愛知工業大学学生の英語学習背景と英語力自己評価に関する調査

# A Survey of Aichi Institute of Technology Students' English Backgrounds, Self-evaluated Language Levels and Opinions Toward English Language Learning.

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A survey of Aichi Institute of Technology students on their experiences in learning English was carried out. A questionnaire was given to the 1991-1992 freshman class (1,332 students). This questionnaire asked about high school background, current English study efforts, self-evaluation of language skills, desire to continue learning English, opinions toward English, and self-evaluation of English progress during the school year. The answers were recorded on optical card reader mark sheets and an optical card reader was used for recording the data. This data was then analyzed using SAS software on an IBM computer. It was found that the students had widely different backgrounds in English education. The majority of students responded that they did not study hard or enjoy English in high school. Nearly half reported that they studied by themselves to improve their English. A majority of the students expressed an interest in improving their English and nearly half the students had the desire to take an English class every year while attending university. Most students felt that English was important for their lives.

## 1. Introduction

Higher education in Japan is in the process of change. The relaxing of course requirements by the Ministry of Education along with new guidelines allows universities to establish their own curriculum. Universities have more freedom to develop their own curriculum and are responsible for the curriculum established. An atmosphere for educational change has been created.

How each university will change and the amount of change is still being decided. The type of university, educational goals, budgets, available faculty, location, and other numerous differences will affect the individual curriculum changes. The composition of the student body is also an important factor which needs to be considered.

This paper is a survey of Aichi Institute of Technology students on their experience in learning English as a foreign language. The purpose of this survey is to learn more about the composition of the student body and to collect data that could possibly be useful for developing courses.

## 2. Questionnaire

The questionnaire [Appendix A] was designed to utilize the optical card reader (OCR) mark sheet which was developed for class testing in 1989 by the English faculty and the computer center. This 80 question OCR mark sheet can have up to five choices for each answer.

The questionnaire was specifically looking for the following:

1. High school background
    Questions 1-11
2. Current English study efforts
    Questions 12-17, 20-25, 43
3. Self-evaluation of language skills
    Questions 26-33, 58-65, 73-80
4. Desire to continue learning English
    Questions 34-57, 66-72

5. Opinions toward English
     Questions 10, 52-57, 66-72
6. English progress this year
     Questions 73-80

The questionnaire was in English and given to the entire 1991-1992 freshman class.  To encourage honest answers, the students were told not to write their names.  Since the English ability of the students varied widely, the English language used was simplified so the students could understand the questions.  If the questionnaire had been in Japanese, more specific and difficult questions could have been surveyed.  In some questions, in order to make the results more reliable, the students were given the choice of answering that they did not understand this question.

Five teachers gave the questionnaire during the first 30 minutes of the final English class of the 1991-1992 academic year.  The sample size was 1,332 students and was 97% of the freshman class.  To create similar testing situations, written instructions were given to each teacher.  Each teacher also explained the words "improve" and "conversation" in Japanese.  Students arriving late for class were not given additional time and all questionnaires were collected after the 30 minute time period.

## 3.  Data Processing

First, the OCR mark sheets were divided into two large groups, one teacher's classes as the F1 group and the remaining four teachers' classes as the F2 group.  This was done for the purpose of comparing one teacher's results to those of the other teachers. The results of the nine individual departments were kept separate in each of these two groups.  The departments were:

Electrical Engineering　　　E

| | |
|---|---|
| Electronics | R |
| Chemistry | C |
| Mechanical Engineering | M |
| Management | K1 |
| Management | K2 |
| Civil Engineering | D |
| Architecture | A |
| Architecture Engineering | B |
| Information Science | J |

Next, the OCR mark sheets were read by a Toshiba OCR-V595 optical card reader and the data was recorded on a magnetic computer tape.  This data was then transferred to an IBM 3081K mainframe computer. Finally, the SAS System software was used to process the data.

The following data sets were produced:

1. F1 group student totals and percentages for all departments.
2. F1 group student totals and percentages for each individual department.
3. F2 group student totals and percentages for all departments.
4. F2 group student totals and percentages for each individual department.
5. Combined F1 and F2 student totals and percentages for all departments
6. Combined F1 and F2 student totals and percentages for each individual department.

