

***THE EFFECTIVENESS OF THE SILENT  
WAY METHOD IN THE TEACHING OF  
MĀORI AS A SECOND LANGUAGE***

A thesis

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## *ABSTRACT*

The socio-linguistic survey of Benton (1979) provides evidence to show that the continued existence of the Māori language is seriously threatened.

The national Department of Education is implementing a policy of Māori language and culture studies in schools, but the scale and depth of this commitment is restricted by limited resources and expertise. The schools alone cannot stem the threat to the Māori language.

Harnessing the resources within Māori communities would appear to be a necessary step toward language maintenance. The most useful of these resources are the native speakers of the Māori language. A community-based training programme aimed at equipping such people for the teaching of Māori as a second language would provide a much needed facility for both community and school.

The only teacher training programme presently available to native speakers of the language is a one year course offered through Teachers Colleges. Since only a select few can avail themselves of this opportunity, there is a need for an alternative training program which will cater for greater numbers and release more teachers into the community.

A community-based, on the job, periodic training programme with minimal disruptions to family life and work commitments, would probably be preferred to a long-term, institutionalised, away-from-home programme. Initially, the training programme might need to be quite specific, i. e. native speakers might be initiated into the use of a particular language teaching method and programme which has been planned, tested and found to be suitable.

Given a highly specific programme, trainees might be able to start teaching after an initial short course of a week. Thereafter, training sessions could be paced and spaced so that teachers could continue to grow in strength and expertise as their experience increased.

The quest for a suitable method has been the focus of my studies for four years. It has brought me to investigate both the conventional and

unconventional approaches to foreign language teaching, along with their linguistic, psychological and pedagogical bases. Of these a method which strikes me as having considerable potential as a teaching tool in the hands of native speakers, is Gattegno's Silent Way approach.

The experiment described in this thesis is part of the total investigation. It is an attempt to evaluate the effectiveness of the Silent Way as a teaching/learning instrument for second language acquisition. The teaching strategies of the Silent Way are measured against the opposing strategies of an eclectic approach.

Two Form I classes of randomly assigned pupils were used for the experiment. The Māori language was taught to Class A using the Silent Way method, and to Class B using an Eclectic method.

A total of 30 hours was used for the experiment, 20 hours for the language component and 10 hours for a culture component. Tests were administered to measure the achievement of subjects in the language areas of listening, speaking, writing and reading.

Significant differences between the groups were noted on all measures except on the measure for fluency. The children taught through the Silent Way method made significantly greater gains than the children taught through the Eclectic method.

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# I. BACKGROUND TO THE INVESTIGATION

## Introduction

The 1970's has been a buoyant period for the development of Māori language and culture in schools. In this period Māori Studies courses were initiated in Teachers Colleges; Māori advisers were appointed to each Education Board; Māori Itinerant Teachers were appointed to service linkage schemes between primary, intermediate, and secondary schools; and a special one year training course was established in Teachers Colleges to train native speakers of Māori for teaching in secondary schools. The first bilingual school was also established with two others about ready to begin.

At the same time, the first attempt to measure current Māori language usage was conducted by Richard Benton, and the results of this survey point out very clearly that the Māori language is seriously endangered (Benton, 1979).

Will the policies presently being pursued in schools halt the decline of the Māori language? Some negative factors appear to be evident.

In primary schools emphasis has focussed on encouraging positive attitudes toward things Māori. The policy is one of integrating the Māori element into the broad curriculum. Māori language receives only minimal emphasis. This was indeed inevitable, since only a small percentage of the teaching fraternity is Māori (4% in 1978) and of that percentage few speak Māori. Who then was supposed to do the teaching? Could the training be provided at Teachers Colleges?

For Māori speaking teacher-trainees, perhaps; for other trainees, impossible. The time required to teach students fluency in another language, let alone the skills needed to teach it, cannot be accommodated in current teacher training programmes. There is not therefore much hope of feeding into the primary school system a continuing supply of teachers capable of teaching the Māori language.

This problem could perhaps be alleviated by the admission of greater numbers of Māori-speaking students into Teachers Colleges. Such a move, however, would need to be complemented with courses of Māori language methodology.

A further possibility would be to draw from the teaching fraternity experienced teachers already committed to bicultural or multicultural education for an intensive course in Māori language and studies.

The secondary school system has been better served with teachers, but a report delivered by Clark at a University Tutors of Māori Language Conference held in Wellington at Victoria University, August 17-19, 1978, disclosed some disturbing factors. Although large numbers of students were opting for Māori language courses in the third form, this enthusiasm appeared to taper off with each successive year, so that relatively few students were presenting themselves for sixth and seventh form Māori. Mr Clark deduced that this was the result of ineffective teaching. A recent report (Bancroft 1980) supports Clark's deduction.

The dissatisfaction of some students was expressed at a Māori language seminar held recently at Tauranga. They intimated that, while they were interested in reading and writing, their primary need was the ability to speak.

"I can't call myself a Māori if I can't speak Māori."

"I passed School Certificate and University Entrance Māori but I still can't speak it."

"We spend all of our time doing exercises from the textbook. We hardly ever talk."

"I look like a Māori, you know, and I'm proud of that, but when someone talks to me in Māori and I can't talk back, I feel like a big shrink."

"Yeah, what's worse is when a pakeha talks to you in Māori and you can't answer back."

"I talk a bit of Māori - not much but not bad - but the pakehas in our class get better marks than me in exams - why's that?"

If these statements reflect the general attitude of Māori students learning their own language, there are several areas which require investigation - teacher training, teaching methodology, textbooks and language programmes, the nature of examinations, and the disparities between classroom Māori and that of the home and community.

## Can Schools Halt the decline of the Māori Language?

The proliferation of Māori language classes in schools and tertiary institutions might suggest that the Māori language is in a very healthy state. But just as students are expressing their disenchantment with language classes so also are many Māori communities. There is a growing concern that the status and well-being of the Māori language cannot be resolved by the schools alone. Schools after all reflect the values of mainstream society in teacher recruitment, in subject priorities, in time-tabling and in social values. These variables plus the inadequate teacher training facilities militate against the effective transmission of Māori language and culture.

Mainstream society does not value the issue enough. If it did, the anomalies would disappear. With reference to the maintenance of minority languages Fishman (1966, 1976) categorically states that unless the majority group see value in another language, and deliberately seek it for their children, the survival of that language cannot be guaranteed. The issue seems to rest upon a massive campaign to change mainstream attitudes. But even supposing attitudes could be changed, such a venture would require considerable time, and time is what Richard Benton would have us believe we do not have.

In the formulation of policy which seeks to teach the Māori language in schools, the education system opens the way for changing attitudes. Certainly, it gives the language some degree of status. But schools alone cannot halt the decline of the Māori language. Schools cannot in fact effect anything without societal support, and on the issue of Māori language societal support appears to be limited.

So, an impasse has been reached. It is time to return to the drawing board, to seek other alternatives.

## The Transmission of Language and Culture

The transmitters of a language and culture are those who have grown up in the culture and speak the language. Without the intrusion of English as the majority language of this country the transmission of the Māori language would have continued to be a natural process. That, however, has not been the case for the best part of a hundred years. We now have a situation where the majority of the indigenous people - the Māori - speak English as their first language. What is even more peculiar, and this the Māori shares with

the Hawaiian, is that if he wishes to learn his ancestral tongue, he must learn it as a foreign language.

There are two other alternatives - living among Māori speaking people in a Māori speaking community, or attending a bilingual school. Māori speaking communities are few, however, and bilingual schools, if there were more, are essentially for children.

If the Māori is to learn his ancestral tongue as a second language through formal foreign language teaching strategies, who should teach him? Gorosch, Pottier and Riddy (1967) make the point that for effective second language acquisition the teacher must be fluent in the spoken language, have acquaintance with the history, institutions and culture of the country of that language, and be up to date in his knowledge of developments in the teaching of his subject. Theoretically anyone who has command of these skills could teach effectively, but the native speaker will in all probability be preferred by adult and adolescent students. Younger children do not seem to mind, and a non-Māori teacher gives added status to the language. As a starting point, however, it makes good sense to take the native speaker who is well acquainted with his own culture, as potential teachers.

Benton (1979) speculates that about 70,000 Māoris speak Māori.

We could predict that perhaps 50% of these, given appropriate training, could become effective teachers at an introductory level.

#### Native Speakers as Teachers of the Māori Language.

Bender (1971) has in fact intimated that most native speakers of Māori could be turned into effective teachers following a six week course of studies in language teaching methodology.

There are as many methods for teaching a second language as there are theories of language acquisition, and the whole area is still one of much controversy. The report of the working party appointed by the Minister of Education to consider second language learning in New Zealand is emphatic that there is no magic formulae, no one single language Method (1976). The present state of the art would suggest that this statement is probably true.

It must however be conceded that for every second language teaching/learning situation, there will be certain exigencies which should

determine the appropriateness of one method against another. These exigencies will take into consideration the students (their ages, motivations, learning skills), the teacher (his experience, training and skills), the aims of the language course (reading, writing, analysis, speaking, translation), the time available, the regularity of classes, the learning environment, and the availability of teaching materials and other resources.

In evaluating the specific strengths and weaknesses of some methods Rivers (1968) makes some of these exigencies apparent. If the students, for example, are adults or adolescents, are all academically inclined, but need only reading and translation skills in a foreign language, then the traditional grammar - translation approach will probably best serve their needs. For them a fluent speaker is not necessary as a teacher. All they need is a good textbook and a teacher who is thoroughly conversant with the grammar of the language under study. If, however, the students are very young children, or under-average students academically, then according to Rivers the mimicry - memorization approaches of audio-lingualism would probably be most appropriate, especially if the primary aim is toward automatic speech.

There are special circumstances surrounding the use of native speakers as potential teachers, and the choice of method should fit those circumstances. At the same time, the choice of method should fit the particular needs of the students, which in the case of Māori people appears to be primarily the need to be able to speak. Factors of teacher-training time, teaching venues and costs have also to be considered.

