DOCUMENT RESUME

ED 080 922 CG 008 151

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TITLE Parents' Occupations, Student Mother Tongue and Immigrant Status: Further Analysis of the Every Student Survey Data.
INSTITUTION Toronto Board of Education (Ontario). Research Dept.
REPORT NO R-98
PUB DATE Sep 71
NOTE 26p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Academic Performance; Ethnic Groups; *Immigrants; Language Handicaps; Language Proficiency; Non English Speaking; *Occupations; *Parental Background; *School Surveys; *Working Parents
IDENTIFIERS Canada; Toronto

ABSTRACT

An earlier survey analyzed data (a) by New Canadian status and (b) by occupational categories for students in public schools in Toronto, Canada. This study undertakes a more detailed analysis of the relationship between occupational categories and New Canadian status by providing for additional analyses of other non-school variables, such as the student's mother tongue and immigrant status. Since the concern of the school system lies with the individual child, this study uses student based data rather than census-type data based on head-of-household. Much of the data in this report regarding ethnic groups and their occupations seems consistent with expressed attitudes regarding immigrants. Occupational status among different ethnic groups does not always match the school success of the children from those groups. Proportions of ethnic populations in various occupations appear to be related more to mother tongue than to whether or not the student was born in Canada, and to whether or not English was the student's first language. Numerous tables and demographic maps are appended. (Author/LAA)

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Research Department

THE BOARD OF EDUCATION FOR THE CITY OF TORONTO

PARENTS' OCCUPATIONS, STUDENT'S MOTHER TONGUE AND IMMIGRANT STATUS: FURTHER ANALYSES OF THE EVERY STUDENT SURVEY DATA

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#98

September, 1971

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PARENTS' OCCUPATIONS, STUDENT'S MOTHER TONGUE AND IMMIGRANT STATUS: FURTHER ANALYSES OF THE EVERY STUDENT SURVEY DATA

INTRODUCTION

The Every Student Survey[1] analyzed data (a) by New Canadian status and (b) by occupational categories. It was apparent to anyone studying this report that there would likely be a difference in the occupational distributions of the various New Canadian groups. Therefore, a more detailed analysis was undertaken of the relationship between occupational categories and New Canadian status. As will be seen in Table 1, the proportions in the various occupations differed greatly among the groups. In the process of examining The Every Student Survey data further, the relationships between occupational categories and other non-school variables were examined. This report deals with these additional analyses. While these relationships may not be of direct relevance to the school system (a companion report deals with those relationships that are directly relevant to the school system) the data will be of interest to those who wish to know more about the background of students in Toronto schools.

There is one very important characteristic of the data in this report -- it is student based. The school system, while not unconcerned about the child's family, is most concerned about the individual child. Therefore, the data collection and analysis are all child based. Thus, if a family has three children in the school system, this family is counted three times in the statistics whereas it would

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1 Wright, E. N. Student's background and its relationship to class and programme in school (the every student survey). Toronto: The Board of Education for the City of Toronto, Research Department, 1970 (#91).

be counted only once if it had only one child in the school system. This may seem inappropriate to those who usually deal with census-type data based on "head of household" and may be viewed as a limitation. However, from the school's point of view, a family with three children makes its influence felt (indirectly) threefold in comparison with a family having only one child in the school system. The writer believes, however, that while family size affects the number of students in various categories, many of the relationships which are reported would still be found even if family size were controlled. A careful consideration of the nature and magnitude of family-size variation necessary to modify the reported relationships lends support to this opinion.

Many individual comparisons are possible in the following tables. No attempt has been made to calculate statistical tests of significance on all possible comparisons. A special table (Appendix C) has been provided to enable the reader to make judgements about the statistical significance of any comparisons he wishes to make.

Occupation and New Canadian Status

The data in Table 1 clearly indicate that the proportion of parents in various occupations for students born in Canada depends on whether or not English was their first language. So too there are sharp differences in the proportions where students were not born in Canada, depending, once again, on whether or not English was the first language.

The students who speak English as a first language have similar proportions of parents in various occupational categories whether or not they were born in Canada. There are a few differences, however; English speaking

TABLE 1

HEAD OF HOUSEHOLD'S OCCUPATION AND PUPIL'S IMMIGRANT STATUS EXPRESSED AS A PERCENTAGE

Occupational* Category	Born in Canada, English a first language (N=54963) (Group 1)	Born in Canada, English a second language (N=21883) (Group 2)	Not born in Canada, English a first language (N=5508) (Group 3)	Not born in Canada English a second language (N=21239) (Group 4)	Total (N=103818)**
1	3.48	2.11	2.87	2.65	3.02
2	30.26	56.35	29.63	63.38	42.52
3	7.27	8.33	11.60	6.93	7.65
4	5.18	5.30	6.41	3.58	4.94
5	11.91	6.53	10.42	4.66	9.22
6	6.99	5.70	7.50	3.63	6.06
7	5.06	4.20	4.68	2.53	4.34
8	6.59	2.42	6.37	1.55	4.66
9	11.40	2.83	14.09	2.75	7.96
10	.85	.68	.31	.37	.69
11	.59	.17	.05	.09	.37
12	.53	.21	.98	1.25	.63
13	2.58	2.50	1.92	4.35	2.89
14	7.26	2.63	2.92	2.18	5.00
15	.05	.02	.24	.08	.06
TOTAL PERCENTAGE	100.00	99.98	99.99	99.98	100.01

Chi-square = 65235.1; df = 42; $p<.001$.

* See Appendix A for a description of categories.

** Includes 225 pupils for whom no information re immigrant status available.

students not born in Canada are less likely to come from a family where the head of the household is a houswife. They are also more likely to have parents in the highest occupational category than are English-speaking students born in Canada. English-speaking immigrant students, therefore, are slightly advantaged in comparison with English-speaking non-immigrant students.