The combined F1 and F2 student totals and percentages  are shown in Appendix B. The first number is  the total number of students answering and then the percentage of the total number of students answering each choice.  The total number of students answering each question is at the bottom of the column.

## 4.  Data Evaluation

First, the F1 group student totals and percentages for  all  departments  were

compared to the F2 group student totals and percentages for all departments. There was almost no difference between the two data sets.

Second, the F1 group student totals and percentages for all departments was compared to the combined F1 and F2 student totals and percentages for all departments. Also, the F2 group student totals and percentages for all departments was compared to the combined F1 and F2 student totals and percentages. No large percent differences were found with most percentage differences being between 1 to 6 percent.

Therefore, the combined F1 and F2 student totals and percentages for all departments will be used when interpreting the results.

# 5. Interpretation of Data
## 5.1 High School Background

The students were first asked "How many hours a week did you have English class at your high school?". 10.58% of the students reported having two hours of English a week in high school, 12.12% reported three hours, 27.84% reported four hours, 21.55% reported five hours and 27.91% reported six hours. These figures show a wide variety in the number of hours of English instruction in high school and probably indicate big differences in English abilities.

When asked to respond to, "I liked English in high school.", 72.34% of the students answered no. Also, when asked to respond to, "I enjoyed my English class in high school", 73.82% of the students answered no. To the statement, "I studied English hard in high school.", 62.41% answered no. These figures seem to indicate that a large majority of students did not have a positive experience with English in high school. In contrast to the above, 76.31% answered yes to the statement "I thought English was important for my future when I was in high school."

A surprising 33.71% reported to have had a foreign English teacher in high school. It would be interesting to investigate whether this was a regular foreign teacher or a visiting foreign teacher and how this affected their English..

## 5.2 Current English Study Efforts

This part of the survey looks into the efforts of the students to improve their English outside of the university classroom. Below is a summary of the findings.

I watch an English-teaching program on television. 15.64%

I listen to an English-teaching course on the radio. 14.21%

I write letters in English to someone. 10.74%

When I see an English-speaking movie I try to listen to the English. 14.71%

I read books written in English (not textbooks). 20.52%

I have a friend that I speak English with. 9.11%

I read magazines written in English. 12.11%

I have a part-time job teaching English to high school students. 3.81%

I sometimes use English at my part-time job. 12.48%

I go to an English language school now. 3.43%

The above shows that a very small percentage of students are using English outside of their university English classes. However, the majority of students are doing nothing to improve their English outside of their university English classes.

## 5.3 Self-evaluation of language skills

The students were asked to evaluate a variety of their English language skills as being very good [VG], good {G}, average [A} or poor [P}. No criteria for each level was given. The students responses are shown below.

|            | VG   | G     | A     | P     |
|------------|------|-------|-------|-------|
| Reading    | 2.21 | 12.17 | 55.97 | 29.58 |
| Vocabulary | 1.52 | 8.23  | 43.11 | 47.07 |
| Spelling   | 1.98 | 10.46 | 49.31 | 38.17 |
| Pronunciation | 1.53 | 6.43 | 48.62 | 43.34 |
| Grammar    | 1.52 | 11.33 | 42.74 | 44.11 |
| Writing    | 1.14 | 12.75 | 48.86 | 37.10 |
| Listening  | 2.14 | 15.64 | 45.39 | 36.54 |
| Conversation | 1.83 | 6.72 | 38.02 | 53.21 |

As shown in this chart, at least 80% of the students rated their ability as average or poor in each of the language skills. The largest number of students, 53.21%, rated their conversation skill as poor This is not unexpected since English conversation is not emphasized in Japanese high schools. The high self-assessment of listening skills was unexpected and could possibly be attributed to the confidence built up during their freshman English class with a native speaker. Further investigation would be needed to determine if this is an accurate self-assessment.

