Selection of Schools

1 Procedure and Criteria for the Selection of Schools

1.1 Identifying relevant schools

A database listing all the schools in NZ which have Year 7 and 8 children was obtained from the Ministry of Education. (Year 7 and 8 children – formerly Forms I and II in the NZ system – are typically aged 11-12.) These included composite schools (with children from what are normally regarded as primary school and secondary school age, Years 1-15) as well as full primary schools (Years 1-8) and intermediate schools (Years 7-8). The database contained 1603 schools. From these, the 69 identifiable Kura Kaupapa Maori (Maori medium schools) were eliminated, because this project is concerned with playground English, and it is to be presumed that Maori rather than English is the desired (if not always the actual) playground language in such schools. The Correspondence School was also eliminated, since the students of that school are not in a single geographical location, and we could not have used the same methodology for data collection with those students. Thus the schools for the project were drawn from the 1533 relevant schools.

1.2 Locating the schools

Each school was plotted on a map.

Rural schools were plotted on a 1:1,000,000 map of NZ.

The schools in the main urban centres were plotted on street maps for those centres. The centres which were taken to be main urban centres for this purpose were:

Whangarei	Auckland	Hamilton	Tauranga
Rotorua	Napier	Hastings	New Plymouth
Wanganui	Palmerston North	Wellington	Nelson
Christchurch	Timaru	Dunedin	Invercargill

The basis for deciding which centres to treat in this way was the number of schools registered in these centres: those with more than 4 target schools were counted as main urban centres. This figure was chosen because the intention was to select approximately 1 school in 4, so these centres would qualify to have 2 schools selected, and it was important to ensure that schools in different areas of these centres were chosen.

Most rural schools use the name of their township, and thus were easily located with the aid of an indexed road map where necessary. The street addresses of urban schools enabled most to be located. Most of the urban maps we used marked the schools, and it was often possible to locate schools with PO Box addresses in this way. When those methods failed, the local telephone directory was consulted, and in this way, almost all schools were located. There were 6 schools which it was not possible to locate, because they did not appear in the telephone directories, and the address information given in the database was insufficient to locate them. It was decided to ignore them, because there were so few.

A grid was drawn on the maps to give approximately the desired number of schools.

On the map of NZ, the grid lines followed the lines of latitude and longitude on the map, and produced boxes of approximately 30 x 37 km. In the urban centres, the procedure differed for each centre, depending on the size of the centre, and its geography. The principles for these centres are described below.

It will be appreciated that when a grid is drawn on a map of NZ, many of the squares will contain nothing but coastal waters. These were discounted. The grid produced a total of 329 "boxes" which had land in them, 157 in the North Island and 202 in the South Island. However, many of these had no schools (especially those which lay on the Southern Alps and Fiordland. There were 21 boxes with land but no school in the North Island and 96 boxes with land but no school in the South Island and 96 boxes with land but no school in the South Island and 96 boxes with land but no school in the South Island and 96 boxes with land but no school in the South Island and 96 boxes with land but no school in the South Island and 96 boxes with land but no school in the South Island, giving a total of 117. This gave a total of 242 boxes containing relevant schools. The boxes were given a standard map-reference label, with letters in one direction and numbers in the other. It was necessary to use both uppercase letters and some lowercase letters to have sufficient for all boxes.

1.3 The selection of rural schools

One school was selected from each of the boxes. In those boxes containing the main urban centres listed above, the urban schools were ignored, and the selection was restricted to the rural schools in those boxes. If this had not been done, the chances of selecting rural schools in those boxes would have been very small, and there would then have been no chance of seeing to what extent the rural schools close to urban centres pattern in the same way as the urban centres. Since the rural population in such areas is often quite dense, this seemed an important feature to include.