The two groups who learned English as a second language are also similar, although those born in Canada have fewer parents in the lowest occupational category and are less likely to have fathers who are unemployed in comparison to those not born in Canada. For non-English-speaking students, non-immigrants have a slight advantage over immigrants.

An examination of the table makes it obvious that the proportions in various occupations are more related to mother tongue than to whether or not the student was born in Canada. For example, parents of children who speak English as a second language are about twice as likely to be found in the low occupational category 2 as are parents of children who speak English as a first language. However, children of immigrant parents are only slightly more likely to be in occupational category 2 than are children of non-immigrant parents. This relationship is constant throughout the table.

Occupations of Working Mothers

The occupational categories of working mothers (both parents present) were analyzed in relationship to the same four categories of New Canadian status. Again, the differences in occupational status were related to the child's language background rather than to country of birth. In Table 2, the data have been collapsed into only two categories according to whether or not English was the mother tongue. There is a

significant difference between the two groups with the mothers from non-English-speaking families being found more frequently in the lower occupational categories.

Because womens' occupations are distributed differently from mens', the data were also examined another way. The occupations had originally been coded using Blishen's categories which provided a much more detailed set of categories than were used in Table 1 and 2.

The mothers' occupations were examined using this more refined set of categories; any category which included more than 1 per cent of the working mothers was selected for special analysis. A total of 14 categories met these criteria. They are listed in Appendix B, along with the percentages of mothers in each category.

Further analyses were done on these data. As in Table 2, the mothers were grouped by whether or not English was the student's mother tongue. Since 47.3 per cent of these mothers were in the category "English a first language" one would expect 47.3 per cent of the mothers in each occupational category to fall in this English a first language group. Based on the expected proportions of English and non-English-speaking mothers in each category, the occupations were ranked according to degree of over- and under-representation in the two groups of mothers. Using Blishen's scale, the 14 selected occupations were ranked according to their status. A Spearman Rank Order correlation was calculated between the degree of over- and under-representation and the occupational status. This yielded a value of .930 for the English-speaking mothers (and conversely, -.930 for the non-English-speaking mothers).[2] This represents an almost perfect relationship between degree of over- and under-representation and job status. As one proceeds down the occupational scale to low income and

2 A t-test of this correlation yielded a value of 9.075, significant at the .01 level.

low status jobs, mothers of non-English-speaking students are increasingly over-represented, whereas they are increasingly under-represented as one moves up the scale. Consequently, as one moves up the scale, the mothers of English-speaking students are increasingly over-represented.

Language Group and Occupation

An analysis of occupations by specific language groups was undertaken. The groups are presented in Table 3 in order of the frequency with which students from these language groups were found in the school system. It is particularly apparent from these tables that the occupations of parents vary greatly among the various language groups. All groups of 200 or more students were included in Table 3; the largest of these groups are being analyzed vis-à-vis school progress for a separate report[3].

While there are many comparisons which can be made among specific language categories, only a few will be noted here. As a point of reference the reader might consider the occupational distributions for the parents of children who speak English as a mother tongue (see Table 1). The only language group having fewer parents in the lowest category (number 2) than the English language group are those who speak Indian (including Ceylonese and Pakistani) and Czechoslovakian. The Latvians have almost the same percentage in occupational category 2 as the children who speak only English.

Looking at the highest occupational category (number 9), Czechoslovakian, Estonian and Indian-speaking students have as many or more parents in this occupational category than the English-speaking students; Latvian and Japanese follow closely behind. When one looks at the figures for head of household a housewife, the French-speaking group stands out as distinctive from all others. The 8.5 per cent is more than double the figure

3 Wright, E. N. Programme placement related to selected countries of birth and selected languages (Further Every Student Survey Analyses). Toronto: The Board of Education for the City of Toronto, Research Department, 1971 (#99).

TABLE 2

PERCENTAGES OF WORKING MOTHERS IN VARIOUS OCCUPATIONS AND THE RELATIONSHIP WITH WHETHER ENGLISH WAS STUDENT'S MOTHER TONGUE

Category* Number	Student's Mother Tongue	
	English a First Language (N = 15829)	English Not a First Language (N = 16199)
2	27.98	74.64
3	3.89	2.81
4	10.47	5.02
5	15.92	4.83
6	16.52	5.88
7	14.13	2.86
8	4.14	1.09
9	5.77	1.62
10	.04	.02
11	.04	.01
12	.74	.88
13	.37	.33
TOTAL	100.01	99.99

Chi-square = 7357.2; df = 11; $p<.001$.

* See Appendix A for a description of these categories and Appendix B for an analysis using different categories.

for most groups and is five times larger than the figure for Italian, Greek or Portuguese groups. Among those language groups having 50 per cent or more in occupational category 2, it is worth noting Macedonians, Chinese and Greek are distinctly different as far as category 7 is concerned, having more people in this occupational category than one might anticipate after looking at the other groups. Since this occupational category includes those occupations such as owners and managers of food and beverage industries and caterers (as well as owners and managers wholesale trade, furniture and fixtures industries) there is some support for the belief that Chinese and Greeks are attracted to the restaurant business.

There are undoubtedly many other interesting elements to be noted. The reader is cautioned to remember once again that these data are based on students: the students' mother tongues and their parents' occupations. These data should not be generalized to all people with these ethnic backgrounds. All those who have no children in school are excluded; all those who have children in separate schools are excluded and all those of immigrant background whose children learned English as a mother tongue are also excluded.

Distribution of Various Groups in the City

Four maps have been prepared to show concentrations of various groups of students in the City. The first map shows the parts of the City where (a) less than 40 per cent of the students learned English as a mother tongue and (b) those parts of the City where 40 to 60 per cent learned English as a mother tongue. The second map shows the other end of the continuum: (a) those parts of the City where over 80 per cent of the students learned English as a mother tongue and (b) those parts where 60 to 80 per cent learned English as a mother tongue.