Since many native speakers may not have an equal command of the English language, a method which requires extensive translations or grammatical explanations in English, could undermine the confidence of the teacher and make him appear ridiculous before his class. For this reason alone, a direct method, which operates only or primarily in the target language would seem to be a sensible choice. There ought to be a strong speech component. Electronic hardware should be minimal so that language classes can operate anywhere, and teaching materials should not be too expensive. The most important factor, however, is that a native speaker should be able to use the method comfortably and experience a sense of achievement both in his expertise as a teacher, as well as in the progress of his students.

Given that an appropriate method can be identified, tested and found to be suitable, then it makes good sense at the beginning of a training



programme to initiate native speakers into the use of this one method rather than all possible methodological approaches. This strategy should economise both time and expense, should streamline the production of resource materials and should release into the teaching field more teachers more quickly than is presently the case. At the same time, however, we are reminded by Rivers (1972) that methods and techniques imposed on the teacher ... have always proved successful for some teachers, but not for all. We cannot, therefore, expect a 100% success rate using this approach alone. It would probably be necessary to introduce teachers to other methods at a later stage.

If native speakers are to be trained as teachers of Māori language, which method might they operate effectively with on the marae, on the factory floor, in the work place, in schools, or in their own homes?

In seeking an answer to this question a number of available methods were considered.

## II. LANGUAGE TEACHING METHODS

### The Traditional or Grammar-translation Method

This approach, as it is used for the teaching of Māori, calls for translation and the explanation of grammar through the medium of English. It requires teachers who are fluent in English and very knowledgeable both in English and Māori grammar, but not necessarily fluent in Māori.

This is the approach most widely used in secondary schools, tertiary institutions, and universities for the teaching of Māori. The textbooks *Te Rangatahi* (Waititi 1945), and *Te Reo Rangatira* (Karetu 1970), currently used in secondary schools and upon which state examinations for School Certificate and University Entrance are set, are traditional-type texts. The texts are aimed at bright students who in most cases learn to read, write and translate reasonably well. Very few, however, learn to speak comfortably.

There are therefore two reasons for avoiding this approach in choice of a teaching technique for native speakers. First, only few could probably handle it. Secondly, it will not produce enough 'speakers' among students.

### The Audio-lingual Method

This approach emphasises the development of oral-aural skills and could probably be handled well by native speakers since neither translation nor grammatical explanations are required. But this approach requires the massive use of hardware. A language laboratory with accompanying tape recorders, facilities for screening films, slide-tape equipment and all the paraphernalia of the electronic world, are fine for established institutions like universities. Quite apart from the cost factor they have only a limited place on the marae.

A more important reason for avoiding these approaches, however, is the strong criticism which has stemmed from both linguists and psychologists. Smith (1971) stated emphatically that a number of principles and techniques which grew out of structural linguistics and the behaviourist psychology of Skinner (1957), and which shaped the

classical audio-lingual approach, are now felt to be both untenable and inefficient.

The basic assumption of audio-lingual theory, that foreign language learning is primarily a mechanical process of habit formation, was first challenged by Chomsky (1964). His contention, that language is a creative rule-governed facility and cannot, therefore, be a product of mimicry or memorization, has drawn considerable support and caused a re-appraisal of audio-lingual approaches. Rivers (1964) pointed out that the four major assumptions of the audio-lingual approach: that foreign language learning is a process of habit formation; that speech should precede writing; that learning should be through analogy rather than analysis; and that meaning should be taught in a cultural context, i.e. without English; were not in agreement with the psychological thinking of the time. Ausubel (1964) and Carroll (1965) issued similar challenges. Assessing the value of New Key audio-lingual teaching materials, Valdman (1966) was critical because the materials constituted a closed system. The effectiveness of the audio-lingual approach in the formal education setting was challenged by Smith (1970); and the work of Jakobovits (1970) effectively pointed out the limitations of mimicry-memorization teaching strategies.

Resulting from these challenges, there has been a world wide trend away from audio-lingual theories and methods. In New Zealand, however, language teachers are more concerned with what works in the classroom than with theory. Having experienced some success with audio-lingual methods, as an alternative to traditional approaches, teachers have not discarded audio-lingualism simply because the theorists have changed their minds.

An evaluation of audio-lingual teaching in New Zealand (Department of Education 1973) shows that, rather than discard audio-lingual approaches, teachers have preferred to modify their programmes to include more creative use of language and less rote learning. In short, to replace the questionable practices with more advantageous ones.

In the 1960's the audio-lingual approaches were hailed as the answer to every language teacher's dream, and audio-lingual programmes of many kinds proliferated. The dream did not materialise, however, and the disenchantment of teachers found expression in a new direction.

## Code-cognitive Methods

Based on the theories of Chomsky this area is supported by the rationalists of the cognitivist camp who believe that language is primarily innately specified, and that it is learned through the functioning of innate neural equipment. Kenneth Chastain (1971) points out the major differences between cognitive code learning and audio-lingual learning. Cognitive code learning is mentalistic and aims at conscious student comprehension of language structure, whereas audio-lingual learning is mechanistic and aims at unconscious acquisition of language structures by students.

Smith (1971) predicted that the seventies would be the domain of the cognitivists, but there is as yet no guru of the cognitivist approach. Several practices may be categorised as cognitive if they force the student to consciously extrapolate new utterances from previously learned language or involved formal grammatical explanations. Carroll (1965) defined the cognitive-code learning theory as a modified up to date grammar-translation theory. This sounds rather like a return to traditional approaches. Weber (1971) agrees that cognitivists manifest a return to the rational assumptions of the nature of language of the grammar-translation theory:

but not to its practices and limited objectives  
of analysis for sake of analysis, and the  
exclusive cultivation of only two language  
skills - reading and writing.

The cognitivist approach recognises the four skills of language speech, listening comprehension, reading and writing, and believes all should be practised in meaningful, challenging situations based on study and analysis, not upon repetition, mimicry or memorization. The arbitrary ban on translation as propounded by the audio-linguists is rescinded; if translation facilitates meaning it should be used. The language laboratory plays an important but ancillary function. To the cognitivists, understanding the rules and applying them is of vital importance.

But how was the teacher to translate this new thinking into classroom practice? A return to explaining grammatical rules was proposed and this became a major feature of cognitive code teaching.

Chastain (1971,1976) proposed that students should never be expected to meet new structures prior to the explanation of the rules governing those structures. Diametrically opposed to the inductive approach of audio-lingualism, cognitive-code learning emphasised deductive instructional techniques, i.e. language analysis before language use, and teacher instruction before student practice.

The extent to which this approach is any more effective than audio-lingual approaches has not yet been established. If cognition is of primary importance, is there really any difference between inductive and deductive instructional strategies? Rivers (1980) suggests that on the basis of psychological evidence, the deductive approach being more 'cognitive' than the inductive approach, cannot be sustained. She further explains, that the rules to which Chomsky had been referring were rules of great abstractness and intricacy inherent in the structure of a language. It may be that these rules cannot be brought to conscious awareness. If this is so, it may well be that in their haste to produce a workable model for teachers based on Chomsky's hypothesis of language being rule-governed behaviour, some efforts may have been misdirected.

Rivers (1980) reminds us that Carroll (1971) did not agree with the notion that the concepts of 'habit' and 'rule-governed behaviour' were necessarily opposed. In fact, he contended that:

... to the extent that an individual's language behaviour conforms to the habits of the speech community of which he is a member, we can say that his behaviour is 'rule-governed'.

For Carroll, then, a rule is an abstraction, but a habit is what has actually been learned.

In retrospect, the teacher whose language programme synthesises those aspects of the traditional, code-cognitive and audio-lingual methods, which have proved effective in the classroom situation, may well be moving closer to revealing the answers for both psychologist and linguist.

## Eclectic Methods

In response to the controversy between psychologists and linguists of opposing schools many teachers sought to combine the more effective aspects of several approaches to language teaching into a single teaching mode. Waudhaugh (1971: 24) in an essay entitled 'Teaching English to speakers of other languages' suggests that eclectism may in fact be the safest course:

... in which the individual teacher attempts to use what is best wherever he finds it and refuses to subscribe to any one narrow dogma.

Wilga Rivers (1972) agrees that every approach has its particular values. In an essay entitled 'Instructional Strategies - their psychological and linguistic bases' Bosco and di Pietro (1971) carry the argument a bit further when they say:

if a synthesis of the divergent trends is to come it will not emerge merely from eclectic combining of different teaching methods or from the joining of selected fragments of existing instructional strategies; rather - abstract psychological and linguistic features underlying the major teaching models will be brought together in new arrangements leading to more powerful styles of instruction.

Added to these major categories of language theory and pedagogy are other individuals exploring other possibilities in widely varying directions. Labelled by Blanchford and Stevick (Reedy 1977) as unconventional these approaches include Curran's Community-Counsel Learning (1972,1961); Gattegno's Silent Way (1972); Lozanov's Suggestopedia (Bancroft 1972) and the St Cloud Method (Stevick 1976).

## Community-Counsel Learning

This approach aims at immediate communication in the target language. Students sit in a circle facing inward. Any one can begin the communication by indicating he wishes to speak. The statement is relayed to the tutor, who offers the translation. The student makes the whole

statement in the target language, directing his statement to another student. That student responds first in his mother tongue, then in the target language, the statement again having been translated by the tutor. The whole exercise is taped. Later the students listen to the tape, transcribe it, analyse the statements and discuss what has been done. As the students advance, less and less English is used.

### The Silent Way

Devised by Caleb Gattegno, the Silent Way is, in his terms, neither a structural or a direct or any other method of teaching languages. It is but a way in which everything and everyone serves one aim; to make everyone into the most competent learner (Gattegno, 1963, 89). The primary tenet of the Silent way, therefore, is the subordination of teaching to learning.

As a way through which a foreign language might be learned, the native tongue is suppressed and the target language used as the medium of instruction. Compared with other approaches to language teaching the basic materials of the Silent Way are almost Spartan in their simplicity. Cuisenaire rods are used to illustrate meaning, and together with a series of wall charts are used to trigger utterances. Audio-lingual techniques of repetition, mimicry and memorization are deliberately avoided. Instead students are encouraged from the first stages to create their own statements from non-verbal cues offered by the teacher, or other students, through the manipulation of rods and hand signals.