## 5.4 Desire to continue learning English

The university student no longer needs to study English for the purpose of passing entrance exams so I was curious about the students' interest in continuing English learning. A summary of the findings are shown below.

I would like to improve my English.
68.68%

What would you like to improve?

| Reading       | 73.22% |
|---------------|--------|
| Vocabulary    | 65.98% |
| Spelling      | 55.60% |
| Pronunciation | 65.47% |
| Grammar       | 53.37% |
| Writing       | 63.99% |
| Listening     | 81.50% |
| Conversation  | 72.38% |

The large percentages seem to indicate there is a desire to continue learning English. The 81.50% who want to improve their listening might indicate that the students realize they are weak in this skill. When asked to respond to "I would like to take English classes every year while I am a student.", 44.91% answered yes. There were 36.44% who answered yes to "I will probably go to an English language school sometime in the future."

## 5.5 Opinions toward English

As previously stated, 76.31% answered yes to "I thought English was important for my future when I was in high school." This corresponds well to the 74.59% who answered yes to "I think English will be important in my future work." and the 82.42% who answered yes to "I think English will be important for my future travel." These answers clearly show that the majority of students feel English is important to them.

## 5.6 English progress this year

The students were asked to make a self-assessment of their English progress this year. A summary of the results is shown below.

I think my English reading has improved this year. 40.80%

I think my English vocabulary has improved this year. 28.45%

I think my English spelling has
improved this year.　　26.05%

I think my English pronunciation has
improved this year.　　39.16%

I think my English grammar has
improved this year.　　23.11%

I think my English writing has
improved this year.　　35.17%

I think my English listening has
improved this year.　　62.15%

I think my English speaking has
improved this year.　　48.78%

The students generally rated their improvement as low, except for listening. The 62.15% who felt their listening had improved might not have been able to develop this skill in high school.

## 6.　Conclusion

In conclusion, Aichi Institute of Technology students have widely different backgrounds in English education with 10.58% having only 2 hours a week of English in high school. The majority of students did not enjoy English in high school.

A majority of students wanted to improve their English with more than 70% desiring to improve listening, conversation and reading skills. Nearly half the students expressed interest in taking an English class every year while attending university.

Nearly half reported that they studied by themselves to improve their English. However, when asked specific questions about ways they used English, very few seem to be using or improving their English in any way outside the university English classes.

When asked questions measuring the importance of English, students felt that English was important for their lives.

More research into this area would be useful for educators.

## Bibliography

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Adelbert G. Smith, "Self-instruction and It's Application to the Teaching of English as a Foreign Language in Japanese Universities," Meidai Gengo Center Bulletin, vol. x, pt. 1, pp. 205-222 (1988)

Norio Yoshiga, Tetsuhisa Oda, and Testsuhiko Aoki, "English Proficiency Test at Aichi Institute of Technology Using OCR and Computer Language SAS for Marking and Analysis" Bulletin of Aichi Institute of Technology, vol 26, pt. A, pp. 3-12 (1991)

## Appendix A: 　　　　　　　　　Questionnaire

These questions are about your English study in high school, your English improvement this year, your English study habits, and your ideas on your future English study. Please think about each question carefully and give an honest answer.