TABLE 3

HEAD OF HOUSEHOLD'S OCCUPATION FOR STUDENTS OF VARIOUS LANGUAGE BACKGROUNDS EXPRESSED AS A PERCENTAGE

Occupational Category	Language Groups									
	Italian (N=13804)	Portuguese (N=4826)	Greek (N=4599)	Chinese (N=3973)	Polish (N=2487)	Ukrainian (N=2286)	German (N=2008)	Jugoslavian (N=1053)	French (N=1373)	Hungarian (N=789)
1	1.67	2.11	2.48	3.40	2.13	2.32	2.59	3.13	3.93	3.42
2	75.04	73.73	61.99	54.21	55.65	45.58	39.34	55.17	37.29	35.99
3	5.74	7.65	8.48	4.13	10.78	11.85	10.16	11.30	8.74	9.38
4	2.57	2.42	6.11	5.79	5.03	7.65	5.03	5.79	4.30	5.96
5	3.32	3.44	4.15	4.38	8.32	9.14	12.00	6.55	8.16	6.46
6	3.29	2.73	2.63	6.54	5.15	6.52	9.21	5.32	4.88	9.00
7	.97	.70	6.63	8.51	1.61	2.58	4.58	2.85	3.42	5.20
8	.37	.56	.52	1.56	1.77	3.94	5.18	1.23	5.53	5.45
9	.14	.31	.67	2.62	2.53	4.51	6.62	1.99	8.30	8.87
10	.43	.06	.13	1.69	.60	.70	.60	.00	.95	.25
11	.08	.08	.13	.07	.16	.09	.15	.00	.95	.51
12	.19	.81	.82	1.53	.40	.17	.60	1.33	.58	.25
13	4.66	3.92	3.52	2.39	2.73	1.92	1.05	3.23	4.22	3.67
14	1.51	1.47	1.65	3.02	3.14	2.97	2.89	2.09	8.52	5.58
15	.02	.00	.06	.15	.00	.04	.00	.00	.22	.00
TOTAL PERCENTAGE	100.00	99.99	99.97	99.99	100.00	99.98	100.00	99.98	99.99	99.99

TABLE 3 (Continued)

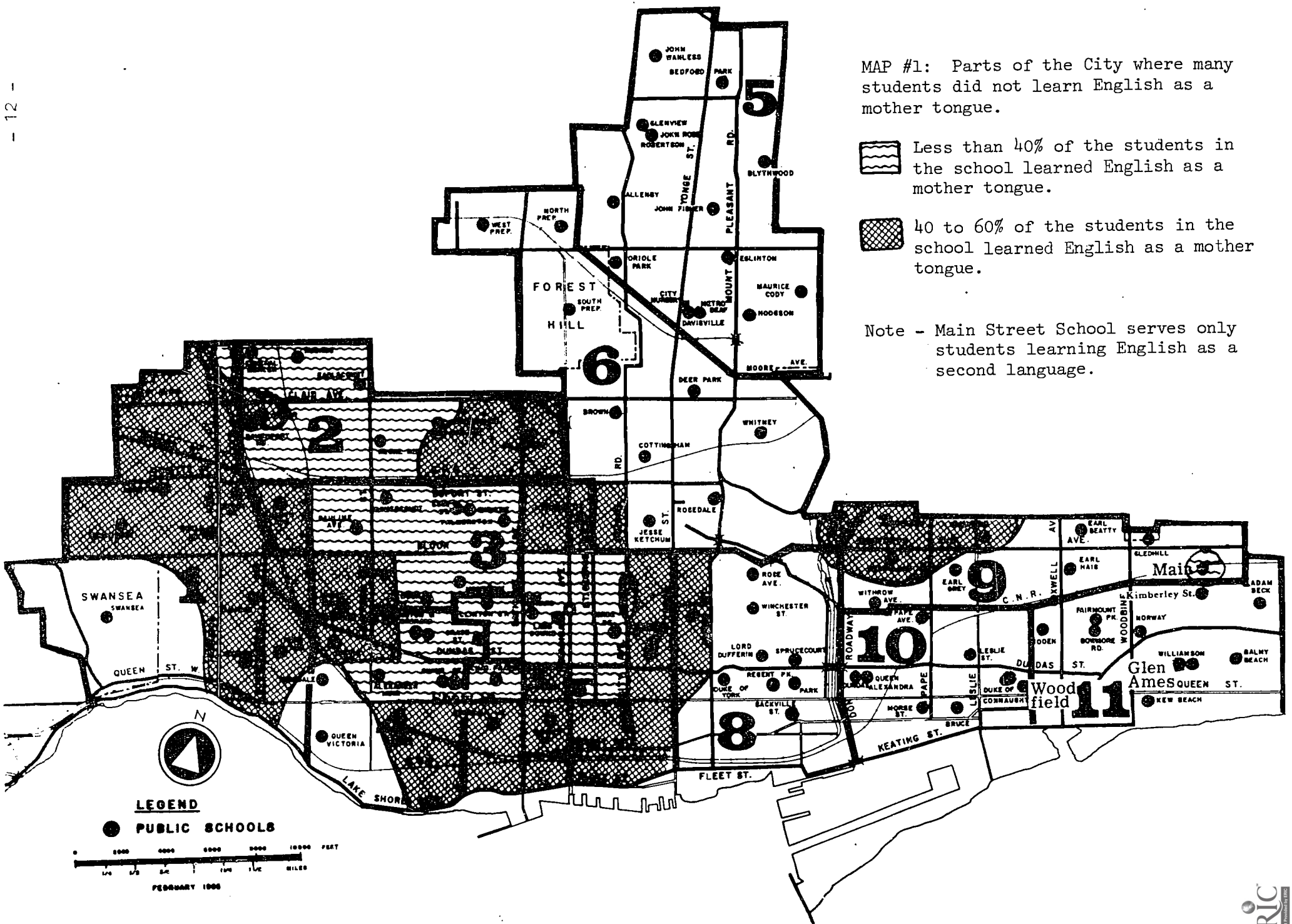
HEAD OF HOUSEHOLD'S OCCUPATION FOR STUDENTS OF VARIOUS LANGUAGE BACKGROUNDS EXPRESSED AS A PERCENTAGE

