% which is the lowest percentage among the five reports written by the Malaysian engineers. Next in the M2 report, the percentage is 88% which is the highest percentage of usage of the scientific and technical terms among the five reports of the Malaysian engineers. While in the M3 report, the percentage of usage of the scientific and technical terms is 86%, in the M4 report, the percentage is 88% which is also the highest percentage. Lastly in the report of M5, the percentage is 86%.

As shown in Table 15, the M2 and M4 reports used the scientific and technical terms more frequently than the rest of the reports. The difference between the highest percentage and the lowest percentage is 3%, as the highest is 88% and the lowest is 85%.

The comparatively small difference of 3% between the highest percentage and the lowest percentage indicates that most of the Malaysian engineers use the scientific and technical terms very frequently and consistently. In other words, in the Malaysian reports, the scientific and technical terms make up more than 85% of the total nouns used.

Table 16 below shows a summary of the total number of the scientific and technical terms as well as nouns and its percentage of usage in the five technical reports written by the Malaysian engineers.

Table 16

A Summary of the Total Number and Percentage of the Scientific and Technical Terms Used by the Malaysian Engineers

Sci. and Tech. Terms	**3258**
Nouns	**3786**
Percentage	**86%**

The overall number and percentage can be seen in Table 16 whereby the total number of the scientific and technical terms and the nouns used in all of the five reports of the Malaysian engineers is listed, together with its percentage.

The overall percentage of usage of the scientific and technical terms was obtained by dividing the total number of the scientific and technical terms used by the total number of the nouns used in all of the five technical reports written by the Malaysian engineers.

The total number of the scientific and technical terms used in all of the five reports written by the Malaysian engineers is 3258, as shown in Table 16. The total

of the nouns used in all of the five reports is 3786. Therefore, the overall ıge of usage of the scientific and technical terms by the Malaysian engineers is

is shows that Malaysian engineers use 86 scientific and technical terms per ıns when writing technical reports. As has been mentioned in Chapter one, that use more scientific and technical terms could be categorized as more e as these terms could enhance better understanding of the reports by their

.ist of the Scientific and Technical Terms Used by the Malaysian Engineers

l of the scientific and technical terms used in the reports of M1, M2, M3, M4, are listed in this section. The words are alphabetically arranged and compound hat are nouns with two or more separate words are in italic. These compound re used to refer to one object or one process. For the purpose of listing, words repeated in this report are listed only once. The scientific and technical terms listed in this section can be found in the McGraw-Hill Dictionary of Scientific hnical Terms (sixth edition, 2003).

ıle 17 on page 103 shows the list of the scientific and technical terms used in nical report of M1.

Table 17

The Scientific and Technical Terms Used in M1 Report

Absorption	Adjustment	Air
Appendix	Area	Aspect
Assembly	Atom	Average
Band	Blister	Blistering
Bond	Bonder	Bonding
Bottom	Capacity	Case
Center	Challenge	Chamber
Check out	Clock	Comparison
Condensation	Condition	Constant
Constraint	Control	Cooling
Copper	Correlation	Cure
Curing	Curve	Cycle
Cycle time	Data	Day
Delamination	Demand	Device
Diagram	Dice	Die
Difference	Edge	Energy
Environment	Epoxy	Equation
Equipment	Expansion	Experiment
Expiry	Flexibility	Floor
Flow	Fluid	Future

Gain	Gas	Gradient
Guard	Hour	Humidity
Hydrogen	Implementation	Indicator
Ink	Interface	Laminate
Layer	Level	Liquid
Load	Loading	Lot
Magazine	Magazine	Mask
Material	Maximum	Method
Minimum	Minute	Mixture
Moisture	Mole	Month
Note	Operator	Optimization
Output	Oven	Oxygen
Pack	Package	Packet
Packing	Paper	Part
Peak	Period	Phase
Picture	Plan	Point
Position	Pressure	Process
Production	Profile	Profiling
Purging	Quantity	Ramping
Random sampling	Rate	Reaction
Region	Resin	Response
Sample	Seal	Sealing
Settling	Shelf	***Shelf life***

Shift	Shock	Slope
Soaking	Solder	Solution
Space	Specifications	Spot
Stack	Stacking	Staging
State	Storage	Stress
Strip	Substrate	Supervisor
Table	Temperature	Thickness
Time	Top	Transformation
Trend	Type	Unit
Vacuum	Validation	***Van der Waals equation***
Vapor	***Vapor pressure***	Volume
Water	Weight	Wire
Zero		

In the M1 report, there are six compound nouns: check out, cycle time, random sampling, shelf life, van der Waals equation, vapor pressure. In this report, a total of 166 different scientific and technical terms are counted.