The Silent Way programme is divided into two major parts, the first part concentrating on the structural forms and vocabulary which make evident the rules of the language, and which make possible, infinite transformations. The primary aim here is the production of much language from little vocabulary (Gattegno 1963,34). Translations are not offered or called for, no grammatical explanations are given, and silence is used deliberately to facilitate the processing of information by students.

The second part of the programme focuses on the conquest of vocabulary (Gattegno 1963,52) at which time nouns, verbs and adjectives which are kept to the minimum in the first phase, are brought into action. At this level pictures, worksheets, transparencies, films, texts, books, games, role-playing and any other medium which the enterprising teacher can bring to his class, can be used to expand student facility with the language. These materials and activities will for the most part reflect

cultural elements of the life-style of the people whose language is being studied.

A reasonable expectation from such a course includes; an accent as close as possible to that of native speakers; an ease in conversation related to the vocabularies presented and studied; an ease in composition about all topics whose vocabularies have been met; an ease at narrating events, describing pictures, and asking for directions; an ability to render appropriate texts of either language into the other (Gattegno 1964, 83).

### Suggestopedia

Devised by Lozanov, this method appears to be very different from other approaches in that it uses music and places emphasis on environment. An attractively decorated, comfortable atmosphere is established for learning to take place in. Carpeted floors and lounge chairs are a necessary adjunct. The teacher role is vital - he must exude confidence in himself, the materials, the method, and the students. Materials consist of 10 dialogues each containing 150 new words. The class meets three hours daily for 20-26 consecutive days and each unit is studied for six hours. In a total exposure time of sixty hours students, reportedly, have more words and are more willing to use what they know than has been reported by any other method, (Bancroft 1972).

### The Saint Cloud Method

Sometimes called Credif, this is an Audio-Visual Method, whose primary purpose is to teach language in use, that is, its expressive and communicative purpose, combined with its formal linguistic structure. Pictures coupled with question and answer techniques are used extensively because this stimulates actual communication and requires language to perform its social function. The materials devised for use in this method have been carefully organised so that a teacher knows clearly what he is doing and what follows next. A natural outcome of this is the security that students must feel. The constant stream of question-answering and repetition after a recorded model, if carefully guided by the teacher, provides opportunities for progressive satisfaction resulting from a growing facility with the language. This method has many successes to its credit.



With respect to Māori-speaking tutors this method would probably work. Its only limitation rests in the very extensive materials required, and the expense of time, money and expertise needed to produce those materials.

Except for the Silent Way, these approaches utilize the first language in teaching the second, so the teacher is required to have some facility in both languages. The depth of English required is not however beyond the scope of Māori bilinguals, so it is probable that most Māoris could teach through the medium of any of these. Nevertheless, there is likely to be greater confidence if the teaching medium is Māori.

For this reason and also because I had some prior contact with it, I chose to focus on Gattegno's 'Silent Way'.

I must however make it quite clear that I do not consider the Silent Way as the 'one pearl of great price'. It is probable that other approaches to language learning could be equally effective - perhaps even more so. For the reasons already intimated, however, the 'Silent Way' strikes me as the most appropriate at this time for the circumstances herein described. At a later stage my hope is that other approaches might be investigated and tested for our purposes. As more information comes to hand I fully intend to explore the possibilities of Suggestopedia, for example.

### III. THE SILENT WAY

#### Introduction

I first encountered the Silent Way at a seminar in Fiji in 1974 when tutors from the New York Institute of Languages introduced it and demonstrated its functioning. I was both a student sampling Japanese, Fijian, Hindi, Gilbertese and a Papua-New Guinea dialect, as well as a tutor attempting to share my own Māori language with fellow participants.

What impressed me then about the Silent Way was the challenge it evoked. I was not being fed with a series of statements which I had to memorize and reproduce; I was being offered minimal data in a contrived situational context. I had to take responsibility for my own learning. I could not lean on my fellow learners - they were not allowed to prompt me. I could not call on the tutor to provide answers for me - he would not. I could not dally for time expecting the tutor and group to lose patience and provide the answer for me - they just waited for my response. I had to get my wits together, I had to concentrate, I had to reflect. And given the time to do this, I found myself uttering sentences in this strange new language with relative ease. At the end of a twenty minute session I was elated. I had actually composed a number of sentences and I knew exactly what the function of each word was without any explanations.

Prompted by this rare experience of only three days I resolved to explore the method further. An opportunity presented itself when I was tutoring at Nasinu Teachers College. A week had been set aside for the students to attempt some cross-cultural exchanges. The students of Nasinu were Fijians, Indians, Rotumans, and Rambli Islanders. Using the Silent Way approach I taught a group of students some Māori language; then a volunteer from each of the ethnic groups represented took turns sharing with the total mixed group portions of their languages. The exercise was for all concerned an illuminating one .

Since returning to New Zealand I have continued to explore the possibilities of the Silent Way with a number of different groups - Teachers College and University students, primary school classes, a small group of J3 infants, secondary school students and adults. In every case the observable factors were high levels of concentration, sustained intrinsic

motivation, high productivity, and a real sense of achievement among students.

Each small experiment was, however, too short for any scientific conclusions to be drawn. Were these results due to my own enthusiasm; or to the novelty of the approach? Or did the method in fact have a unique element which encouraged a greater learning propensity of students? Other questions needed to be resolved. Was the method built upon sound philosophical, psychological and methodological assumptions? Towards which theory of language acquisition is it inclined? How does the method compare with more conventional approaches in facilitating language learning? To which age group is it most suited? Can the method be applied in New Zealand schools? Can it be used on maraes and can it be handled effectively by Māoris who are native speakers of their language?

### Previous Research and Related Literature

Having committed myself to a thorough investigation of the Silent Way, it came as a surprise to me that although Gattegno has spent more than 35 years developing his technique, has published two books on his method (1963, 1972), one on his philosophy of teaching (1971), two on the teaching of mathematics (1959, 1963), and still another on the teaching of reading he appears to be a stranger to linguists, psychologists and teachers. In fact I was able to locate only three references to his language work; two articles by Stevick (1974, 1976), one by Diller (1975) and an unpublished paper by Reedy (1977)

Gattegno published his first account of the Silent Way at the time when the high priests of the audio-lingual approaches reigned supreme. Entitled Teaching Foreign Languages the Silent Way the book was basically a summary of his findings after years of investigation devoted to the study of language learning and teaching. The book went unnoticed. A second edition of the same book became available in 1972. This too appears to have been ignored. Stevick (1974) admits to being annoyed so much by the first chapter of the First book, he refused to read further. Yet he was excited by the second edition - and he admits that this was because he had some encounters with the Silent Way in practice. He had experienced a demonstration which he found good but not memorable, and did not take the method seriously until a year later when he watched a Spanish class in its seventh hour of instruction. He quotes:

That session was one of the most impressive I had ever seen, for the amount of language that the students controlled, but also for the variety and intensity of the personal energies that were released.

He attended seminars on the Silent Way and began to pass bits of it to teachers all over the world. The response of those teachers and their students were so positive he began to re-examine his own thinking. He had seen outstanding demonstrations by other people and brilliant use of the method with a single student, in one case, and a class of 70 in another. He ultimately took a group of beginners in the Turkish language through their first 150 hours using little except coloured rods and purposive silence.

With this background in the Silent Way Stevicks comments on Gattegno's work is for the most part very positive. Karl C. Diller (1975) also comments favourably on the Silent Way and refers to it as one of the intriguing new variations on the direct method.

What then is the Silent Way all about? What is intriguing about it? And how on earth can teaching be effective with just coloured rods and purposive silence?

Having myself been exposed to only a short demonstration of the Silent Way, I have had to study Gattegno's books very thoroughly in order to acquire a deeper understanding of both his philosophy and his method. The first publication did not offer sufficient detail for classroom practice, and the leading authorities on language teaching in this country had either not heard of Gattegno or considered him of meagre importance. None were able to fill out my ignorance. Out of pure frustration I wrote to Gattegno himself and outlined my interest and hope that his approach to language learning might help to stem the threat to the Māori language. I was delighted with his response. He invited me to spend time with him in New York, during which time he assured me I could obtain all the information I needed plus a set of materials for teaching the Māori language the Silent Way. The expense involved was however beyond my means. Fortunately Gattegno had published a second book The Common Sense of Teaching Foreign Languages the Silent Way which, without shifting from the basic premises of the first publications, offered more details for classroom practice. Armed with this simple book, and a set of Silent Way materials for teaching English as a Second Language, I

proceeded to construct a similar course for the teaching of the Māori language.

In doing this I have attempted to be faithful to Gattegno's theories and philosophy, but must admit that what I have produced can only be viewed as my best interpretation of his work. I am however encouraged by the fact that, in refusing to produce a manual for teachers, Gattegno respects the integrity of teachers and encourages them to find their 'own way'. It seemed to me then that providing his philosophy, pedagogy, teaching materials and structuring of language input is adhered to, I could be free to use my initiative and creativity in formulating a satisfactory Silent Way programme for the learning of the Māori language.

What then are the basic assumptions of the Silent Way? And upon what philosophical, linguistic, psychological, and pedagogical basis is the Silent Way founded? Further, to what extent are these assumptions supported or challenged by others?

### **The Basic Assumptions of the Silent Way**

Gattegno's commitment to language learning is also a commitment to learning in general, and this commitment has its foundations in philosophical considerations, which Gattegno sees to be fundamental in the process of education.

1. Teaching should be subordinated to learning. Gattegno is adamant that learning can take place only when the student takes responsibility for his own learning. He insists in fact that only awareness can be taught. This means that the role of the teacher is essentially a facilitating one. The view of teaching is supported by Carl Rogers (1969, 103-104) when he says "teaching is a vastly over-rated function" and "the goal of education is the facilitation of change and learning." He further supports Gattegno's stance of student responsibility for his own learning, when he says "the educated man is he who has learned how to learn"

2. Learning is not primarily imitation of drill. This tenet was present in Gattegno's first publication when Skinnerian theory and the behaviourist viewpoint had its strongest influence on language learning. The conditioning of human minds through mechanistic teaching coupled with positive or negative reinforcement, is to Gattegno an affront to human kind, in that it robs the mind of independent thought.

It is clear, then, that Gattegno is not of the behaviourist school. He firmly rejects the notion that the mother tongue is learned by imitation. He can only accept as true that a child's mind is from birth equipped with the tools of perception, of making sense, of expression, and of transformation. This view is very similar to Chomsky's (1965) notion of an inborn neural arrangement which makes possible the development of language.