Occupational Category	Language Groups									
	Macedonian (N=667)	Spanish (N=448)	Czecho-slovakian (N=315)	Estonian (N=384)	Latvian (N=346)	Lithuanian (N=372)	Indian (Ceylonese & Pakistani) (N=294)	Finnish (N=262)	Maltese (N=290)	Japanese (N=258)
1	1.35	2.90	3.81	3.65	2.02	1.88	3.74	2.67	1.38	3.10
2	51.87	39.06	25.40	36.20	31.79	48.12	22.11	49.62	60.34	45.35
3	7.20	11.16	7.62	9.37	10.98	6.72	6.12	7.63	13.45	7.36
4	10.94	5.36	4.13	4.43	8.38	6.18	4.76	3.43	8.62	2.71
5	3.60	8.26	7.62	9.89	12.43	11.83	11.56	9.92	6.21	8.14
6	3.15	5.58	7.30	8.59	6.36	8.60	6.80	6.49	2.76	8.14
7	14.39	3.13	4.13	3.39	6.65	1.88	6.12	4.96	2.07	2.71
8	1.50	5.13	8.57	9.11	7.51	4.03	9.86	2.67	.34	9.69
9	.60	7.81	15.87	11.98	9.83	4.30	21.09	1.53	.00	10.08
10	.45	.22	.63	.26	.87	.81	.00	1.53	.34	.39
11	.00	.00	.32	.00	.00	.00	.34	.38	.00	.00
12	.75	4.24	7.30	.26	.29	.00	1.70	1.15	.00	.00
13	2.25	5.36	2.54	.78	1.16	1.34	1.02	1.91	2.07	1.16
14	1.95	1.79	4.76	2.08	1.45	4.30	4.76	5.73	2.41	1.16
15	.00	.00	.00	.00	.29	.00	.00	.38	.00	.00
TOTAL PERCENTAGE	100.00	100.00	100.00	99.99	100.01	99.99	99.98	100.00	99.99	99.99

Maps 3 and 4 present occupational data. Map 4 indicates those parts of the City where a large percentage of students have parents in the top two occupational categories (categories 8 and 9): (a) over 40 per cent in the top two categories (b) 20 to 40 per cent in the top two occupational categories. In map 3, the bottom two occupational categories are presented: (a) more than 70 per cent of the students have parents in the bottom two occupational categories (categories 2 and 3) (b) 60 to 70 per cent of the parents are in the bottom two occupational categories.

These maps are interesting, not only because they provide a convenient way to examine settlement patterns in the City, but because it is also interesting to compare the first two maps with the second two. This comparison shows not only similarities which would be expected from the data on occupation and language (i.e. a large percentage of English-speaking students and high income parents are found in the same area) but also suggests that those parts of the City, where there is not a match, are undergoing some transitions.

The reader is again cautioned because the data are student based and do not take into account the thousands of people living in the City who have no children; the thousands who have no children attending school, and the thousands whose children attend separate school.



MAP #1: Parts of the City where many students did not learn English as a mother tongue.

Less than 40% of the students in the school learned English as a mother tongue.

40 to 60% of the students in the school learned English as a mother tongue.

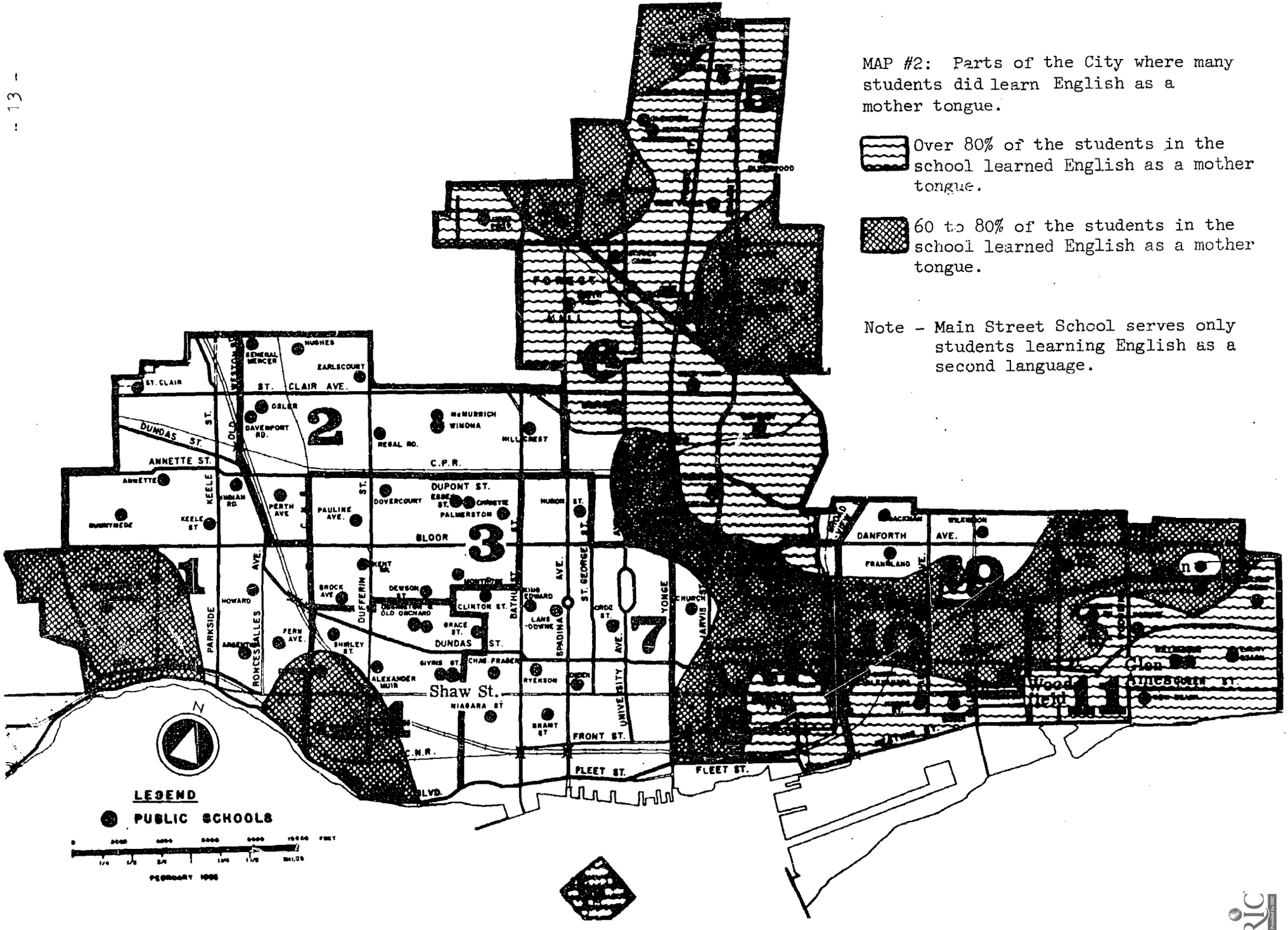
Note - Main Street School serves only students learning English as a second language.