Table 18 on page 106 shows the list of the scientific and technical terms used in the technical report of M2.

Table 18

The Scientific and Technical Terms Used in M2 Report

Action	Address	Analysis
Anisotropic	Anomaly	Approach
Area	Beam	Bench
Blocking	Bottom	Box
Center	Circuit	Circuitry
Clock	Command	Connection
Contrast	Control	Correlation
Cross section	Crystal	Curve
Data	Defect	Defect
Deposition	Device	Discovery
Electron	Emission	Etch
Etching	Fabrication	Failure
Fallout	***Flip flop circuit***	Focus
Identification	Image	Imaging
Impact	Inch	Information
Input	Inspection	Ion
Key	Layer	Layout
Light	Liquid	Location
Loss	Mapping	Mechanism
Metal	***Micro probe***	Microscopy

Note	Output	Oxide
Passivation	Picture	Point
Power up	Presence	Probe
Probing	Procedure	Process
Report	Response	Root
Sample	Schematic	Sequence
Series	***Set up***	Signal
Site	Spot	Stage
State	Test	Timer
Tool	Trace	Tracing
Tungsten	Unit	Verification
Via	Voltage	Wafer
Window	Wire	***Wire bonding***
X-ray	Year	Yield

In the M2 report, there are six compound nouns: cross section, flip flop circuit, Micro probe, power up, set up and wire bonding. In this report, a total of 102 different scientific and technical terms are counted.

Table 19 on page 108 shows the list of the scientific and technical terms used in the technical report of M3.

Table 19

The Scientific and Technical Terms Used in M3 Report

Addition	Air	Analysis
Application	Approach	Aspect
Assembly	Average	Ball
Ball bonding	Bond	Bonder
Bonding	***Bonding pad***	Breakage
Capability	Capillary	Case
Chamfer	Chip	Clearance
Coating	Comparison	Condition
Configuration	Constraint	Contamination
Control	Copper	Coverage
Cross section	Cycle	***Cycle time***
Cycling	Degradation	Demand
Design	Detail	Development
Device	Diameter	Die
Difference	Dimension	Energy
Environment	Etching	Experiment
Feasibility	Feature	Fluctuation
Force	Formation	Frame
Frequency	Future	Gold
Height	Hole	Impact

Inspection	Interface	Laboratory
Layout	Lead	Limit
Looping	Material	Measurement
Microscope	Minimum	Mold
Molding	Optimization	Packaging
Pad	Paper	Parameter
Peeling	Performance	Picture
Pitch	Platform	Point
Power	Precision	Process
Production	Pulling	Quality
Reading	Reliability	Resolution
Response	Sample	Section
Semiconductor	Shear	Silver
Size	Solution	Stage
Standard	***Standard deviation***	Stitch
Stitch bonding	Strength	Stress
Substrate	Surface	Technology
Temperature	Test	Thickness
Time	Tool	Transfer
Type	Unit	Variation
Verification	Volume	Wire
Wire bonding	Yield	

In the M3 report, there are seven compound nouns: ball bonding, bonding pad, cross section, cycle time, standard deviation, stitch bonding and wire bonding. In this report, a total of 125 different scientific and technical terms are counted.

Table 20 below shows the list of the scientific and technical terms used in the technical report of M4.

Table 20

The Scientific and Technical Terms Used in M4 Report

Access	Addition	Aluminum
Analysis	Application	Area
Arrow	Beam	***Bench mark***
Block	Bond	Bonder
Bonding	***Bonding pad***	Boundary
Box	Bumps	Case
Cavity	Ceramic	Circuit
Comparison	Compass	Compilation
Connection	Construction	***Cross section***
Degree	Detail	Device
Diameter	Die	Dimension
Division	Drain	Edge
Electron	Emission	Emitter

Energy	Equipment	Etch
Etching	Failure	Feature
Finger	Flange	Focus
Form	Frame	Frequency
Gate	Hand	Header
Heater	Identification	Impression
Inspection	Ion	Junction
Key	Laboratory	Layer
Layout	Lead	Leakage
Length	Level	Lid
Light	Lithography	Loop
Magnification	Material	Measurement
Metal	Method	Micrograph
Micron	Microscope	Milling
Minute	Mold	Note
Number	Operation	Outline
Package	Packaging	Pad
Paper	Part	Passivation
Plating	Post	Presentation
Product	Protection	Quality
Quantity	Radio	Region
Report	Resist	Scheme
Second	Silicon	***Silicon dioxide***

Silicon nitride	Size	Source
Spot	Stain	Strip
Structure	System	Table
Tail	Technology	Thickness
Tool	Top	Tungsten
Unit	Variation	Visualization
Web site	Wedge	Width
Wire	***Wire bonding***	X-ray
Yield		

In the M4 report, there are seven compound nouns: bench mark, bonding pad, cross section, silicon dioxide, silicon nitride, web site, and wire bonding. In this report, a total of 133 different scientific and technical terms are counted.