A list was made of the schools in each of the boxes. The type of school and the school roll of those schools was noted from the database. The principles used for the selection became quite complex, because of the number of variables involved.

a School size

It was felt that small schools would find it difficult to help, because they have fewer teachers and composite classes. For practical reasons, it was therefore decided to exclude schools with fewer than 100 children in Years 1-8 unless that excluded all the schools in a particular box. Where all the schools were under 100, the biggest school in the box was selected. Where there was no school bigger than 50, no school was chosen if the surrounding boxes had bigger schools. However, if several adjacent boxes had only schools with rolls under 50, schools with rolls of around 40 were selected, but in no case was a one-teacher school selected. Quite a number of areas had only small schools. For example, in box G28, the only school had a roll of 8. In c14, there were five schools with rolls of 12, 13, 16, 23 and 30. It was possible to select schools in only 206 of the 242 boxes. This means that the study cannot provide much information about the language of children in the most isolated rural areas of NZ, where intuitively the most conservative usage might be expected. No practical solution to this problem seemed possible. In many cases, children of the targeted age do not have their schooling in these tiny rural schools, but are sent to boarding schools, so even if we had approached such schools, there was a good chance that they would have had no students in the appropriate years of schooling.

b School type

Because the purpose of the project was to study the language of children of primary school age, it seemed undesirable to use as subjects students who were at secondary schools, where the culture (including, no doubt, the language) is different from that

of a typical primary school. For this reason, where possible, Year 7-15 schools were excluded in favour of other types. However, if such a school was the only school in a particular box, there was no choice but to include such schools. This became critical in a number of South Island areas, where there was either no other school, or where there was a choice between a very small (usually Catholic) primary school and a Year 7-15 school. In these cases, since the bulk of the Year 7-8 students were at the secondary school, it was chosen. This bias against Year 7-15 schools often meant that private schools were excluded, because a great number of them fall into this category.

A second school type which caused problems was the composite school. Composite schools are of two types, "middle" schools (containing Year 7-10 students) and Year 1-15 schools. Most Year 1-15 schools have a primary section, but it is not possible to be sure whether Year 7-8 students will be treated as part of that section rather than the secondary section. These uncertainties made it preferable not to choose composite schools if there was an alternative, but again, if the only school was a composite school, and the school roll (allowing for the fact that the school covers more years) was large enough, it was selected. The bias against composite schools, like the bias against Year 7-15 schools, often meant that we excluded private schools.

c School size and school type criteria in conflict

These two criteria often turned out to be in conflict. In a significant number of cases, there was a choice between a Year 7-15 school and a small (usually Catholic) primary. In such cases, a decision was made on the basis of the size of the primary. If the primary roll was around 60 or more (i.e. the school was clearly a two-teacher school), the primary school was selected. The problems faced can be illustrated by box S3. The choice was between two Year 7-15 schools (rolls 954 and 506, ie approximately 272 and 144 Year 7-8 students), three composite (Year 1-15) schools (rolls 81, 31, 25, i.e. approximately 10, 4 and 3 Year 7-8 students respectively), and a primary school (roll 31, approximately 8 Year 7-8 students). The selection came down to a choice between the two Year 7-15 schools, since that is clearly where the Year 7-8 students for this box are found.

d Random selection

Where there was a viable choice in a particular box, one school was chosen from the possible schools by random selection, using a dice (a twenty-sided dice was used where there were more than 6 schools, a rather rare occurrence). There was one exception to this random selection in rural areas. There was one school on an offshore island which was large enough to consider for selection, but which was not selected by the random process; a mainland school was selected in that box. Because it was felt that the island school might provide interesting data, that school was included **in addition to** the randomly-selected school. The computer mapping procedure used for rural NZ was insufficiently detailed to permit the drawing of the island in question. The data for this school was mapped for convenience on the closest urban map, Auckland.

1.4 The selection of urban schools

The number of schools selected in urban areas was determined by the number of schools registered for that centre, on the basis of selecting approximately one in four schools. However, numbers were rounded up rather than down, on the basis that the schools were generally bigger than rural schools. The eligibility of schools was considered after the size of the selection had been determined. However, relatively

few schools in urban centres fell below the eligible roll size, and proceeding in the other order would have been unlikely to reduce the number of schools selected.

The extent of each urban area was determined pragmatically, by the extent of the available urban maps, and the possibility of marking locations on the main map of NZ. Any relevant details are noted individually below.