1. How many hours a week did you have English class at your high school?
   A) 2　　B) 3　　C) 4　　D) 5　　E) 6
2. I liked English in high school.
   A) Yes　　　　　　B) No
3. I studied English hard in high school.
   A) Yes　　　　　　B) No
4. I had a foreign (*gaijin*) English teacher in high school.
   A) Yes　　　　　　B) No
5. I had a friend in high school that I spoke English with.
   A) Yes　　　　　　B) No
6. I studied English from radio in high school.
   A) Yes　　　　　　B) No
7. I studied English from television in high school.
   A) Yes　　　　　　B) No
8. I went to another country when I was in high school.
   A) Yes　　　　　　B No
9. I enjoyed my English class in high school.
   A) Yes　　　　　　B) No
10. I thought English was important for my future when I was in high school.　A) Yes　　　　　　B) No
11. I went to an English language school in high school.
    A) Yes　　　　　　B) No
12. I watch an English-teaching program on television.
    A) Yes　　　　　　B) No
13. I listen to an English-teaching course on the radio.
    A) Yes　　　　　　B) No
14. I have a stereo television.
    A) Yes　　　　　　B) No
15. I write letters in English to someone.
    A) Yes　　　　　　B) No
16. When I see an English-speaking movie, I
    A) try to listen to the English. B) read the Japanese. C) do both.
17. I read books written in English.(not textbooks)
    A) Yes　　　　　　B) No
18. I have travelled to an English-speaking country.
    A) Yes　　　　　　B) No
19. I have lived in an English-speaking country.
    A) Yes　　　　　　B) No
20. I have a friend that I speak English with.
    A) Yes　　　　　　B) No
21. I read magazines written in English.
    A) Yes　　　　　　B) No
22. If I can't understand the words of an English song, I
    A) do nothing.　B) get the words from a music book.　C) use a dictionary.　D) use both B and C.
23. I have a part-time job teaching English to high school students.
    A) Yes　　　　　　B) No

24. I sometimes use English at my part-time job.
  A) Yes  B) No
25. I go to an English language school now.
  A) Yes  B) No

WHAT DO YOU THINK OF YOUR ENGLISH LANGUAGE?

26. Reading
  A) VERY GOOD  B) GOOD  C) AVERAGE  D) POOR
27. Vocabulary
  A) VERY GOOD  B) GOOD  C) AVERAGE  D) POOR
28. Spelling
  A) VERY GOOD  B) GOOD  C) AVERAGE  D) POOR
29. Pronunciation
  A) VERY GOOD  B) GOOD  C) AVERAGE  D) POOR
30. Grammar
  A) VERY GOOD  B) GOOD  C) AVERAGE  D) POOR
31. Writing
  A) VERY GOOD  B) GOOD  C) AVERAGE  D) POOR
32. Listening
  A) VERY GOOD  B) GOOD  C) AVERAGE  D) POOR
33. Conversation
  A) VERY GOOD  B) GOOD  C) AVERAGE  D) POOR
34. I would like to improve my English language.  A) Yes B) No

WHAT WOULD YOU LIKE TO IMPROVE?

35. Reading  A) Yes  B) No
36. Vocabulary  A) Yes  B) No
37. Spelling  A) Yes  B) No
38. Pronunciation  A) Yes  B) No
39. Grammar  A) Yes  B) No
40. Writing  A) Yes  B) No
41. Listening  A) Yes  B) No
42. Conversation  A) Yes  B) No
43. I study by myself to try to improve my English.
  A) Yes  B) No

WHAT KIND OF CLASS WOULD YOU LIKE TO TAKE AT SCHOOL?

44. Reading class  A) Yes  B) No
45. Vocabulary class  A) Yes  B) No
46. Spelling class  A) Yes  B) No
47. Pronunciation class  A) Yes  B) No
48. Grammar class  A) Yes  B) No
49. Writing class  A) Yes  B) No
50. Listening class  A) Yes  B) No
51. Conversation class  A) Yes  B) No
52. I will probably go to an English language school while I am a student.
  A) Yes  B) No  C) I don't understand this question.
53. I will probably go to an English language school sometime in the future.
  A) Yes  B) No  C) I don't understand this question.
54. I think English will be important in my future work.
  A) Yes  B) No  C) I don't understand this question.
55. I think English will be important in my future travel.
  A) Yes  B) No  C) I don't understand this question.
56. I think English is not important for me.
  A) Yes  B) No