Table 21 below shows the list of the scientific and technical terms used in the technical report of M5.

Table 21

The Scientific and Technical Terms Used in M5 Report

Acetone	Analysis	Anomaly
Approach	Area	Arrow
Beam	***Bonding pad***	Breakdown

Bridging	Capability	Circuit
Class	Code	Communication
Compass	Compound	Correlation
Coverage	***Cross section***	Curve
Defect	Depth	Design
Detail	Device	Die
Digital	Diode	Discharge
Discovery	Documentation	Drain
Electron	Emission	Extent
Fabrication	Failure	Field
Focus	Gate	Groove
Improvement	Inspection	Ion
Isolation	Key	Laboratory
Layer	Layout	Leakage
Light	Line	Lithography
Lot	Mask	Mechanism
Micrograph	Microscope	Mixture
Module	Mold	Molding
Nitric acid	Order	Oxide
Package	Packaging	Paper
Part	Patterning	Pin
Polyline	Power	Presence
Probe	Process	Processor

Product	Program	Protection
Region	Report	Resolution
Room	Rule	Set
Signal	Site	Source
Space	Spot	Structure
Sulfuric acid	Table	Technology
Test	Thickness	Tool
Top	Trace	Tracer
Transistor	Type	Unit
Variation	Verification	Wafer
Web site		

In the M5 report, there are five compound nouns: bonding pad, cross section, nitric acid, sulfuric acid, and web site. In this report, a total of 110 different scientific and technical terms are counted.

4.8 A COMPARISON OF THE FREQUENCY OF THE SCIENTIFIC AND TECHNICAL TERMS USED BY THE CHINESE AND MALAYSIAN ENGINEERS

In this section, the data obtained from the ten reports written by the Chinese and Malaysian engineers will be analyzed and reported in terms of the frequency of the scientific and technical terms. It will look at a summary of the total number and overall percentage of the scientific and technical terms used in the reports written by the Chinese and Malaysian engineers for the purpose of making comparisons.

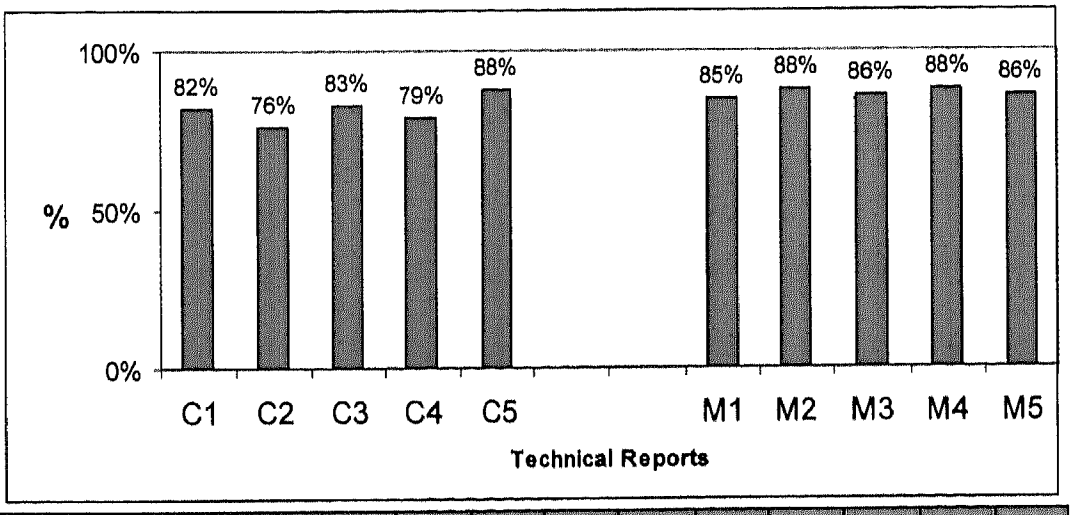
After looking into the actual number and percentage of the scientific and technical terms used by the Chinese and Malaysian engineers, a comparison will be made to find out if there are any differences in the frequency of the scientific and technical terms when the Chinese and Malaysian engineers write technical reports. The overall frequency of the scientific and technical terms used by the Chinese and Malaysian engineers was obtained by calculating the percentage of the total number of the scientific and technical terms used against the total number of the nouns used.