MAP #2: Parts of the City where many students did learn English as a mother tongue.

Over 80% of the students in the school learned English as a mother tongue.

60 to 80% of the students in the school learned English as a mother tongue.

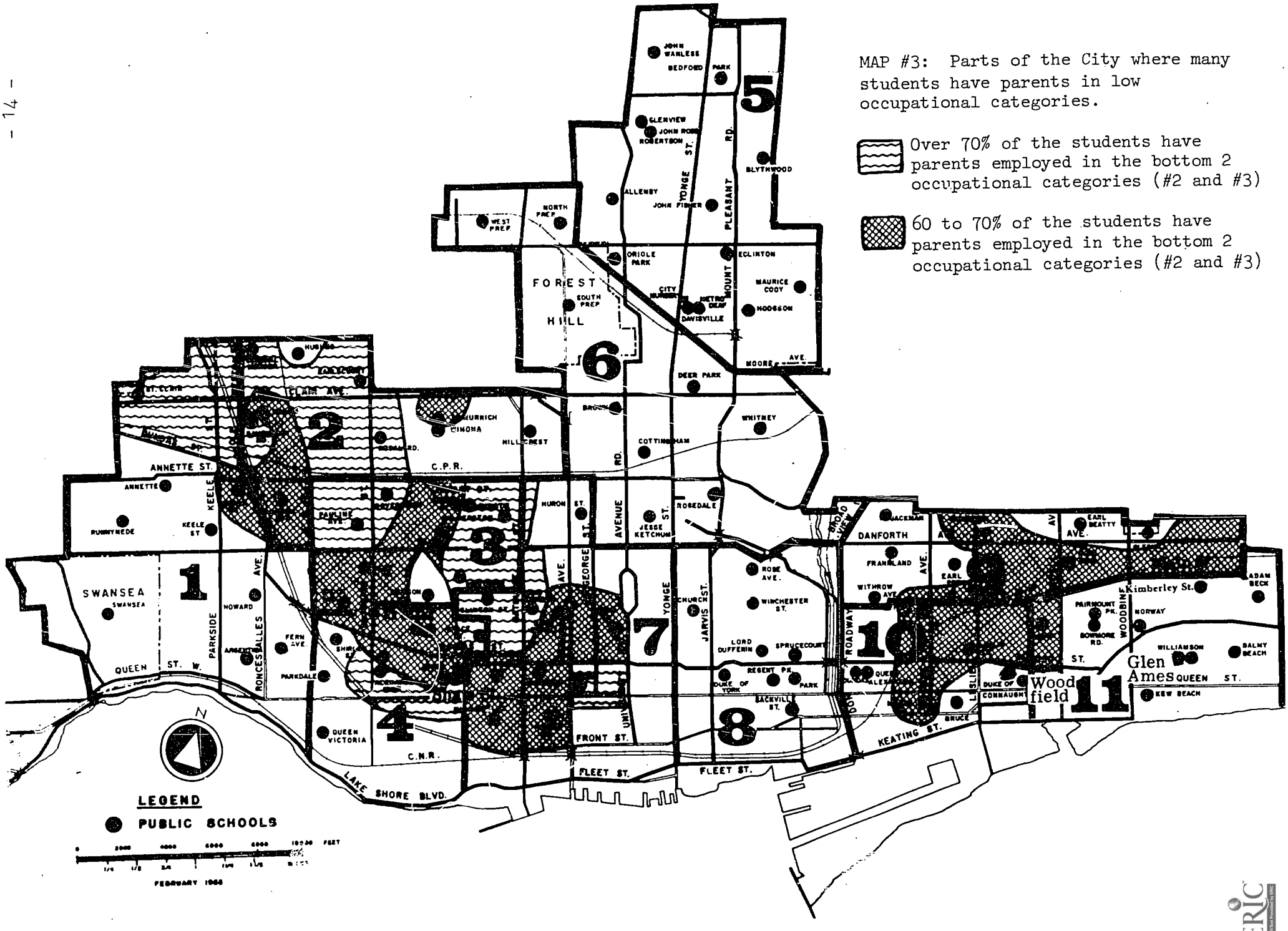
Note - Main Street School serves only students learning English as a second language.



MAP #3: Parts of the City where many students have parents in low occupational categories.