57. I would like to take English classes every year while I am a student.
    A) Yes          B) No          C) I don't understand this question.
HOW HAS YOUR ENGLISH CHANGED SINCE HIGH SCHOOL?
58. Reading
    A) GOT WORSE      B) NO CHANGE C) IMPROVED      D) IMPROVED A LOT
59. Vocabulary
    A) GOT WORSE      B) NO CHANGE C) IMPROVED      D) IMPROVED A LOT
60. Spelling
    A) GOT WORSE      B) NO CHANGE C) IMPROVED      D) IMPROVED A LOT
61. Pronunciation
    A) GOT WORSE      B) NO CHANGE C) IMPROVED      D) IMPROVED A LOT
62. Grammar
    A) GOT WORSE      B) NO CHANGE C) IMPROVED      D) IMPROVED A LOT
63. Writing
    A) GOT WORSE      B) NO CHANGE C) IMPROVED      D) IMPROVED A LOT
64. Listening
    A) GOT WORSE      B) NO CHANGE C) IMPROVED      D) IMPROVED A LOT
65. Conversation
    A) GOT WORSE      B) NO CHANGE C) IMPROVED      D) IMPROVED A LOT
66. I think another English conversation class at this school would help
    my English conversation.
    A) Yes          B) No          C) I don't understand this question.
67. I think another English reading class at this school would help
    my English reading.
    A) Yes          B) No          C) I don't understand this question.
68. I think an LL(language laboratory) class at this school would
    help my English.
    A) Yes          B) No          C) I don't understand this question.
69. I think studying English in the classroom is a good way to learn
    English.   A) Yes          B) No          C) I don't understand this question.
70. I think doing English homework is a good way to learn English.
    A) Yes          B) No          C) I don't understand this question.
71. I think studying English by myself is a good way to learn English.
    A) Yes          B) No          C) I don't understand this question.
72. I think going to a language school is a good way to learn English.
    A) Yes          B) No          C) I don't understand this question.
73. I think my English reading has improved this year.
    A) Yes          B) No
74. I think my English vocabulary has improved this year.
    A) Yes          B) No
75. I think my English spelling has improved this year.
    A) Yes          B) No
76. I think my English pronunciation has improved this year.
    A) Yes          B) No
77. I think my English grammar has improved this year.
    A) Yes          B) No
78. I think my English writing has improved this year.
    A) Yes          B) No
79. I think my English listening has improved this year.
    A) Yes          B) No
80. I think my English speaking has improved this year.
    A) Yes          B) No

# Appendix B

QUESTIONNAIRE DATA

| FREQUENCY COL PCT | QUESTION 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| A | 138 / 10.58 | 364 / 27.66 | 494 / 37.51 | 443 / 33.71 | 112 / 8.54 | 215 / 16.36 | 74 / 5.64 | 86 / 6.55 | 344 / 26.18 |
| B | 158 / 12.12 | 952 / 72.34 | 822 / 62.41 | 870 / 66.21 | 1198 / 91.38 | 1098 / 83.56 | 1236 / 94.21 | 1225 / 93.30 | 970 / 73.82 |
| C | 363 / 27.84 | 0 / 0.00 | 1 / 0.08 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 1 / 0.08 | 1 / 0.08 | 0 / 0.00 |
| D | 281 / 21.55 | 0 / 0.00 | 0 / 0.00 | 1 / 0.08 | 1 / 0.08 | 1 / 0.08 | 1 / 0.08 | 1 / 0.08 | 0 / 0.00 |
| E | 364 / 27.91 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 |
| TOTAL | 1304 | 1316 | 1317 | 1314 | 1311 | 1314 | 1312 | 1313 | 1314 |

| FREQUENCY COL PCT | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|
| A | 1005 / 76.31 | 87 / 6.64 | 205 / 15.64 | 186 / 14.21 | 831 / 63.15 | 141 / 10.74 | 193 / 14.71 | 269 / 20.52 | 95 / 7.25 |
| B | 310 / 23.54 | 1224 / 93.36 | 1106 / 84.36 | 1123 / 85.79 | 484 / 36.78 | 1170 / 89.11 | 776 / 59.15 | 1040 / 79.33 | 1212 / 92.52 |
| C | 2 / 0.15 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 1 / 0.08 | 2 / 0.15 | 340 / 25.91 | 2 / 0.15 | 3 / 0.23 |
| D | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 3 / 0.23 | 0 / 0.00 | 0 / 0.00 |
| TOTAL | 1317 | 1311 | 1311 | 1309 | 1316 | 1313 | 1312 | 1311 | 1310 |