In Figure 4 on page 116, the individual percentage and number of the scientific and technical terms used by the Chinese and Malaysian engineers in each of the ten reports are shown. Figure 4 was made by combining Table 8 and Table 15 in order to investigate and compare the discrepancies between the Chinese and Malaysian engineers in the percentage of usage of the scientific and technical terms. The purpose

of coming up with Figure 4 is not for making a comparison between pairs with the same number behind C and M, since the numbering behind was made randomly.

Figure 4

The Overall Percentage of Usage of the Scientific and Technical Terms by the Chinese and Malaysian Engineers



Sci/Tech Terms	598	412	794	391	480			1040	350	678	725	465
Nouns	733	543	953	497	547			1231	399	792	822	542

As can be seen in Figure 4 above, the percentage of the scientific and technical terms used by the Chinese engineers when writing technical reports is 82%, 76%, 83%, 79%, and 88%. For the Malaysian engineers, the percentage of usage of the scientific and technical terms is 85%, 88%, 86%, 88%, and 86%. The percentage of usage of the scientific and technical terms was calculated based upon the actual

counting of the scientific and technical terms among the nouns used in the ten reports written by the Chinese and Malaysian engineers.

For the Chinese engineers, the difference between the highest percentage and the lowest percentage is 12%, whereas, for the Malaysian engineers, the difference is only 3%. This result shows that the inclination of the Chinese engineers towards using the scientific and technical terms vary quite significantly according to the individuals who write the technical reports.

When compared with the Chinese engineers, the Malaysian engineers show much less individual differences in writing technical reports. In fact, as Figure 5 shows, most of the Malaysian engineers use the scientific and technical terms quite consistently as the gap between the highest percentage and the lowest percentage is only 3% which is considerably low compared to the Chinese engineers' 12%.

As the percentages in Figure 4 on page 116 show, the Malaysian engineers use the scientific and technical terms more consistently and frequently, as compared with the Chinese engineers. The difference in the overall percentage of usage of the scientific and technical terms between the Chinese and Malaysian engineers could be attributed to the educational background of the Chinese and Malaysian engineers.

In Table 22 below, the total number of the scientific and technical terms and the nouns used by the Chinese and Malaysian engineers is shown, together with the overall percentage of the usage. The table 22 was made by combining Table 9 and Table 16 to investigate and compare the differences between the Chinese and Malaysian engineers.

Table 22

A Summary of the Total Number and Percentage of the Scientific and Technical terms Used by the Chinese and Malaysian Engineers

Engineers / No. & Percentage	Chinese	Malaysian
Sci. and Tech. Terms	2675	3258
Nouns	3273	3786
Percentage	82%	86%

Table 22 above shows the overall frequency of the scientific and technical terms used by the Chinese and Malaysian engineers. In this table, the overall frequency is shown in terms of the overall percentage.

As can be seen in Table 22, in total, 2675 scientific and technical terms were counted out of the 3273 nouns used in all of the five technical reports written by the

Chinese engineers. As for the Malaysian engineers, in total, 3258 scientific and technical terms were counted out of the 3786 nouns used in all of the five reports.

As such, the overall percentage of the scientific and technical terms used by the Chinese engineers is calculated as 82%. As for the Malaysian engineers, the overall percentage of the scientific and technical terms is 86%. This result shows that the Malaysian engineers use the scientific and technical terms more frequently than the Chinese engineers do when writing technical reports.

The overall percentage indicates that the Chinese engineers use 82 scientific and technical terms per 100 nouns when writing technical reports. The Malaysian engineers, on the other hand, use 86 scientific and technical terms per 100 nouns when writing technical reports. The discrepancy in the overall percentage of usage of the scientific and technical terms between the Chinese and Malaysian engineers is 4 %. The background of the university education might have contributed to the fact that the Malaysian engineers use the scientific and technical terms more frequently than the Chinese engineers.

4.9 THE NUMBER AND PERCENTAGE OF DEPENDENT MARKERS IN THE SENTENCE-TYPES USED BY THE CHINESE ENGINEERS

In this section, the data obtained from the five technical reports written by the Chinese engineers will be analyzed and reported in terms of the dependent markers. Dependent markers turn independent clauses or complete sentences into dependent clauses. The structure of each of the four sentence-types will be explained in relation to the dependent markers.

4.9.1 Simple Sentences

As has been mentioned in Chapter two, a simple sentence has one independent clause that conveys one main idea. Its subject and verb may be a single word or a group of words. As such, the Chinese engineers did not use dependent markers for the simple sentences, as dependent markers do not exist in such sentences.