Over 70% of the students have parents employed in the bottom 2 occupational categories (#2 and #3)

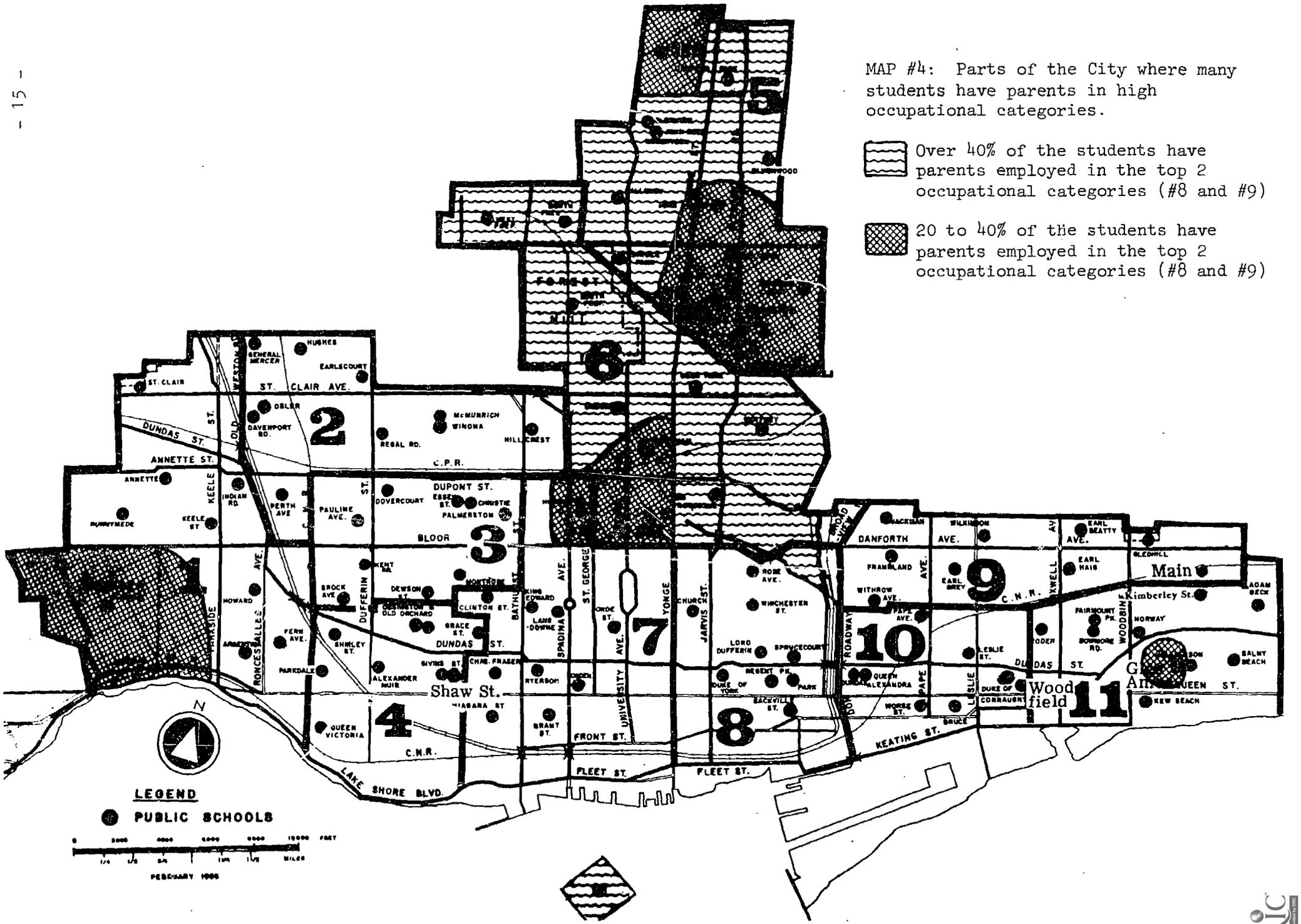
60 to 70% of the students have parents employed in the bottom 2 occupational categories (#2 and #3)



MAP #4: Parts of the City where many students have parents in high occupational categories.

Over 40% of the students have parents employed in the top 2 occupational categories (#8 and #9)

20 to 40% of the students have parents employed in the top 2 occupational categories (#8 and #9)



ADDENDUM*

It has been drawn to our attention that the maps showing distribution of occupation were incomplete because they did not attend to those families in which the head of the household was not employed. The attached map is based on the totals of categories 11, 13 and 14, i.e., the head of the household was reported as on Welfare, on Mother's Allowance, unemployed, a housewife (a single parent family). Any school where 12 per cent or more (about one-eighth) of the students reported the head of the household in such a category is noted on the map. This map is important because it includes few of the schools with large percentages of New Canadian students or schools which were on the other occupational maps #3 and 4.

Nearly one-sixth of the elementary schools in Toronto (17.59%) had more than 12 per cent of their students from homes where the head of the household was not employed. Over 7 per cent of the schools (7.41%) had more than 20 per cent of their students from homes where the head of the household was not employed.