| FREQUENCY COL PCT | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
|---|---|---|---|---|---|---|---|---|---|
| A | 39 / 2.97 | 119 / 9.11 | 158 / 12.11 | 407 / 31.36 | 50 / 3.81 | 164 / 12.48 | 45 / 3.43 | 29 / 2.21 | 20 / 1.52 |
| B | 1268 / 96.72 | 1182 / 90.51 | 1143 / 87.59 | 388 / 29.89 | 1257 / 95.81 | 1149 / 87.44 | 1264 / 96.34 | 160 / 12.17 | 108 / 8.23 |
| C | 4 / 0.31 | 5 / 0.38 | 3 / 0.23 | 278 / 21.42 | 3 / 0.23 | 1 / 0.08 | 2 / 0.15 | 736 / 55.97 | 566 / 43.11 |
| D | 0 / 0.00 | 0 / 0.00 | 1 / 0.08 | 224 / 17.26 | 2 / 0.15 | 0 / 0.00 | 1 / 0.08 | 389 / 29.58 | 618 / 47.07 |
| E | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 1 / 0.08 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 | 1 / 0.08 | 1 / 0.08 |
| TOTAL | 1311 | 1306 | 1305 | 1298 | 1312 | 1314 | 1312 | 1315 | 1313 |

| FREQUENCY COL PCT | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
|---|---|---|---|---|---|---|---|---|---|
| A | 26 / 1.98 | 20 / 1.53 | 20 / 1.52 | 15 / 1.14 | 28 / 2.14 | 24 / 1.83 | 886 / 68.68 | 957 / 73.22 | 863 / 65.98 |
| B | 137 / 10.46 | 84 / 6.43 | 149 / 11.33 | 168 / 12.75 | 205 / 15.64 | 88 / 6.72 | 368 / 28.53 | 348 / 26.63 | 443 / 33.87 |
| C | 646 / 49.31 | 635 / 48.62 | 562 / 42.74 | 644 / 48.86 | 595 / 45.39 | 498 / 38.02 | 14 / 1.09 | 2 / 0.15 | 2 / 0.15 |
| D | 500 / 38.17 | 566 / 43.34 | 580 / 44.11 | 489 / 37.10 | 479 / 36.54 | 697 / 53.21 | 22 / 1.71 | 0 / 0.00 | 0 / 0.00 |
| E | 1 / 0.08 | 1 / 0.08 | 4 / 0.30 | 2 / 0.15 | 4 / 0.31 | 3 / 0.23 | 0 / 0.00 | 0 / 0.00 | 0 / 0.00 |
| TOTAL | 1310 | 1306 | 1315 | 1318 | 1311 | 1310 | 1290 | 1307 | 1308 |

# Appendix B

QUESTIONNAIRE DATA

| FREQUENCY<br>COL PCT | QUESTION<br>37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
|---|---|---|---|---|---|---|---|---|---|
| A | 725<br>55.60 | 857<br>65.47 | 696<br>53.37 | 826<br>63.88 | 1066<br>81.50 | 946<br>72.38 | 544<br>44.19 | 770<br>59.37 | 575<br>44.47 |
| B | 576<br>44.17 | 451<br>34.45 | 603<br>46.24 | 464<br>35.89 | 240<br>18.35 | 359<br>27.47 | 686<br>55.73 | 526<br>40.56 | 717<br>55.45 |
| C | 3<br>0.23 | 1<br>0.08 | 5<br>0.38 | 3<br>0.23 | 2<br>0.15 | 2<br>0.15 | 1<br>0.08 | 1<br>0.08 | 1<br>0.08 |
| TOTAL | 1304 | 1309 | 1304 | 1293 | 1308 | 1307 | 1231 | 1297 | 1293 |