4.9.2 Compound Sentences

As has been mentioned in Chapter two, a compound sentence consists of two or more simple sentences. Coordinating conjunctions were used to form the compound sentences in the reports of the Chinese engineers. As such, the Chinese engineers did not use the dependent markers for the compound sentences, as they used only conjunctions in forming compound sentences.

4.9.3 Complex Sentences

As explained in Chapter two, dependent markers are used when forming complex sentences. A complex sentence is created when one independent clause has one or more dependent clauses added to it. In this section, the number and percentage of the dependent markers for the complex sentences used by the Chinese engineers will be listed. The percentage was calculated by dividing the individual number of each dependent marker by the total number of dependent markers used in each of the Chinese reports.

All of the dependent markers found in the complex sentences of the Chinese reports, such as *after, although, as, as long as, because, before, if, in order that, since, so that, than, that, until, what, when, which, while,* were counted and will be listed in this section. The number of each dependent marker used in each of the Chinese technical reports was calculated. In addition, the percentage was calculated based on the number.

Table 23 on page 122 shows the number and percentage of the dependent markers for complex sentences used in the five technical reports written by the Chinese engineers. The dependent markers listed in this table are arranged alphabetically.

Table 23

The Number and Percentage of Dependent Markers in Complex Sentences Used by the Chinese Engineers

Reports / Markers	C1	C2	C3	C4	C5
After	0(0%)	0(0%)	3(10%)	5(17%)	4(29%)
Although	1(25%)	1(4%)	1(3%)	2(7%)	0(0%)
As	1(25%)	5(19%)	7(23%)	4(13%)	1(7%)
As long as	0(0%)	0(0%)	0(0%)	3(10%)	0(0%)
Because	0(0%)	1(4%)	0(0%)	1(3%)	0(0%)
Before	0(0%)	0(0%)	2(6%)	1(3%)	0(0%)
If	0(0%)	3(11%)	2(6%)	3(10%)	1(7%)
In order that	0(0%)	0(0%)	1(3%)	0(0%)	0(0%)
Since	0(0%)	1(4%)	0(0%)	0(0%)	0(0%)
So that	0(0%)	0(0%)	0(0%)	1(3%)	0(0%)
Than	0(0%)	0(0%)	3(10%)	0(0%)	0(0%)
That	1(25%)	9(35%)	7(23%)	5(17%)	7(50%)
Until	0(0%)	0(0%)	0(0%)	0(0%)	1(7%)
What	1(25%)	0(0%)	0(0%)	0(0%)	0(0%)
When	0(0%)	0(0%)	0(0%)	2(7%)	0(0%)
Which	0(0%)	4(15%)	5(16%)	3(10%)	0(0%)
While	0(0%)	2(8%)	0(0%)	0(0%)	0(0%)
Total	4(100%)	26(100%)	31(100%)	30(100%)	14(100%)

As can be seen in Table 23 above, Chinese engineers used 105 complex sentences in total. Table 23 shows that the Chinese engineers used 'that' and 'as' more frequently than other dependent markers. The least frequently used dependent markers

are 'in order that', 'since', 'so that', 'until', and 'what'. Each of these markers was used only once in the 105 complex sentences of the reports.

While in the C1 report, there is 1 complex sentence that used 'although' as dependent marker, 1 complex sentence that used 'as', 1 complex sentence that used 'that', and 1 complex sentence that used 'what' out of the total 4 complex sentences counted, in the C2 report, there is 1 complex sentence that used 'although' as dependent marker, 5 complex sentences that used 'as', 1 complex sentence that used 'because', 3 complex sentences that used 'if', 1 complex sentence that used 'since', 9 complex sentences that used 'that', 4 complex sentences that used 'which', and 2 complex sentences that used 'while' out of the total 26 complex sentences counted.

Next, in the C3 report, there are 3 complex sentences that used 'after' as dependent marker, 1 complex sentence that used 'although', 7 complex sentences that used 'as', 2 complex sentences that used 'before', 2 complex sentences that used 'if', 1 complex sentence that used 'in order that', 3 complex sentences that used 'than', 7 complex sentences that used 'that', and 5 complex sentences that used 'which' out of the total 31 complex sentences counted, whereas in the C4 report, there are 5 complex sentences that used 'after' as dependent marker, 2 complex sentences that used 'although', 4 complex sentences that used 'as', 3 complex sentences that used 'as long as', 1 complex sentence that used 'because', 1 complex sentence that used 'before', 3 complex sentences that used 'if', 1 complex sentence that used 'so that', 5 complex

sentences that used 'that', 2 complex sentences that used 'when', and 3 complex sentences that used 'which' out of the total 30 complex sentences counted.