In the second language learning situation, therefore, Gattegno rejects totally the drills, and deliberately minimises imitation and repetition. A new word or phrase is modelled only once, and a cue offered to each student is deliberately manipulated so that a different response is elicited from each. Although drill and repetition is ascribed primarily to audio-lingual approaches to foreign language teaching, it is nevertheless prevalent in other approaches. Hester (1970) who is essentially a proponent of the Direct Method claims that drill and some repetition of structures can help learning. Brown (1969, 10) maintains that pattern drills are indispensable and not opposed to transformational or any other kind of grammar. Gattegno's stance is supported however by Spolsky (1970) when he says that one of the basic propositions for an instructional approach should be emphasis on conscious and creative learning involvement in communication, rather than on the rote memorization of oral patterns.

Gattegno, then, appears to side with the rationalists who claim that second language learning is a conscious problem-solving process of high order, and not a mechanistically-acquired habit.

3. The mind equips itself for the task of learning. According to Gattegno the mind does this through trial and error, deliberate experimentation, suspending judgement, and revising conclusions. Smith (1971) extrapolates the same idea when he says:

the mind is known to be constantly busy classifying, interpreting, and storing information for future recall and use. Verbal input is probably sorted at several levels commensurate with the syntactical, lexical and semantic levels of the learner's inherent linguistic competence, and stored in the mind in an associative relationship with other concepts so that recall of one brings others into consciousness.

Both statements are clearly in line with Chomskian theory and there is no doubt that Smith has been influenced by Chomsky. There is no indication, however, that Gattegno's thinking has been shaped by Chomsky, since in his writing, Gattegno makes no references what ever to the work of psychologists, linguists, or other writers in the field.

4. In learning the mind draws on everything it has already acquired, in particular on its experience of learning its native tongue (Gattegno 1963, 12). For this reason Gattegno accepts the marked differences between first and second language learning, and is therefore content to devise an 'artificial' method for learning a second language rather than seek a 'natural' one.

In acknowledging the native tongue experience, however, he nevertheless limits its use in learning the second language. Unlike other rational cognitivists who argue that if the native language helps to make the second language clearer its use should not be denied, Gattegno holds to the view that facility in the second language is more readily acquired if the native language is suppressed. Is this perhaps contradictory? On the surface it would appear to be so.

But my experience with the Silent Way in action has made me aware that the experience of acquiring the first language can be called upon in acquiring the second. In short, when an input of new language is presented through the target language in a meaningful context, and that context is devoid of conflicting or distracting elements, the learner is called upon to use all his senses of sight, touch, hearing, speech and cognition to work upon the input in order to extract meaning. Is this not what a child does in learning his mother tongue? The first language is deliberately suppressed in the Silent Way so that the mind can work upon the target language without interference from the first. It is the activation of the mind and its inner criteria, or to use Chomskian terms, to engage the neural arrangements of the mind, that is being triggered.

But does the restricted use of the native tongue necessarily suppress it? Curious about this I asked some of my students to describe their experience on this point. Most report using the native language to 'think' with in the beginning lessons. They were constantly translating every exercise in their heads. Almost all agreed, however, that this need faded and they were able quite early to accept the target language and work on it without recourse to the native tongue. This in their view was not only

faster but permitted deeper assimilation. One student offered a fuller illumination. She had studied French and German through traditional methods, and Spanish in an audio-lingual class. For her, the Silent Way approach was superior, because she was thinking in Māori. For her, lapses into English by the teacher or other students, triggered her English to the fore, and disturbed the ease by which she had been accommodating the Māori. It usually took some time for her to suppress the English again.

The exclusive use of the target language as the medium of instruction has a relatively long history. Devised by Berlitz (1887) and pursued also by de Souza (1929, 1953) the approach has many adherents. In reading Gattegno's books Diller (1971) was struck by how similar his attitudes were to those of de Souza.

The question of native language use in second language learning has not been resolved however. Most rationalist-cognitivists are of the view that emphasis should be on the use of the target language, but that no harm is done if occasionally a point is made clearer and with less waste of time by recourse to the first language. I have occasionally lapsed in this direction myself, but only because I had not developed my skills in using Silent Way materials to the degree where native language usage was totally unnecessary. Steinkrauss (1970, 54) makes the point that the teacher must not, and in fact cannot, ignore the student's mother tongue. Yet other teachers using direct methods report considerable success in the use of the target language only. There is, then, no absolute evidence for or against the exclusive use of the target language. It would be fairer to say that both can work and that success depends on the methods and skills employed by the teacher. Certainly, if the teacher is more comfortable using the target language only, then his chances of success are more likely through the employment of only the target language.

It is perhaps appropriate here to consider two other aspects of second language learning which in many approaches are seen to be important. What is the place and importance of translations? And to what extent are grammatical explanations in the mother tongue necessary?

In respect of translation Gattegno (1976, 5) has this to say:

Those of us who have studied one or more languages via translations know that, rather than feeling free in the new language, we felt paralyzed. Translation is the job of specialists.



But Gattegno does not exclude translation totally:

Translation is here not for learning a language but for testing one's knowledge of one language recently acquired against one which is already second nature, (1976,100).

The assumption here is that the facility to translate is the natural outcome of acquiring a second language. When statements and reality become linguistically interchangeable, the student is developing towards true bilingualism.

Other methodologists would say that translation is the final step to understanding. And to some extent Gattegno appears to agree.

In respect of grammar Gattegno (1976, 44) is of the view that:

The grammar of any language can be met empirically with sensitivity and confidence, not necessarily as verbal statements.

By this he does not condemn the use of grammatical explanations in the mother tongue but intimates that the grammar of language can be perceived through the functional vocabulary, or the items which generate the grammar of the language. So, for him, the way towards mastery of the grammar is in usage and not in verbal explanations of the rule. Most adherents to Direct Methods have the same viewpoint. In referring to the learning of grammar, Spetze (1970, 109) proposed that emphasis should be on application not on verbalization of the rule. Hester (1970, 75) is equally supportive when he says:

we do not in a direct method teach grammar with the objective that students should be trained in grammatical analysis. Deductive learning is the basis of most of our techniques.

5. The teacher must not interfere with or sidetrack the learning activity of the student. If the function of the teacher is to subordinate teaching to learning, if his primary role is to facilitate learning, then he must have a clear view of what facilitates and what negates the learning process. It is in this respect that silence is used purposely. Gattegno is of

the view that when new information is offered the student, he must be allowed time to process that information. The purposive use of silence immediately following the input of new information allows time free of distractions for maximum processing. The Silent Way also imposes upon the teacher a degree of self discipline in which he is called upon to remain silent for about 90% of the learning experience.

The skilled teacher will order his presentation of new information and use only those materials which make the information explicit to students. In short the teacher should present a module of new information, then get out of the way so that the student can explore the possibilities of the new information, experiment with it, fit it into his repertoire, and practise its use. It is the student who must work upon the information in meaningful practice. 90% of the talking will be done by the student, without depending upon the teacher for constant modelling. Gattegno in fact believes that a new item should be modelled only once by the teacher. Diller (1975) comments favourably on this aspect of the Silent Way when he says:

this silence by the teacher and his pronunciation of the model only once is the most effective technique I have seen for concentrating the attention of the student on the language lesson.

The purposive use of silence in this way poses a further question. Just how effective is it? And what in fact happens in the student's mind when silence is enforced in this way? Gattegno defines his purpose for the use of silence, but is there any collaborative evidence to support his propositions?

In observing Community Counsel-Learning (a method quite different from the Silent Way), La Forge (1971, 57) comments upon the operation of silence as being periods of intense mental activity, which is his view enhanced the learning process. It could also be said, however, that enforced silence might unsettle students by bringing into the learning situation a degree of stress which might work against their feelings of security. But this, was not evident in the observations of Levertov (1970, 175) who proposes that student silence might be both a result of and an expression of confidence in oneself and in other members of one's group.

In a series of experiments which focussed on spontaneous remembering, Buschke (1974) also provides some evidence that shows the specific relevance of silence to free verbal recall.

Tested individually, each of his subjects was read a list of 20 items at a rate of 2 seconds per word, and immediately after presentation, were required to recall verbally all the items on the list in any order. After each trial, the subject was presented only those items which had not been recalled, after which he again attempted to recall all of the 20 items in the list. Since all items had been recalled at least once by the fourth trial, there were no further presentation. Learning was carried through 12 recall trials.

Buschke claims, that since items are not presented again after initial recall, spontaneously retrieved items must have been committed to long term storage. Where recall failure did occur, Buschke suggests that the problem was one of retrieval failure rather than that the items had not been assimilated into long term storage. Subsequent recall of these items after several trials in which subjects were encouraged to continue searching for difficult items, supports Buschke's claim.

Related to Gattegno's purposive use of silence the 2 second time lapse between the presentation of each item on the word lists used by Buschke suggests a relationship between silence and long term storage. Stevick (1976) used a 3 second time lapse following the presentation of a new word in his experiments with the Silent Way. It would be interesting to duplicate Buschke's study using a 3 second time lapse between items instead of a 2 second one. Would this improve recall and require fewer retrieval trails?

Besides the purposeful use of silence the teacher's responsibility is the creation of a learning atmosphere which is devoid of stress and disapproval, in which the learner can experience security and comfortable inter-relationships with his fellow students and his teacher. A domineering teacher who loves the sound of his own voice is, in Gattegno's view, no teacher at all. At the same time, the Silent Way is in some respects very strictly controlled. There is a firm overall structure for activity which in Maslow's view (1970, 39) meets a part of the student's deep need for security. Berne (1972, 13, 118) would say that the Silent Way teacher fulfils the role of the nurturing parent who avoids the constant modelling, prescribing, and directing kinds of activity which are typical of the controlling parent and many teachers.

The control referred to in the Silent Way is not control of the students, but rather control of the learning experience in the structuring of the language input, in removing distractions, in avoiding irrelevant side issues, in allowing the student every opportunity to act upon the learning situation in his own way, in his own time, and through the full use of all his learning potential.