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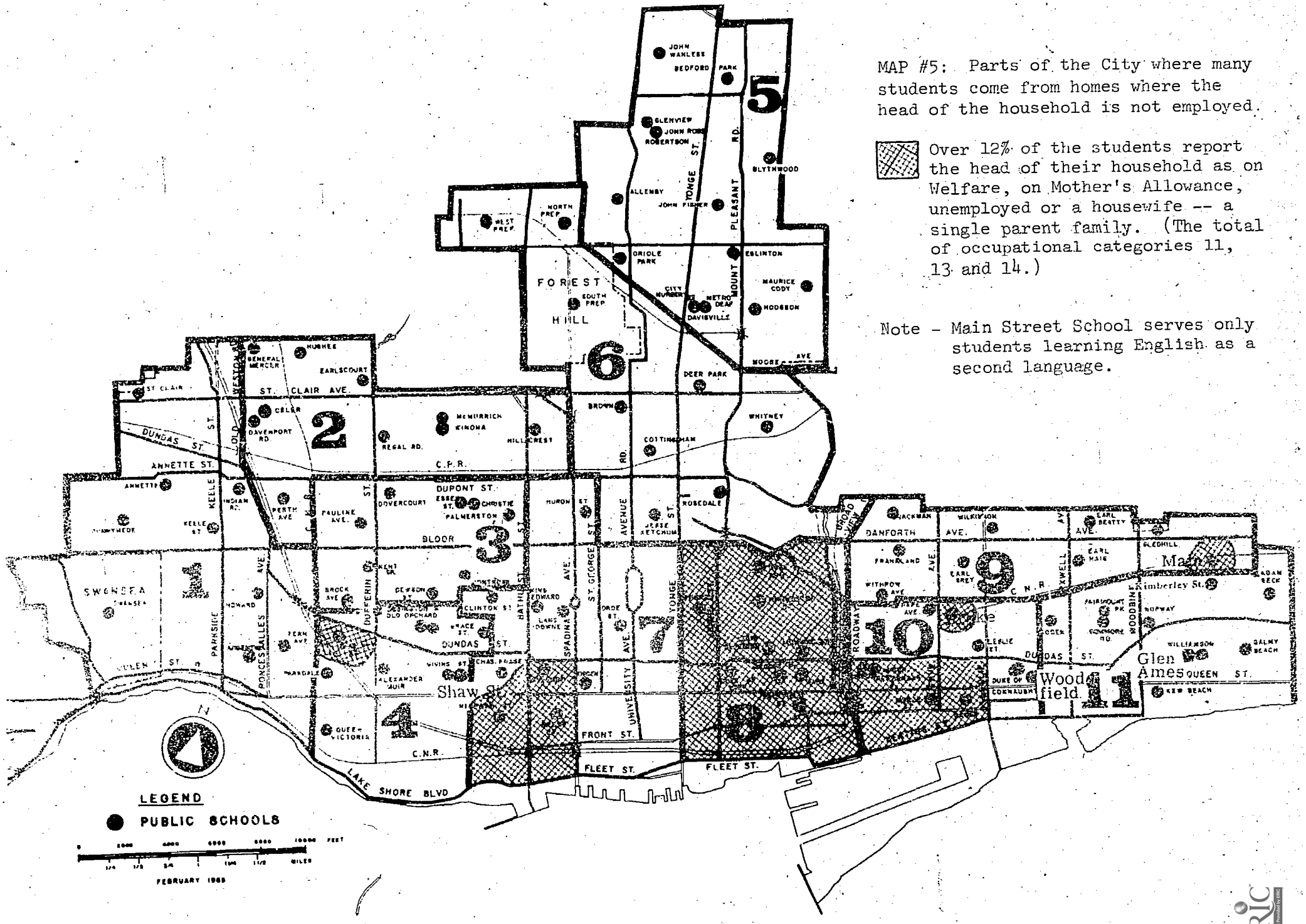
* This material will be incorporated in the text for the next printing of this report.



MAP #5: Parts of the City where many students come from homes where the head of the household is not employed.

Over 12% of the students report the head of their household as on Welfare, on Mother's Allowance, unemployed or a housewife -- a single parent family. (The total of occupational categories 11, 13 and 14.)

Note - Main Street School serves only students learning English as a second language.

DISCUSSION

Much of the data in this report regarding ethnic groups and their occupations seems consistent with attitudes and opinions expressed regarding immigrants. The reader must be cautious about these attitudes and not generalize from them.

The present status of these parents may reflect the opportunities they had for education in their motherland, selective emigration and particular certification requirements in Ontario for some occupations. In addition, future immigration may bring different immigrants who obtain different types of jobs. As will be seen in the companion report dealing with school success (Wright, 1971) the varied occupational status of the different ethnic groups is not always matched by their children's school success. And occupational background does not seem to have as clear a relationship to school success as for the children who do not speak English as a mother tongue.

APPENDIX A

TABLE 4
(Reproduction of Table 5, Page 18, from The Every Student Survey)

SOCIO-ECONOMIC CODES FOR HEAD OF HOUSEHOLD

Category Number	Blishen's Category	Description of Category	Percentage of Toronto Students (N=103,818)
1		no information or unknown	2.86
2	25 to 31.99	labourers, truck drivers, taxi drivers, waiters and porters	42.74
3	32 to 34.99	bartenders, sheetmetal workers, mechanics and repairmen	7.68
4	35 to 38.99	sales clerks, jewellers, stationary engineers and machinists	4.97
5	39 to 42.99	pressmen, printing workers, electricians, members of the armed forces and clerical occupations	9.27
6	43 to 49.99	actors, tool and die makers, medical and dental technicians, embalmers, real estate salesmen, engravers	6.09
7	50 to 54.99	musicians, stenographers, athletes	4.35
8	55 to 65.99	clergymen, various owners and managers, insurance salesmen, librarians	4.68
9	66 to 76.99	teachers, professional engineers, physicians, lawyers, accountants computer programmers, air pilots	8.00
10		retired, pension or on Workman's Compensation	.70
11		Welfare, Mother's Allowance	.37
12		attending university or other full-time education, including adult retraining	.64
13		unemployed	3.15
14		housewife (of relevance in single parent families)	4.40
15		student on his own, either self-supporting, on welfare, or drawing an allowance from his parents	.09