1 Whangarei: 3 boxes were allocated. The city was divided into three equal sections on the map, in a latitudinal direction. The urban area extends from Springs Flat to Toetoe and from Maunu to Onerahi. It does not include Portland, Marsden Point or the Whangarei Heads.

2 Auckland: 42 boxes were allocated. Initially, a 6 x 7 box grid was drawn on the map following the map reference lines. However, some of the boxes so created contained no schools, and some of the boxes contained over eight schools. The boxes without schools were ignored, and the heavily-schooled boxes were subdivided to maintain the approximate selection ratio of one in four. These subdivisions were made in terms of geographical features (including motorways and railways) where this seemed appropriate, and otherwise arbitrarily. The Auckland urban area extends from Long Bay in the north to Drury in the South, and Pukekohe was treated as one urban box. The southern area does not, however, include other places off SH1. Albany and the Whangaparaoa Peninsula were not included in the urban area, because no available Auckland city map extended that far. In the East-West direction, the urban area extended from Riverhead, Swanson and the Henderson Valley in the west to Shelly Park and Whitford in the east. It thus did not include Beachlands or Clevedon.

3 Hamilton: 6 boxes were allocated. A straightforward 3x2 grid would not have spread the schools at all evenly, so a division following features like the Waikato River and the main trunk railway line was established. The urban area extended from Pukete and Flagstaff in the north to Glenview and Hillcrest in the south, and from Western Heights to Fairview Downs and Silverdale in the east.

4 Tauranga: 3 boxes were allocated. The major inlets were used as the dividing lines. The urban area included Mt Maunganui (but not Papamoa), Welcome Bay, Pyes Pa, Tauriko and Bethlehem, but not Te Puna or Omokoroa.

5 Rotorua: 3 boxes were allocated. Because of the irregular geography produced by the lake, a radial division seemed most appropriate. The urban area included Waimehia and Ngongotaha in the north, Pukehangi in the west, Waipa Village and Tihi-o-Tonga in the south, and territory as far as the airport in the east.

6 Napier: 3 boxes were allocated. A longitudinal division was used. The urban area included Taradale and Meeanee.

7 Hastings: 3 boxes were allocated. A longitudinal division was used. The urban area included Flaxmere but not Fernhill or Bridge Pa.

8 New Plymouth: 3 boxes were allocated. A longitudinal division was used. The urban area included Omata, Highlands Park and Bell Block.

9 Wanganui: 3 boxes were allocated. The Wanganui River was used as one dividing line and two further sections were created by a line at right-angles to the river. The urban area included Castlecliff, Otamatea, Aramoho and the airport and Marybank.

10 Palmerston North: 4 boxes were allocated. Since a random division into four left the schools largely clustered in two squares, an arbitrary division was made to

ensure that the one-in-four principle was generally upheld. The urban area extended from Longburn to Kelvin Grove and from Massey University to the airport.

11 Wellington: 24 boxes were allocated. A reference-map grid for Wellington would have created more squares without schools than with schools. For this reason an arbitrary division was established taking into account the geographical features of the city. The urban area extended south from Paremata, Whitby and Titahi Bay. It also included the Hutt Valley from Te Marua south, and Wainuiomata. However, it did not include Eastbourne.

12 Nelson: 3 boxes were allocated. A grid based on the map reference lines did not divide the schools evenly, so an arbitrary division was made. The urban area extended from Richmond to Brooklands, and to Marybank and Maitai.

13 Christchurch: 20 boxes were allocated. The grid was based on the map reference lines, but, as in Auckland, empty boxes were ignored and some heavilyschooled boxes were subdivided. The urban area extended from Bedwood and Parklands in the north to Halswell in the south, and from Islington in the west to Taylor's Mistake in the east. However, it did not include Lyttleton.

14 Timaru: 3 boxes were allocated. A radial division from the harbour seemed most appropriate. The urban area extended from Puhuka (thus excluding Washdyke) to Kensington and west as far as Gleniti.