6. To require perfection at once is the great imperfection of teaching. It is in this respect that Gattegno makes a stand against teachers who will not accept error as a normal part of the process of learning. Language teachers particularly are of the view that error should be corrected the moment it occurs. Not to do so, in their view, is to reinforce the error and to make its correction extremely difficult. Gattegno, on the other hand, claims that students will correct their own errors as their experience with the language increases. For teachers to constantly correct errors is to create stress for the student, who may react by complete withdrawal from the learning situation. Certainly his confidence in his own ability is likely to be undermined with drastic effects on his willingness to participate fully in the learning process.

Considered in the light of Chomsky's notion of 'hypothesis testing', which appears to be the norm for children in the acquisition of the mother tongue, some researchers have attempted to discover whether there is a parallel process in the learning of a second language. So far the research has not produced definitive answers, but the notion of an inter-language (Selinker, 1972) for second language learners, was seen by some researchers to be rather like the interim grammars of the child in the process of acquiring his mother tongue.

If this is so, then it is not unreasonable to expect, as Gattegno does, that the second language learner will ultimately come to recognise and correct his own errors as his facility with the language grows.

### Summary

Because Gattegno is concerned with the process of learning in general when he considers the learning of a second language, his basic assumptions can be tested further by comparing them with the stances taken by recognised authorities in both areas.

In considering a learning definition, how does the Silent Way stand up to the criteria of Rogers (1969).

1. Learning has a quality of personal involvement - the whole person (feeling/cognition) is in the learning event.
2. Learning is self initiated - the sense of discovery, of reaching out, of grasping and comprehending comes from within.
3. Learning is pervasive - it affects behaviour, attitudes, perhaps even personality.
4. Learning is evaluated by the learner- he knows whether it is meeting his need, whether it leads toward what he wants to know.
5. The essence of learning is meaning - when such learning takes place, the element of meaning to the learner is built into the whole process.

In relation to the learning of a second language, Carrol (1965) and Spolsky (1970) offer the following basic propositions, against which the Silent Way might also be evaluated:

1. Teaching strategies should involve the student meaningfully and purposefully in the learning task.
2. Teaching strategies should utilize a variety of presentation media, and learners sensory involvement of conscious thought procedure and visual as well as aural presentation of material.
3. Teaching strategies should aim at a creative command of the basic syntactic features (deep structure) of language rather than concentrating on fluency at a more superficial stylistic level (surface structure) and must lead to creative language use in new situations.
4. Teaching strategies should place emphasis on conscious and creative learner involvement in communication rather than on the rote memorization of oral patterns.

Considered against this line up of criteria for effective methodological practice, the Silent Way falls short only in one area:

teaching strategies should utilize a variety of presentation media.

Although pictures and audio-visual materials are introduced into the Silent Way programme during the Vocabulary Explosion stage (Part 2), the use of only cuisenaire rods and charts during the Functional Vocabulary stage (Part 1) is not in accord with the above criteria, and one might expect that an element of boredom could result. With regard to this point the following factors have been observed:

1. Young children aged 6-10 can maintain up to 30 minutes of concentration using the rods only.
2. Pre-adolescent students can maintain up to 2 hours concentration using the blocks and charts.
3. Highly motivated adolescent and adult students can maintain levels of concentration up to 6 hours, with nothing more than the cuisenaire rods and the charts.

It is perhaps the flexibility of the rods themselves that makes this possible. Although the media of presentation is not varied, the forms of presentation using the rods are capable of great variation, and both teacher and students can bring their own ingenuity and creativity into play at any stage of the learning process.

Finally we return to the summary of the 'Silent Way by Stevick (1972).

1. The Silent Way encourages total physical response for establishing durable comprehension (Asher, 1965).
2. The enforced silence that surrounds new words allows and compels maximum attention and superior processing.
3. The Silent Way provides exceptional opportunities for students to help and be helped by each other.
4. Student attention does not wander even after 6 hours or more per day.

5. There is the absence of destructive competition.

6. Reinforcement is achieved through the inner criteria of the student rather than through the approving behaviour of the teacher.

7. The teacher spends much less time in the teaching mode, than is the case with most other methods.

8. The teacher has more time to observe student performance and modify his own actions accordingly.

#### IV. RESEARCH HYPOTHESIS

Although the basic assumptions of the Silent Way can be validated by recent psycho-linguistic and pedagogical propositions, the effectiveness of the approach cannot be completely assessed without empirical evidence.

The traditional approach to testing a particular method is to compare it with another, but in the area of foreign language methodology comparisons are fraught with many difficulties. There have been several attempts to investigate the effectiveness of the audio-lingual method as opposed to the grammar-translation method (Smith, 1970; Scherer and Wertheimer, 1964) but the results of these investigations proved to be ambiguous. The massive Pennsylvania Foreign Language Research Project (Smith, 1970) involving many teachers and hundreds of students, which attempted to compare the audiolingual and the grammar-translation methods, aroused the wrath of the audio-lingual establishment when the research came out with a result contrary to their expectations. The response of many was that the findings of the project could be totally invalidated on the grounds that the experimental variables were not adequately controlled.

Bosco and Pietro (1971,33) express their doubts concerning the feasibility and validity of comparing methods when they say:

Language instruction has so many facets that the strict controls necessary for experimentation are not readily established or maintained and the performance of students is not easily evaluated.

In the introduction to their study The Successful Foreign Language Teacher Politzer and Weiss say:

Comparison of methods is made difficult by the problem of criterion measures.

The goals, the strategies, the language content, and the learning materials of any two methods are invariably different.

Accordingly, tests devised for one method would be quite inappropriate for another. It follows that students exposed to audio-lingual methods would perform very badly in tests devised to measure translation and reading ability which is a feature of the grammar-translation approach



but not of audio-lingualism. If the problem is one of criterion measures, then clearly the traditional research approach of comparing the whole of one method against the whole of another has to be invalid.

Bosco and Pietro (1971, 33) are sceptical about research attempts to compare one method against another, but do in fact offer a possible solution :

We are convinced that research which attempts to demonstrate the superiority of one strategy over any other is misdirected, because of the multiplicity of features underlying each strategy. Any effective evaluation must be done in terms of feature of strategy rather than of strategy considered as a global entity.

Taking up this point, the salient features of the Silent Way were identified and the decision was made to test these features against an eclectic method which uses features currently employed in conventional methods, but which are also diametrically opposed to the features of the Silent Way.

By focussing on specific features rather than on the whole of a particular method, many uncontrollable variables are eliminated and the dependent variables held constant.

The features employed in the two methods are listed in Table 1.

Table 1 Comparison of Silent Way (SW) and Eclectic (E) Teaching Methods used in the study	
Silent Way	Eclectic
No English language used for input and practice.	Much English used for input and practice.
No translations offered or expected.	Translations offered and expected.
No grammar explanations.	Simple rules of grammar explained.
Cuisenaire blocks used for almost all language input and practice.	Real objects and pictures used for language input and practice.
Repetition avoided.	Constant repetition required.
Children not required to memorize lists.	Children required to memorize lists.
Much student language <u>without</u> teacher models.	Much student language <u>with</u> teacher models.
Non-competitive.	Competitive.
Errors tolerated.	No errors tolerated.
Pupil recognition of errors and self-correction encouraged.	Errors corrected by teacher.
Silence used deliberately to aid processing.	Silence not used to aid processing.
No drills.	Extensive use of drills.

Several research questions can now be posed:

1. To what extent does the use of the mother tongue in foreign language learning facilitate or hinder second language acquisition?
2. Will deductive rather than inductive approaches facilitate the understanding and use of the grammar of a second language?
3. What measures best facilitate retention?
4. Do cuisenaire blocks have an advantage over real objects in second language learning?
5. How much modelling is required of the teacher to facilitate learning and correct pronunciation?
6. Will students ultimately correct their own errors if these are not corrected by the teacher?
7. Will co-operative rather than competitive approaches facilitate learning?

### Hypothesis

In the light of the above discussion the following comprehensive hypothesis was formulated for testing. It can in no way answer the specific questions but its testing would provide a starting point.

The hypothesis:

Students taught the Māori language through the methodological features of the Silent Way will achieve more than students taught the Māori language employing methodological features directly opposed to those of the Silent Way in:

- 1.1. comprehension of the spoken word, control of the sound system in speech, and command of the sound system in written symbols;
- 1.2. control of the sound system in speech and in oral reading;
- 1.3. grammatical control, command of vocabulary and creativity in written constructions; and
- 1.4. comprehension of vocabulary and grammar of the specified curriculum content.

## V. PROCEDURES AND METHODOLOGY

### Subjects

The subjects for the investigation were the pupils of two Form I classes of a Hamilton Intermediate School. The school caters for the children of a community which accommodates families of high and low socio-economic groups; professional and working class parents; Māori, Pākehà and Pacific Islanders.

Because the school does not stream its classes and a form of randomisation is employed in assigning pupils to classes, the investigator was satisfied that each class would show a reasonable balance of pupils from the different social backgrounds, and would have an equally balanced distribution of pupils with high to low intelligence, and other abilities related to learning. Each intact class would therefore be representative of the total experimental population.

Of the classes made available for the experiment, Class A consisted of 12 girls and 16 boys, while Class B consisted of 16 girls and 12 boys. In Class A there were 8 Māori children and 1 Samoan.

Ideally the subjects should have been randomly assigned to each of the treatment groups. However, this could not be done without seriously disrupting the normal functioning of the classes. With this constraint it was necessary to determine whether the obvious disparities of sex and ethnicity between the groups would bias the results. Similarly, the variables of intelligence and language aptitude which could be expected to have an effect on the dependent variable, needed also to be checked for possible disparities between the groups. A further variable which could have introduced bias was prior exposure to the Māori language.

### Prior Knowledge of the Māori Language and Ethnicity

Half the number of children from each class had received an elementary Māori course with a small input of language prior to the experiment. The teacher of this course had administered a simple test, the results of which showed no significant difference between the mean gains of the two groups.

A simple oral test was administered to the Māori children in each class. Only two pupils, one from each class could respond to the questions:

Tēnā koe?

E pēwhea ana koe?

Ko wai koe?

Ko wai tō māmā?

Ko wai tō pāpā?

It was therefore concluded that any bias resulting from ethnicity and prior exposure to the Māori language would be minimal.