Lastly, in the C5 report, there are 4 complex sentences that used 'after' as dependent marker, 1 complex sentence that used 'as', 1 complex sentence that used 'if', 7 complex sentences that used 'that', and 1 complex sentence that used 'until' out of the total 14 complex sentences counted.

In the C1 report, only four kinds of dependent markers were used, whereas in the C2 report, eight kinds were used. While nine kinds of dependent markers were used in the C3 report, 11 kinds of dependent markers were used in the C4 report. Lastly, in the C5 report, five kinds of dependent markers were used.

As such, the two dependent markers 'that' and 'as' are the dependent markers preferred by the Chinese engineers quite obviously, as can be seen in Table 23 in terms of the number and percentage. The Chinese engineers seldom use 'in order that', 'since', 'so that', 'until', and 'what' as the dependent markers as Table 23 shows.

4.9.4 Compound-Complex Sentences

As has been mentioned in Chapter two, a compound-complex sentence combines two or more independent clauses and one or more dependent clauses. Since the Chinese engineers used only 26 compound-complex sentences out of the total 320

sentences used in the reports, which could be considered as insubstantial comparatively, the researcher did not analyse the dependent markers for the compound-complex sentences used by the Chinese engineers.

4.10 THE NUMBER AND PERCENTAGE OF DEPENDENT MARKERS IN THE SENTENCE-TYPES USED BY THE MALAYSIAN ENGINEERS

In this section, the data obtained from the five technical reports written by the Malaysian engineers will be analyzed and reported in terms of the dependent markers. In order to analyze the dependent markers used in the Malaysian reports, the structure of each of the four sentence-types will be explained briefly in relation to the dependent markers.

4.10.1 Simple Sentences

As has been mentioned previously, simple sentences do not contain any dependent markers. As such, the Malaysian engineers did not use the dependent markers for the simple sentences.

4.10.2 Compound Sentences

As has been mentioned in the previous section, a compound sentence consists of two or more simple sentences. Like in the reports of the Chinese engineers, the

coordinating conjunctions were used to form the compound sentences in the reports written by the Malaysian engineers. Therefore, the Malaysian engineers did not use the dependent markers for the compound sentences.

4.10.3 Complex Sentences

In this section, the number and percentage of the dependent markers for the complex sentences used by the Malaysian engineers will be listed. The percentage was calculated by dividing the individual number of each dependent marker by the total number of the dependent markers used in each of the Malaysian reports. All of the dependent markers found in the complex sentences of the Malaysian reports, such as *after, although, as, as long as, because, before, even though, if, in order that, since, so that, than, that, what, when, which, where, whereby, while, whilst* were counted and will be listed in this section.

Table 24 on page 127 shows the number and percentage of the dependent markers for the complex sentences used in the technical reports written by the Malaysian engineers. The dependent markers listed in this table are arranged alphabetically, and the number and percentage are listed together.

Table 24

The Number and Percentage of Dependent Markers in Complex Sentences Used by the Malaysian Engineers

Markers \ Reports	M1	M2	M3	M4	M5
After	14(21%)	2(7%)	0(0%)	1(2%)	0(0%)
Although	0(0%)	0(0%)	1(2%)	0(0%)	0(0%)
As	12(18%)	4(15%)	9(18%)	20(42%)	9(20%)
As long as	1(2%)	0(0%)	0(0%)	0(0%)	0(0%)
Because	0(0%)	1(4%)	5(10%)	2(4%)	1(2%)
Before	1(2%)	0(0%)	2(4%)	1(2%)	0(0%)
Even though	0(0%)	0(0%)	1(2%)	0(0%)	0(0%)
If	5(7%)	0(0%)	0(0%)	0(0%)	0(0%)
In order that	3(4%)	0(0%)	0(0%)	0(0%)	1(2%)
Since	0(0%)	0(0%)	2(4%)	0(0%)	0(0%)
So that	0(0%)	2(7%)	0(0%)	0(0%)	0(0%)
Than	0(0%)	0(0%)	2(4%)	0(0%)	0(0%)
That	19(28%)	13(49%)	20(40%)	22(46%)	24(49%)
What	0(0%)	2(7%)	0(0%)	0(0%)	0(0%)
When	0(0%)	0(0%)	0(0%)	1(2%)	3(7%)
Which	12(18%)	2(7%)	5(10%)	0(0%)	3(7%)
Where	0(0%)	0(0%)	0(0%)	1(2%)	6(13%)
Whereby	0(0%)	1(4%)	0(0%)	0(0%)	0(0%)
While	0(0%)	0(0%)	2(4%)	0(0%)	0(0%)
Whilst	0(0%)	0(0%)	1(2%)	0(0%)	0(0%)
Total	67(100%)	27(100%)	50(100%)	48(100%)	45(100%)

As can be seen in Table 24 on page 127, the Malaysian engineers used 237 complex sentences in total. Table 24 shows that like the Chinese engineers, the Malaysian engineers also used 'that' and 'as' more frequently than other dependent markers. The least frequently used dependent markers are 'although', 'as long as', 'even though', 'whereby', and 'whilst'. Each of these markers was used only once in the 237 complex sentences of the reports.