15 Dunedin: 5 boxes were allocated. An arbitrary division was used to divide the schools fairly evenly. The urban area extended from Pinehill and Halfway Bush to St Clair and Ocean View, and from Green Island and Abbotsford to Normanby and Challis. Port Chalmers, Macandrew Bay and Portobello were not included.

16 Invercargill: 4 boxes were allocated. An arbitrary division was used. The urban area extended from West Plains and Otatara to Rockdale and Clifton.

In addition, in three of these centres, an additional school was approached, because each was the largest exemplar of its type in the country, and the only one big enough to approach: a bilingual school, a Rudolf Steiner school and a Christian school. (To preserve the anonymity of these schools, it is not possible to identify the centres concerned.)

The school size and type were checked and schools which did not meet the basic criteria were eliminated. A random selection was made from the eligible schools, using a dice. It is perhaps worth pointing out that in many of these urban centres the Year 7-8 children are in a small number of intermediate schools rather than in primary schools. While the culture of intermediate schools is not necessarily the same as the culture of primary schools, it would not have been realistic to have ruled them out, because in many of these urban centres, most full primary schools are Catholic, and that would have introduced an imbalance in the data. We believe that, while the culture of the intermediate is not that of the primary school, neither is it that of the secondary school, which is what has generally been excluded in Year 7-15 schools.

In all, 135 schools were selected from these urban areas. They were given the code of the box they fell into on the main map of NZ, and then a secondary code to indicate which section of the urban grid they represented. The secondary code consisted of a two-letter abbreviation for the centre, and a number to match the sequentially numbered "boxes" of the urban sub-division. Thus a Wellington school might be coded V21-WN10, which indicates that this part of Wellington falls in V21 on the NZ map, and this is the school selected for box 10 of the urban map of Wellington.

2 The Initial Mailing

A description of the project was sent to each school selected, together with a covering letter to the Principal, a reply slip, and a stamped return envelope. 341 schools were approached in the initial mailing.

3 Replacement Procedure

As the responses came in, schools which declined the invitation to participate were replaced by other schools where this was possible. The school which declined was removed from the selection for that box, and a second choice was made from the remaining schools, following the same procedures as for the initial selection.

Once the acceptances reached a level where very good coverage of the country had been achieved, replacements were not approached in boxes where there were surrounding acceptances and there was no reason to believe that the box in question would differ significantly from the surrounding area. This was necessary both to bring the process of selection to a definite close, and as a matter of cost. However, where a particular box was of significance, the process of seeking replacement schools continued until an acceptance was received, or all possibilities were exhausted, or (ultimately) it was too late.

A reminder was sent to schools which had not responded in those areas where there were still significant gaps in the coverage of the country. When the reminder letter was sent, about 60% of the schools approached had responded, and there had been a lull in the receipt of responses. 78 such letters were sent. They brought immediate responses from about 65% of those schools, including one from a school which had not received the original letter! Only 28% of these responses were positive (18% of the total reminded schools), but it left the way clear to approach other schools. And of course, each of those acceptances was in a vital area.

In many cases, the delay in receiving responses left little time to seek replacements. To speed up the process towards the end, approach letters were sent to several schools in one box at the same time. This left open the possibility that there would be acceptances from more than one school, but given the rather low rate of acceptance from replacement schools, it seemed unlikely. It was felt that if it did happen it would enable the researchers to check the extent to which responses from different schools in the same box coincided, and thus provide a useful perspective on the typicality of the responses. It did happen: there were two participating schools in one Auckland box, and two in each of Q3, R4, T4, X10 and S16. In X10, in particular, the two schools were at the extremes of the box, and intuitively fell into different areas, so the "double-dipping" was in fact a bonus. (Ultimately, we did not actually receive a completed questionnaire from all these schools, and so there were fewer cases of double-dipping than this.)