## Intelligence

The scores of both groups on the Otis Test of Intelligence were obtained and mapped (see Figures 1.1).

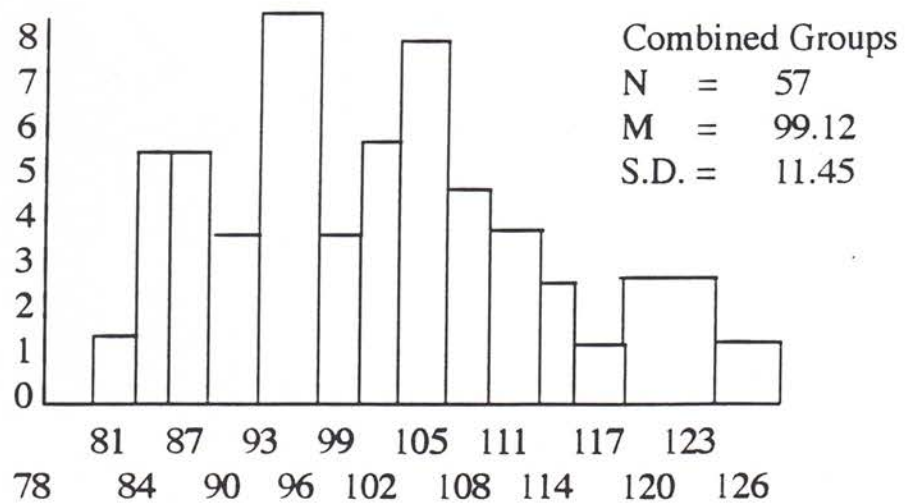
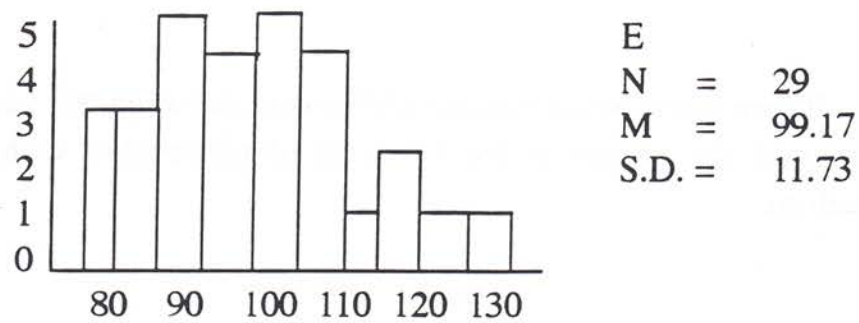
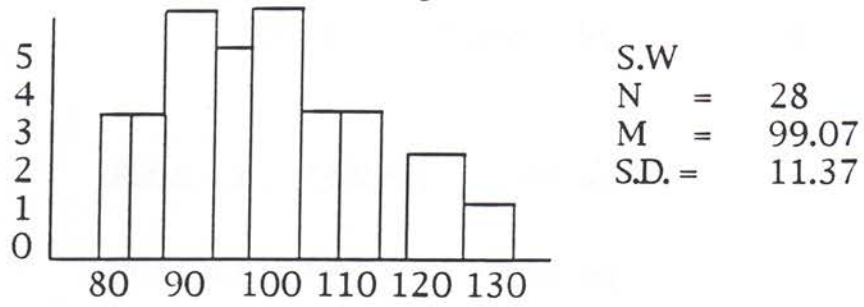


Figure 1.1 Intelligence

The following table summarises the test scores obtained with both their F and t values ( two-tailed test, pooled variance).

Table 2 Otis Intelligence Quotients						
Group	N	Mean	S.D.	F	t	D.F.
S.W.	28	99.07	11.37	1.07	-0.03	55
E	29	99.17	11.73			
		p< .05	F = 2.55	t = 2.008		
		p< .01	F = 1.93	t = 2.678		

There were no significant differences between the variances and the means of the groups at the 1% level of probability with 55 degrees of freedom.

### Language Aptitude

To determine whether any disparity existed between the groups on this variable the Pimsleur Language Aptitude Test (PLAB) was administered to all the subjects (see Figures 2.1-2.6) and the scores subjected to both variances ratio tests and t tests.

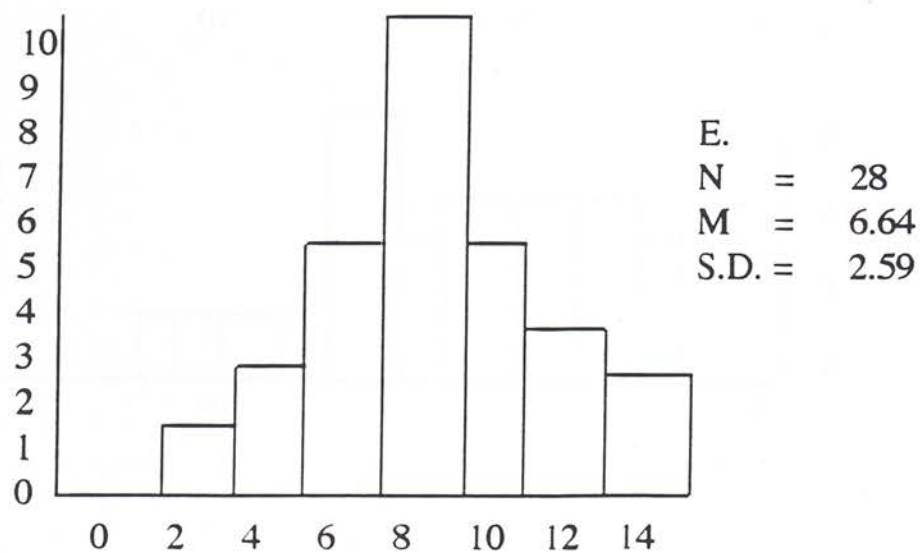
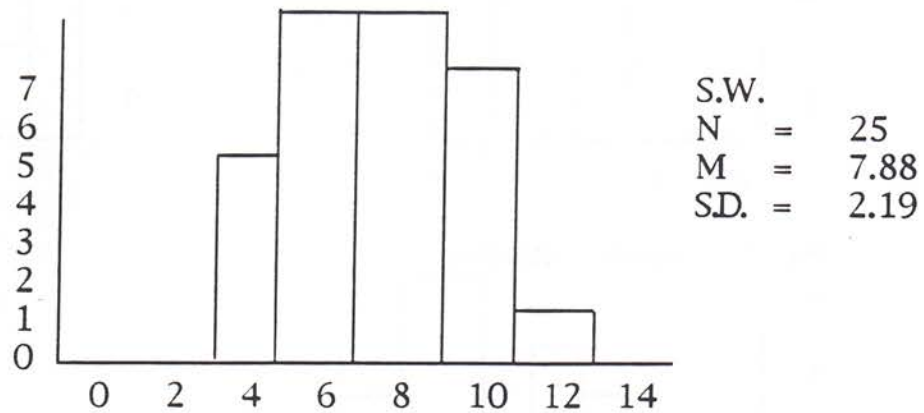