In the M1 report, there are 14 complex sentences that used 'after' as dependent marker, 12 complex sentences that used 'as', 1 complex sentence that used 'as long as', 1 complex sentence that used 'before', 5 complex sentences that used 'if', 3 complex sentences that used 'in order that', 19 complex sentences that used 'that', and 12 complex sentences that used 'which' out of the total 67 complex sentences counted. However, in the M2 report, there are 2 complex sentences that used 'after' as dependent marker, 4 complex sentences that used 'as', 1 complex sentence that used 'because', 2 complex sentences that used 'so that', 13 complex sentences that used 'that', 2 complex sentences that used 'what', 2 complex sentences that used 'which', and 1 complex sentence that used 'whereby' out of the total 27 complex sentences counted.

In the M3 report, there is 1 complex sentence that used 'although' as dependent marker, 9 complex sentences that used 'as', 5 complex sentences that used 'because', 2 complex sentences that used 'before', 1 complex sentence that used 'even though', 2 complex sentences that used 'since', 2 complex sentences that used 'than', 20 complex

sentences that used 'that', and 5 complex sentences that used 'which', 2 complex sentences that used 'while', and 1 complex sentence that used 'whilst' out of the total 50 complex sentences counted, whereas in the M4 report, there is 1 complex sentence that used 'after' as dependent marker, 20 complex sentences that used 'as', 2 complex sentences that used 'because', 1 complex sentence that used 'before', 22 complex sentences that used 'that', 1 complex sentence that used 'when', and 1 complex sentence that used 'where' out of the total 48 complex sentences counted.

Lastly, in the M5 report, there are 9 complex sentences that used 'as' as dependent marker, 1 complex sentence that used 'because', 1 complex sentence that used 'in order that', 22 complex sentences that used 'that', 3 complex sentences that used 'when', 3 complex sentences that used 'which', and 6 complex sentences that used 'where' out of the total 45 complex sentences counted.

In the M1 and M2 report, eight kinds of dependent markers were used. While 11 kinds of dependent markers were used in the M3 report, seven kinds of dependent markers were used in the M4 report. Lastly, in the M5 report, seven kinds of dependent markers were used.

As such, the two dependent markers 'that' and 'as' are the dependent markers preferred by the Malaysian engineers quite obviously, as can be seen in Table 24 in terms of the number and percentage. The Malaysian engineers seldom use 'although',

'as long as', 'even though', 'whereby', and 'whilst' as the dependent markers as Table 24 shows.

The fact that both the Chinese and Malaysian engineers used 'that' and 'as' more frequently than other dependent markers could indicate that the Chinese and Malaysian engineers have rather similar tendency in the usage of the dependent markers for complex sentences. But in terms of the least frequently used dependent markers, the Chinese and Malaysian engineers display different tendency. For the Chinese engineers, the five dependent markers 'in order that', 'since', 'so that', 'until', and 'what' were seldom used and the Malaysian engineers seldom used the five dependent markers 'although', 'as long as', 'even though', 'whereby', and 'whilst'.

4.10.4 Compound-Complex Sentences

As has been mentioned, a compound-complex sentence combines two or more independent clauses and one or more dependent clauses. The Malaysian engineers used only 7 compound-complex sentences out of the total 474 sentences used in the reports, which could be considered as a very small number for analysis in order to justify the findings.

As such, the researcher did not analyse the dependent markers for the compound-complex sentences used by the Malaysian engineers.

4.11 A COMPARISON OF THE NUMBER AND PERCENTAGE OF DEPENDENT MARKERS IN THE SENTENCE-TYPES USED BY THE CHINESE AND MALAYSIAN ENGINEERS

In this section, the data obtained from the ten technical reports written by the Chinese and Malaysian engineers will be analyzed and reported in terms of the number and percentage of dependent markers used in complex sentences, since the other types of sentences either do not use these markers or the number of sentences is rather small that substantial comparison could not be carried out. According to Webb (2003), complex sentences are essential for scientific and technical writing because they enable writers to convey the complexity of issues and the depth of writers' understanding to the readers.