APPENDIX B

TABLE 5

PERCENTAGE OF MOTHERS IN SELECTED OCCUPATIONAL CATEGORIES*
BY CHILD'S COUNTRY OF BIRTH AND MOTHER TONGUE

Index and Illustrative Occupations	Born in Canada, English a First Language (N=11504)	Born in Canada, English a Second Language (N=6815)	Not Born in Canada, English a First Language (N=1891)	Not Born in Canada, English a Second Language (N=8081)	Total (N=28291)
26 - labourer, textile and clothing industries	.15	1.54	.45	2.57	1.20
27 - other textile occupations	5.79	19.95	9.47	29.59	16.25
28 - kitchen helpers, food and beverage industry, dress-makers and seamstresses	10.38	33.10	14.70	40.32	24.69
29 - cooks, baby-sitters	3.28	4.23	2.54	4.01	3.67
30 - boarding housekeepers, waitresses	11.62	13.73	7.56	7.96	10.81
31 - cutters, markers - textile	1.36	2.10	1.27	2.21	1.78
32 - nursing assistants and aids	2.84	1.82	7.72	1.53	2.55
37 - sales clerks	11.08	6.40	8.35	3.01	7.47
39 - typists and clerk typists	11.39	3.81	8.46	2.15	6.73
42 - nurses, graduate	6.95	2.57	5.52	1.27	4.18
44 - interior decorators and window dressers	4.42	.51	2.59	.25	2.09
49 - bookkeepers and cashiers	11.78	5.34	18.88	2.89	8.17
51 - stenographers	14.64	3.75	9.47	1.52	7.92
70 - school teachers	4.49	1.13	2.96	.71	2.50

* Only those categories with more than 1% of the 32022 students who had working mothers are included.

APPENDIX C

TABLE TO FACILITATE COMPARISONS OF PERCENTAGES BETWEEN GROUPS

If the reader wishes to compare percentages for two different groups, this table indicates whether there is a statistically significant difference between the observed values. The following should help illustrate the table's use.

On pages 9 to 10 it is noted that 8.51 per cent of the Chinese are in occupational category 7 and 14.93 per cent of the Macedonians are in occupational category 7; is this a significant difference between these percentages? There are nearly 4,000 in the Chinese group and over 600 in the Macedonian group. Since the percentages of each group in occupational category 7 are around 10 we will go to the third part of the table; since there are over 2,000 Chinese we will read across the first line of the table and because there are close to 700 students in the second group we will stop at the third column of that line. A value of 2.6 - 3.2 is listed. The actual difference in the two percentages is over 5 per cent; since this value is greater than 3.2 we can say with some confidence that there is a significant difference (at the .05 level) between the groups in the percentage found in occupational category 7.

For another example in the same table (page 9) compare the percentages for "German" and "Hungarian" in occupational category 2. The number of German speaking students is 2008, the number of Hungarian speaking students is 789; the observed percentages are respectively 39.34 and 35.99. The proper section of the table is the first section, line 1, column 3. The required value is reported as 4.4 - 5.5. Since the observed difference is less than 4.4 we can say that there is no significant difference between these two groups with reference to occupational category 2. If a difference falls between the two tabled values its significance must be questioned because the upper value is provided as a "safety" factor.

TABLE 6

APPROXIMATE SAMPLING ERROR* OF DIFFERENCES BETWEEN PERCENTAGES OBTAINED FOR TWO DIFFERENT GROUPS OF STUDENTS**

No. of Students	No. of Students							
	2,000	1,000	700	500	400	300	200	100
For Percentages from 35 to 65								
2,000	3.2-4.0	3.9-4.9	4.4-5.5	5.0-6.2	5.5-6.9	6.2-7.8	7.4-9.2	10-12
1,000		4.5-5.6	4.9-6.1	5.5-6.9	5.9-7.4	6.6-8.3	7.7-9.6	10-13
700			5.3-6.6	5.9-7.4	6.3-7.9	6.9-8.6	8.0-10	11-13
500				6.3-7.9	6.7-8.4	7.3-9.1	8.4-10	11-13
400					7.1-8.9	7.6-9.5	8.7-11	11-14
300						8.2-10	9.1-11	12-14
200							10-12	12-15
100								14-17
For Percentages around 20 or 80								
2,000	2.5-3.1	3.1-3.9	3.5-4.4	4.0-5.0	4.4-5.5	5.0-6.2	5.9-7.4	8.2-9.8
1,000		3.6-4.5	3.9-4.9	4.4-5.5	4.7-5.9	5.3-6.6	6.2-7.8	8.4-10
700			4.3-5.4	4.7-5.9	5.0-6.2	5.5-6.9	6.4-8.0	8.6-10
500				5.1-6.4	5.4-6.8	5.8-7.2	6.7-8.4	8.8-11
400					5.7-7.1	6.1-7.6	6.9-8.6	9.0-11
300						6.5-8.1	7.3-9.1	9.2-11
200							8.0-10	9.8-12
100								11-14
For Percentages around 10 or 90								
2,000	1.9-2.4	2.3-2.9	2.6-3.2	3.0-3.8	3.3-4.1	3.7-4.6	4.4-5.5	
1,000		2.7-3.4	3.0-3.8	3.3-4.1	3.6-4.5	4.0-5.0	4.6-5.8	
700			3.2-4.0	3.5-4.4	3.8-4.8	4.1-5.1	4.8-6.0	
500				3.8-4.8	4.0-5.0	4.4-5.5	5.0-6.2	
400					4.2-5.2	4.6-5.8	5.2-6.9	
300						4.9-6.1	5.5-6.9	
200							6.0-7.5	
For Percentages around 5 or 95								
2,000	1.4-1.8	1.7-2.1	1.9-2.4	2.2-2.8	2.4-3.0	2.7-3.4		
1,000		1.9-2.4	2.1-2.6	2.4-3.0	2.6-3.2	2.9-3.6		
700			2.3-2.9	2.6-3.2	2.7-3.4	3.0-3.8		
500				2.8-3.5	2.9-3.6	3.2-4.0		
400					3.1-3.9	3.3-4.1		
300						3.6-4.5		

* The values shown are the differences required for significance (two standard errors) in comparisons of percentages derived from two different subgroups of a survey. Two values--low and high--are given for each cell. The low value is based on the formula $2\sqrt{p(1-p)(1/n_1 + 1/n_2)}$. The high value is about 1.25 greater than the low value and provides a "safety factor" to allow for departures from "representativeness" of the sample.

** This table was adapted from: Freedman, Whelpton, & Campbell. Family planning, sterility and population growth. New York: McGraw-Hill Book Company, Inc., 1959, pp. 453-459.