Fig 2.1 Subject Grades



Fig. 2.2 Interest in Foreign Languages

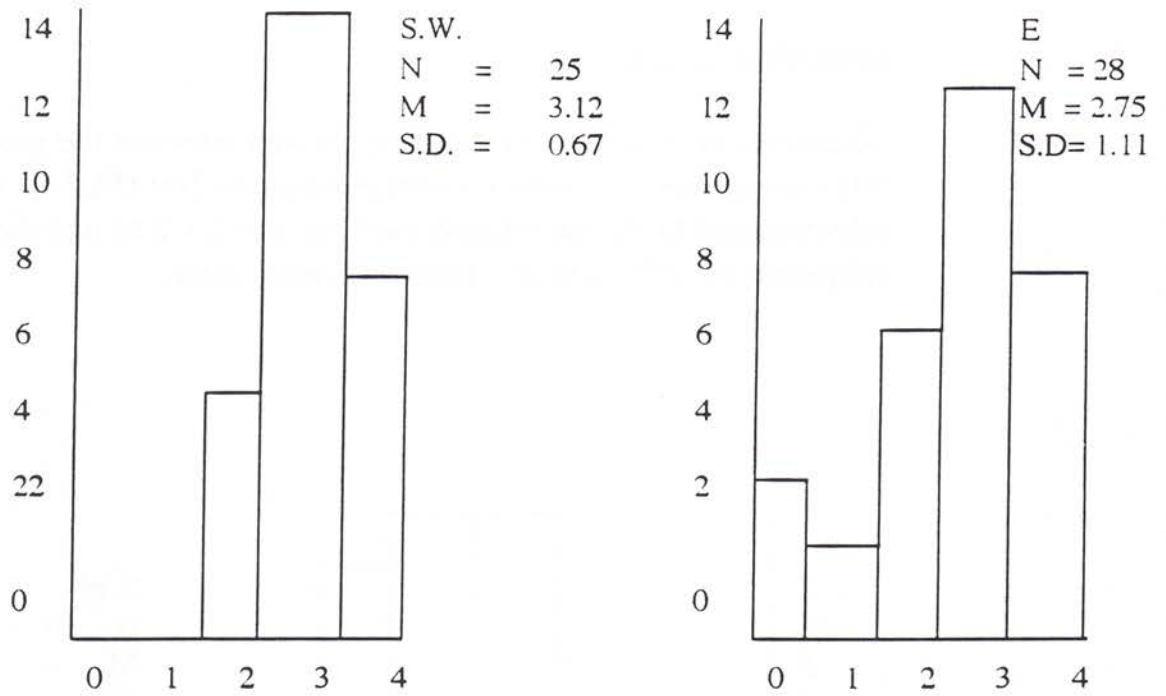


Fig. 2.3 English Vocabulary

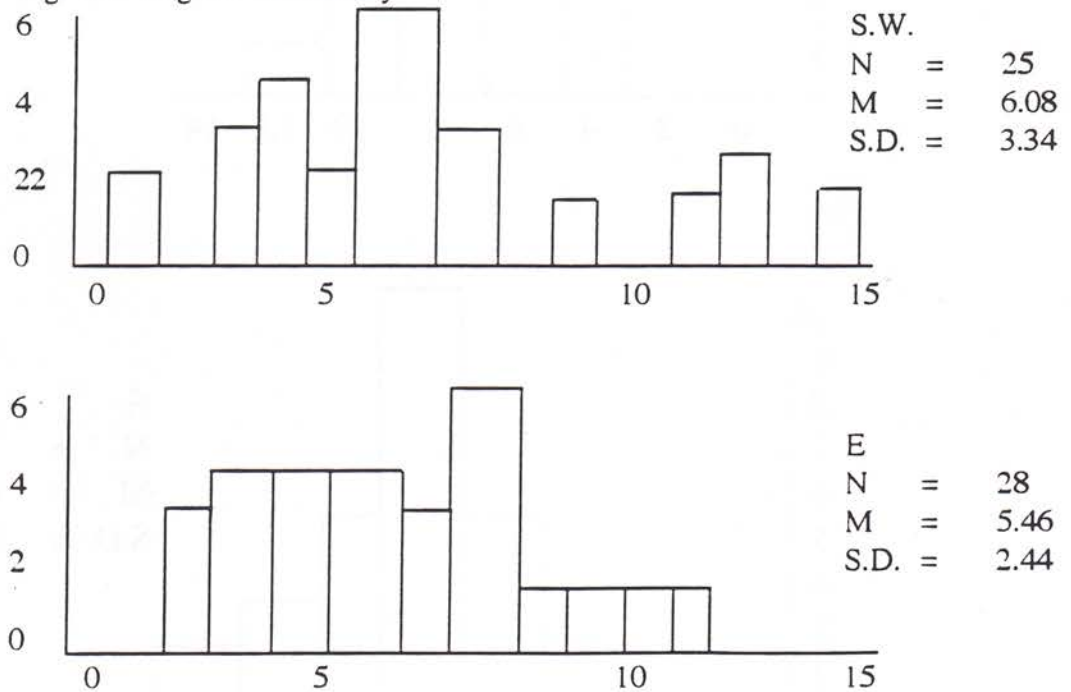


Fig. 2.4 Language Analysis

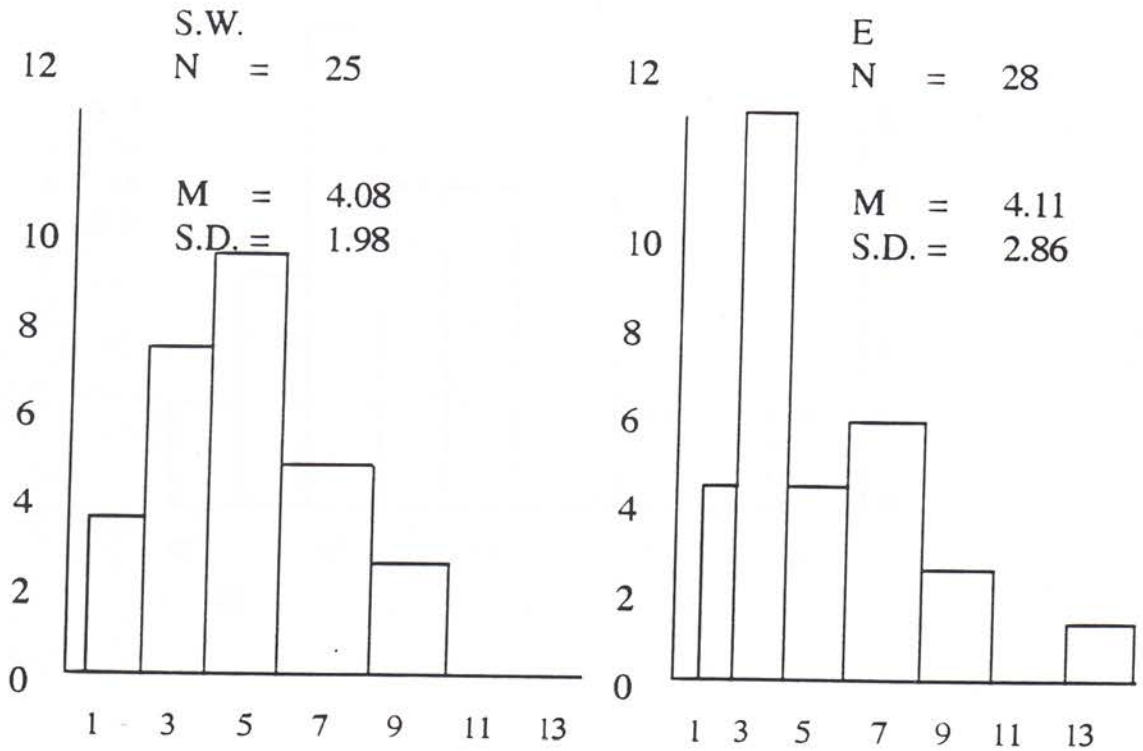
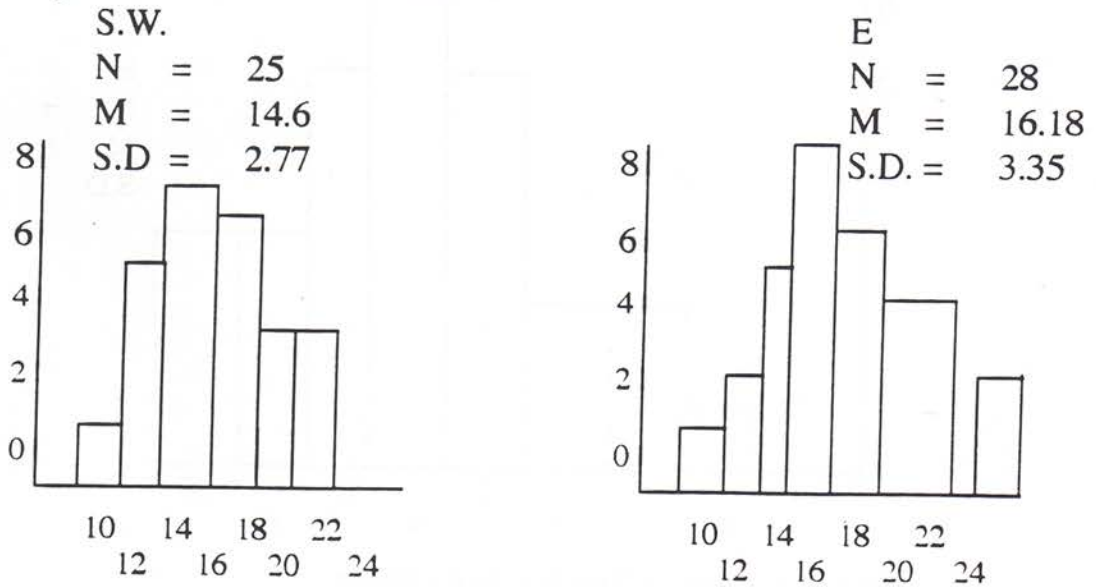


Fig. 2.5 Sound Discrimination



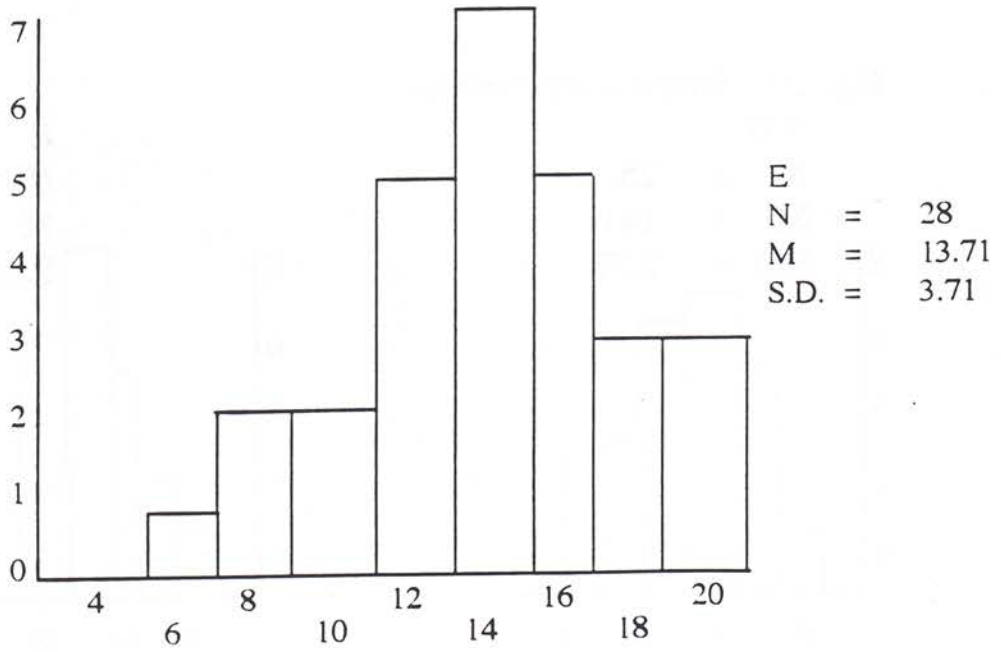
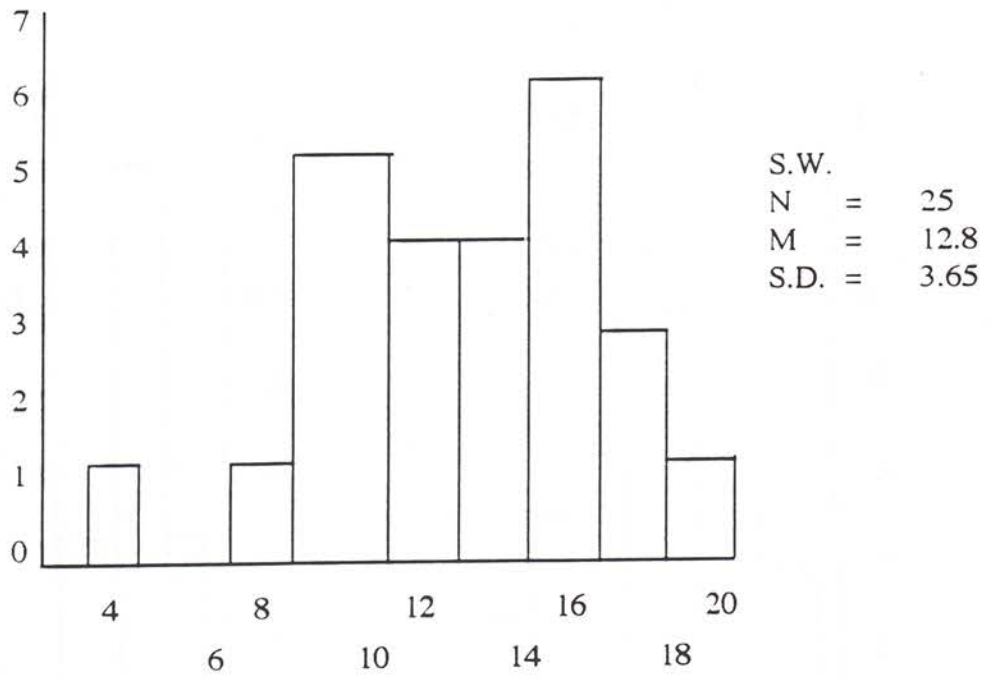