The letters sent at this stage were worded slightly differently from the original approach letters. The schools were told that there were difficulties in obtaining help from schools in their area, and appealed to their local pride. It appears that this had a considerable effect in some areas: the 45% acceptance rate from these replacement schools was much higher than for earlier replacements (33%), and even exceeded the rate for the originally selected schools (about 43%). Northland and Taranaki in particular responded very positively: when the letters were sent, only one school north of Dargaville and Whangarei had agreed; with the positive response, nine schools in that area agreed to participate! However, in the area between Thames and Taupo, where there was a surprisingly large gap, there was less evidence that this approach had an effect, presumably because that covered more than one area, and

the appeal to local pride was thus rather diluted. This was particularly unfortunate, since at that stage no school from the rural area or small urban centres along SH1 between Auckland and Taupo had agreed to participate. The Waikato and the timber belt remain rather poorly represented, despite further requests being sent which specified this gap in the coverage. A second effect of these targeted letters was that they brought acceptances from a significant number of lower decile schools, including 5 decile 1 schools and 5 decile 2 schools. Thus a third of the total decile 1 acceptances and almost a quarter of the decile 2 acceptances came as a result of targeted letters. This counteracted the earlier tendency for such schools to decline.

4 Comments on the patterns of acceptance and rejection

In general, there was little pattern to the responses. A few schools said that (despite appearing on the MoE database) they had no students at Year 7/8 level. A few declined because they were in the process of decapitation (i.e. were losing their Year 7-8 students to an intermediate school), and had only tiny numbers of students remaining at those levels. Several schools indicated that they were overwhelmed with requests for assistance with research projects, and did not feel able to undertake another. Several indicated that changing staff and/or administrative difficulties lay behind their refusal.

On the positive side, several of the smallest schools included in the initial selection, with around 40 students, accepted, and one commented in their acceptance that they were very happy to participate, despite their smallness, and the fact that they had only a handful of Year 7/8 students.

The most obvious trend in acceptance/rejection was that schools in areas of low socio-economic standards showed a tendency to decline, in both rural and urban areas. However, as noted above, the targeted letters brought a significant increase in acceptances from such schools, and these schools are not significantly under-represented in the final list of participating schools. In all areas there are participating schools from both ends of the Ministry of Education decile ratings. (The breakdown of responses in terms of decile ratings is in a table at the end of this document.)

The other trend was that Year 7-15 schools showed a marked tendency to decline. This was significant in the South Island, where such a school was often the only school in the area with Year 7-8 students, or where such a school was the only alternative to a (usually very small) Catholic full primary school. There are several empty boxes in the South Island as a result of this distribution of the school population. The reason for this trend is unclear. The material sent did not say that the study was investigating the language of primary school children, but that of Year 7 and 8 children.

The overall response rate was relatively high. Responses were received from 341 of the 468 schools asked (72%). Of the initial selection of schools, 57% of those which responded agreed to assist, which is an excellent response in the light of other reported response rates. However, the rate of acceptance was lower with the replacement schools, at 32%. This appears to result from the importance of the socio-economic level of a particular area in determining the response: in the lower socio-economic areas, every school was asked, one after another, and in most cases consistent rejections were received. Nevertheless, it was important to do everything possible to achieve representation from these areas in the sample. 72% of the responses to the reminder letter were negative; however the acceptances arising from the reminders were important for the coverage, and the negative responses allowed an approach to be made to other schools in the crucial areas. The high

acceptance rate from the schools which received targeted letters has already been noted. The overall rate of acceptance was 40% of the schools asked.

The complete figures for acceptance, rejection and non-response are tabulated at the end of this document.

5 Selection of Schools for Pre-testing

Because it was undesirable to exclude any school from selection in the main sample, the researchers waited until acceptances had been received from the sections of Wellington close to the University before seeking help with pre-testing the questionnaire. Then a school which it was known would not be in the sample was approached for assistance with pre-testing. A second pre-test proved necessary, because major changes were made in the light of the first one. A second school was approached on the same basis. For practical reasons, no attempt was made to pre-test in a range of schools, but in those which were conveniently located and willing to be guinea-pigs. Nevertheless, the first school was small, with a class containing students from Years 5-8, while the second had multiple Year 7 & 8 classes, so that the pre-tests did take place in two contrasting contexts.