| FREQUENCY<br>COL PCT | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 |
|---|---|---|---|---|---|---|---|---|---|
| A | 391<br>30.26 | 619<br>47.87 | 501<br>38.69 | 586<br>45.22 | 980<br>75.56 | 882<br>68.11 | 220<br>16.95 | 473<br>36.44 | 966<br>74.59 |
| B | 900<br>69.66 | 673<br>52.05 | 793<br>61.24 | 710<br>54.78 | 317<br>24.44 | 413<br>31.89 | 955<br>73.57 | 711<br>54.78 | 256<br>19.77 |
| C | 1<br>0.08 | 1<br>0.08 | 1<br>0.08 | 0<br>0.00 | 0<br>0.00 | 0<br>0.00 | 123<br>9.48 | 114<br>8.78 | 73<br>5.64 |
| TOTAL | 1292 | 1293 | 1295 | 1296 | 1297 | 1295 | 1298 | 1298 | 1295 |

| FREQUENCY<br>COL PCT | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |
|---|---|---|---|---|---|---|---|---|---|
| A | 1070<br>82.43 | 185<br>14.32 | 578<br>44.91 | 153<br>12.05 | 329<br>25.99 | 297<br>24.19 | 156<br>12.40 | 354<br>27.92 | 227<br>17.94 |
| B | 185<br>14.25 | 1106<br>85.60 | 598<br>46.46 | 700<br>55.12 | 573<br>45.26 | 640<br>52.12 | 724<br>57.55 | 624<br>49.21 | 646<br>51.07 |
| C | 43<br>3.31 | 1<br>0.08 | 109<br>8.47 | 344<br>27.09 | 281<br>22.20 | 219<br>17.83 | 302<br>24.01 | 200<br>15.77 | 307<br>24.27 |
| D | 0<br>0.00 | 0<br>0.00 | 2<br>0.16 | 73<br>5.75 | 82<br>6.48 | 71<br>5.78 | 76<br>6.04 | 90<br>7.10 | 85<br>6.72 |
| E | 0<br>0.00 | 0<br>0.00 | 0<br>0.00 | 0<br>0.00 | 1<br>0.08 | 1<br>0.08 | 0<br>0.00 | 0<br>0.00 | 0<br>0.00 |
| TOTAL | 1298 | 1292 | 1287 | 1270 | 1266 | 1228 | 1258 | 1268 | 1265 |

| FREQUENCY<br>COL PCT | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
|---|---|---|---|---|---|---|---|---|---|
| A | 131<br>10.34 | 134<br>10.58 | 562<br>45.00 | 540<br>43.51 | 555<br>44.65 | 774<br>63.18 | 459<br>37.38 | 559<br>45.60 | 672<br>55.04 |
| B | 502<br>39.62 | 659<br>52.05 | 515<br>41.23 | 567<br>45.69 | 501<br>40.31 | 364<br>29.71 | 688<br>56.03 | 583<br>47.55 | 453<br>37.10 |
| C | 529<br>41.75 | 381<br>30.09 | 171<br>13.69 | 134<br>10.80 | 187<br>15.04 | 87<br>7.10 | 81<br>6.60 | 84<br>6.85 | 96<br>7.86 |
| D | 105<br>8.29 | 92<br>7.27 | 1<br>0.08 | 0<br>0.00 | 0<br>0.00 | 0<br>0.00 | 0<br>0.00 | 0<br>0.00 | 0<br>0.00 |
| TOTAL | 1267 | 1266 | 1249 | 1241 | 1243 | 1225 | 1228 | 1226 | 1221 |

| FREQUENCY<br>COL PCT | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
|---|---|---|---|---|---|---|---|---|
| A | 497<br>40.80 | 346<br>28.45 | 316<br>26.05 | 475<br>39.16 | 269<br>23.11 | 409<br>35.17 | 724<br>62.15 | 558<br>48.78 |
| B | 721<br>59.20 | 869<br>71.46 | 897<br>73.95 | 738<br>60.84 | 894<br>76.80 | 753<br>64.75 | 441<br>37.85 | 586<br>51.22 |
| C | 0<br>0.00 | 1<br>0.08 | 0<br>0.00 | 0<br>0.00 | 1<br>0.09 | 1<br>0.09 | 0<br>0.00 | 0<br>0.00 |
| TOTAL | 1218 | 1216 | 1213 | 1213 | 1164 | 1163 | 1165 | 1144 |