As has been mentioned earlier, a complex sentence is created when one independent clause has one or more dependent clauses added to it. A dependent clause does not make complete sense on its own and it is considered as a sentence fragment. The dependent markers such as *after, although, as, as long as, because, before, even though, if, in order that, since, so that, than, that, until, what, when, which, where, whereby, while, whilst,* were used in the ten technical reports written by the Chinese and Malaysian engineers.

Table 25 on page 132 shows the number and percentage of dependent markers for complex sentences used by the Chinese and Malaysian engineers.

Table 25

A Summary of the Number and Percentage of Dependent Markers in Complex Sentences Used by the Chinese and Malaysian Engineers

Engineers / Markers	Chinese	Malaysian
After	12 (11%)	17 (7%)
Although	5 (5%)	1 (0.4%)
As	18 (17%)	54 (23%)
As long as	3 (3%)	1 (0.4%)
Because	2 (2%)	9 (4%)
Before	3 (3%)	4 (2%)
Even though	0 (0%)	1 (0.4%)
If	9 (9%)	5 (2%)
In order that	1 (1%)	4 (2%)
Since	1 (1%)	2 (0.8%)
So that	1 (1%)	2 (0.8%)
Than	3 (3%)	2 (0.8%)
That	29 (27%)	96 (40%)
Until	1 (1%)	0 (0%)
What	1 (1%)	2 (0.8%)
When	2 (2%)	4 (2%)
Which	12 (11%)	22 (9%)
Where	0 (0%)	7 (3%)
Whereby	0 (0%)	1 (0.4%)
While	2 (2%)	2 (0.8%)
Whilst	0 (0%)	1 (0.4%)
Total	105 (100%)	237 (100%)

As can be seen in Table 25 on page 132, the Chinese engineers used 105 complex sentences in total, while the Malaysian engineers used 237 complex sentences. The Chinese engineers' usage of dependent markers for complex sentences are rather similar to the Malaysian engineers' usage. As Table 27 shows, both the Chinese and Malaysian engineers used 'that' the most, followed by 'as', 'which', and 'after'. Therefore, the Chinese and Malaysian engineers seem to have frequently used similar dependent markers.

As for the Chinese engineers, in all of the five reports written by the Chinese engineers, there are 12 complex sentences that used 'after' as dependent marker, 5 complex sentences that used 'although', 18 complex sentences that used 'as', 3 complex sentences that used 'as long as', 2 complex sentences that used 'because', and 3 complex sentences that used 'before'. In addition, there were 9 complex sentences that used 'if', 1 complex sentence that used 'in order that', 1 complex sentence that used 'since', 1 complex sentence that used 'so that', 3 complex sentences that used 'than', and 29 complex sentences that used 'that'. It is also found that 1 complex sentence used 'until', 1 complex sentence used 'what', 2 complex sentences used 'when', 12 complex sentences used 'which', and 2 complex sentences used 'while' out of the total 105 complex sentences counted.

In addition, the dependent marker 'until' was used only by the Chinese engineers and was not used by the Malaysian engineers at all in forming complex sentences.

As for the Malaysian engineers, in all of the five reports written by the Malaysian engineers, there are 17 complex sentences that used 'after' as dependent marker, 1 complex sentence that used 'although', 54 complex sentences that used 'as', 1 complex sentence that used 'as long as', 9 complex sentences that used 'because', and 4 complex sentences that used 'before'. It is also found that 1 complex sentence used 'even though', 5 complex sentences used 'if', 4 complex sentences used 'in order that', 2 complex sentences used 'since', 2 complex sentences used 'so that', 2 complex sentences used 'than', and 96 complex sentences used 'that'. In addition, there were 2 complex sentences that used 'what', 4 complex sentences that used 'when', 22 complex sentences that used 'which', and 7 complex sentences that used 'where'. Finally, there were 1 complex sentence that used 'whereby', 2 complex sentences that used 'while', and 1 complex sentence that used 'whilst' out of the total 237 complex sentences counted.

It is found that the dependent markers 'even though', 'where', 'whereby', and 'whilst' were used only by the Malaysian engineers and were not used by the Chinese engineers at all.

The result shows that the Malaysian engineers used 20 different kinds of dependent markers and the Chinese engineers used 17 different kinds of dependent markers. This result might indicate that the Malaysian engineers are more able to use dependent markers to convey the complexity of issues of the technical reports.

4.12 CONCLUSION

This chapter thus analyzed and described the data obtained from the reports written by the Chinese and Malaysian engineers to examine the preferences for sentence-types and lexical choices in terms of the frequency of the scientific and technical terms. Comparisons were made to find out if there are any preferences for the specific sentence-types and any discrepancies in the frequency of the scientific and technical terms when the Chinese and Malaysian engineers write technical reports.