Table of Responses

	Original schools responding						
	Number	% (rounded)	% (rounded)				
Yes	148	43%	57%				
No	110	32%	42%				
No response	83	24%	n.a.				
Totals	341	99%	99%				
R	bls	Replacement schools responding					
	Number	% (rounded)	% (rounded)				
Yes	41	32%	49%				
No	42	33%	50%				
No response	44	34%	n.a.				
Totals	127	99%	99%				
Over	Overall schools responding						
	Number	% (rounded)	% (rounded)				
Yes	189	40%	55%				
No	152	32%	44%				
No response	127	27%	n.a.				
Totals	468	99%	99%				

Responses in relation to decile ratings of schools

Decile ratings head the columns, responses are in rows. (Decile rating 10 is for schools at the highest end of the socio-economic spectrum, and 1 is the lowest.)

	1	2	3	4	5	6	7	8	9	10
% of schools approached falling in this decile	10%	11%	9%	8%	11%	10%	9%	11%	9%	9%
Yes	15	22	20	12	20	19	20	25	17	20
No	15	14	15	20	19	15	14	11	16	13
No reply	18	16	10	9	12	14	12	15	10	11
Total	48	52	45	41	51	48	46	51	43	44

Questionnaire Returns

As the completed questionnaires were received, they were recorded in the database of participating schools, and a thank-you letter was sent as acknowledgement. Most schools did what was expected: they returned one completed questionnaire for the school. However, several big city schools sent up to 8 completed questionnaires. A tiny handful of schools sent individual response sheets from students. Only a relatively small number of schools completed the optional Section 7. 5 schools returned their questionnaires with apologies for not completing them, usually due to significant staff changes.

We initially requested that the questionnaires should be returned by 5th November, hoping that would be an easy date to remember. A week after that, we sent a gentle reminder to those schools which had not returned their questionnaires. At the beginning of December, we sent a further reminder to the schools which had still not responded. Each of the reminders brought in a few more questionnaires. However, by the end of the school year we had received only 148. This was somewhat disappointing in comparison with the 190 schools which had volunteered, but we still had fairly good coverage of most of the country.

However, when we began the analysis, it became clear that there was a crucial area in the centre of the lower North Island where four schools in contiguous boxes had all failed to return a completed questionnaire. Because it looked as if a major regional boundary passed through this area, we decided to make an appeal to those four schools to complete the questionnaire in the first term of 2000. We sent them another copy of the questionnaire and support material, and also the original information, in case of staff changes. We included a copy of the map analysing the data on *doubling/dubbing*, so that they could see for themselves that they were located in a crucial area. (We specifically asked them not to discuss the map with the students before administering the questionnaire.) As a result of this, we received completed questionnaires from two of those schools, which was of considerable help in narrowing down the border between those regions. This brought the number of completed questionnaires to 150, 78% of the schools which originally agreed to participate.

In terms of decile ratings, the proportions are still reasonably consistent, although there was a slight tendency for the lowest decile schools to be unable to complete the task. The figures are:

	1	2	3	4	5	6	7	8	9	10
Schools agreeing	15	22	20	12	20	19	20	25	17	20
% of schools agreeing	10%	11%	9%	8%	11%	10%	9%	11%	9%	9%
Q'aires received	10	15	16	9	19	16	15	21	13	16
% of schools returning Q'aire	66%	68 %	80%	75%	95%	84%	75%	84%	77%	80%
Total % schools in this decile	6%	10%	10%	6%	12%	10%	10%	14%	8%	10%

School reactions to the questionnaire varied considerably. Of those who commented on the experience, a majority said they had found it interesting (for some, it had clearly been an eye-opener), and many said that the children had enjoyed it. One school said the teachers concerned had laughed till they cried when they compared answers afterwards. However, it was also clear that some teachers had not enjoyed doing it, the usual cause being that they did not like the non-PC responses provided by the students. We knew from the pre-testing experience that this was likely to be a problem, and were not surprised by this reaction.

A map showing the location of the participating schools follows. For comments on the maps, see the document entitled Info about Maps.

Map: Participating Schools





Key

Note that the insets are not to scale, nor all on the same scale for practical reasons. Each box represents one school in both urban and rural areas.



participating school



See urban map insert