Fig. 2.6 Sound Symbol Association

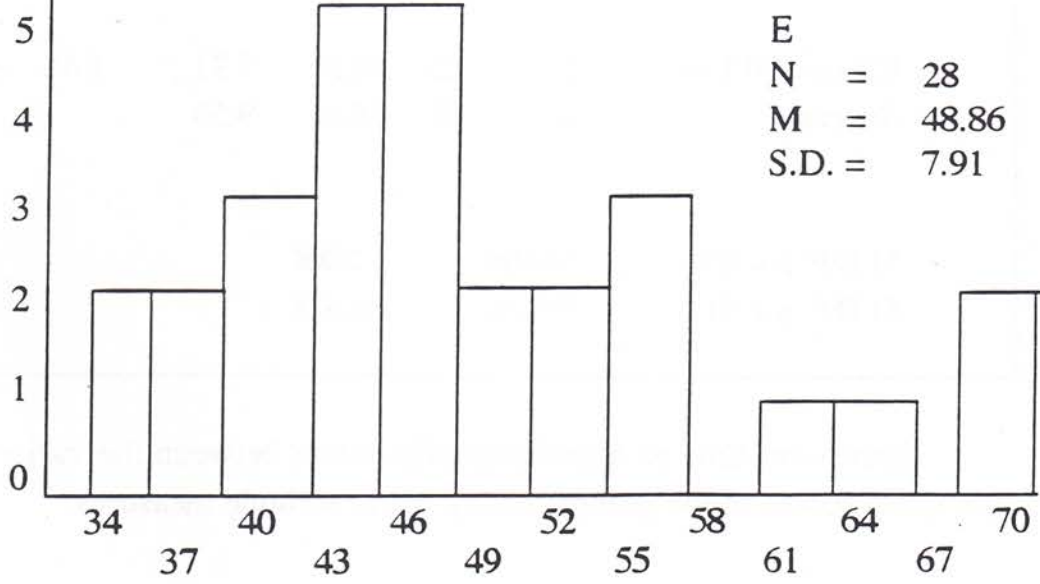
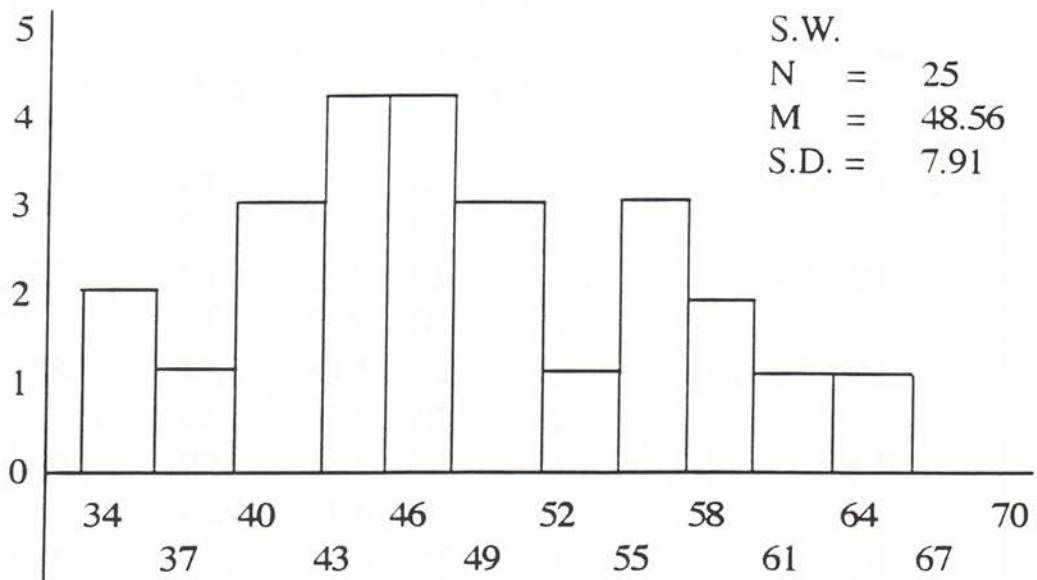


Fig. 2.7 Combined Scores

The following table summarises results:

	Group	N	Mean	S.D.	F	t
Part 1 Grades	1	25	7.88	2.19	1.40	1.87
	2	28	6.64	2.59		
2 Interest	1	25	3.12	0.67	2.78	1.45
	2	28	2.75	1.11		
3 Vocabulary	1	25	6.08	3.34	1.87	0.77
	2	28	5.46	2.44		
4 Language Analysis	1	25	4.08	1.98	2.09	-0.04
	2	28	4.11	2.86		
5. Sound Discrimination	1	25	14.06	2.77	1.46	-1.86
	2	28	16.18	3.35		
6. Sound Symbol	1	25	12.08	3.65	1.03	-0.90
	2	28	13.71	3.71		
Combined Lab. Scores	1	25	48.56	7.91	1.46	-0.12
	2	28	48.86	9.56		
51 D.F. p < .05			F=4.08	t=2.008		
51 D.F. p < .01			F=7.31	t=2.678		

There were thus no significant differences between the variances and the mean scores of the groups on any of the aptitude measures.

### Sex Differences

Since the distribution of the boys and girls was unequal between the groups, it was necessary to determine whether this variable might bias the results of the experiment. The language aptitude and intelligence scores of all the girls were therefore measured against the language aptitude and intelligence scores of all the boys (see Figures 3.1-3.2).

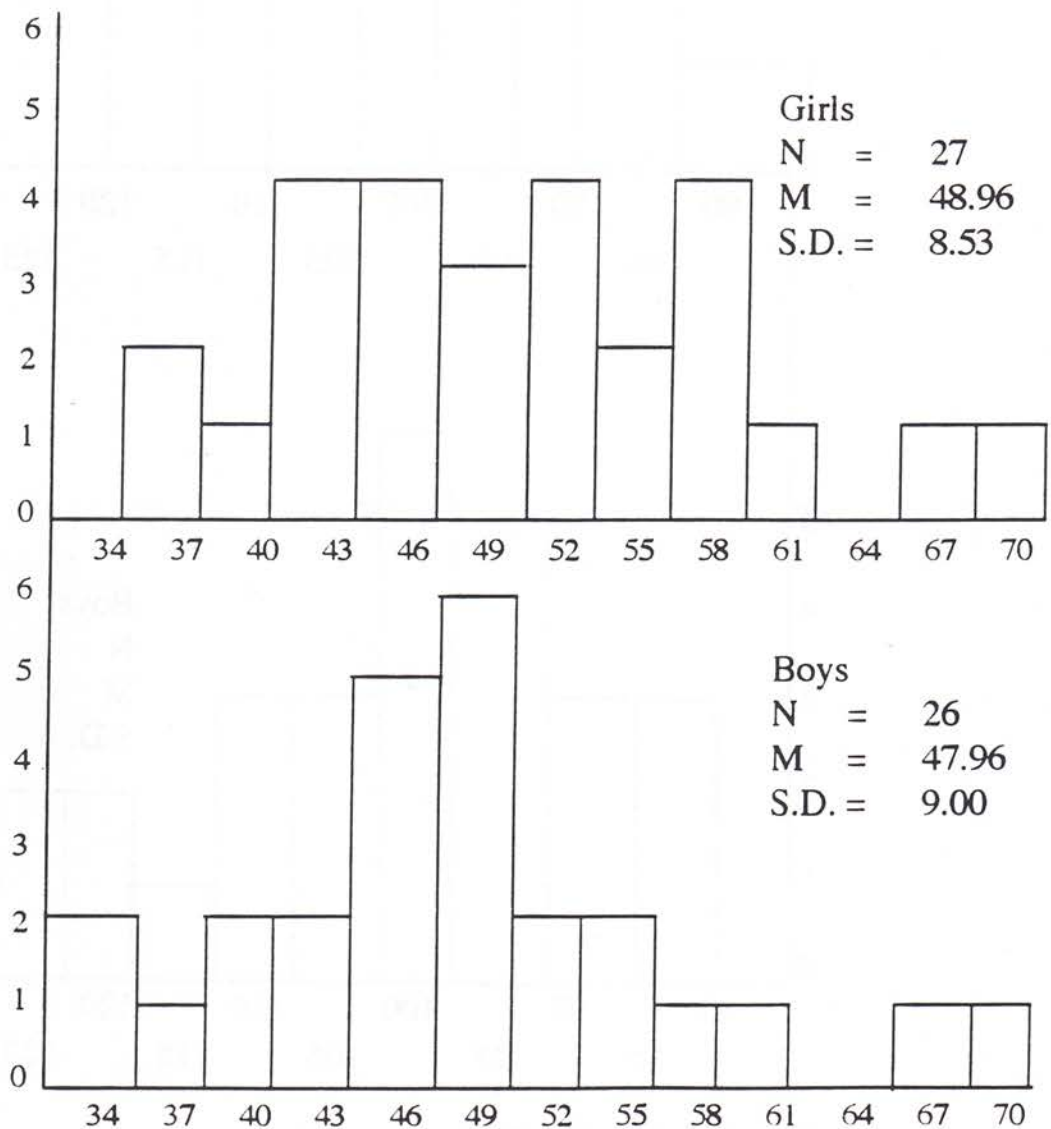


Fig 3.1 PLAB Combined Scores

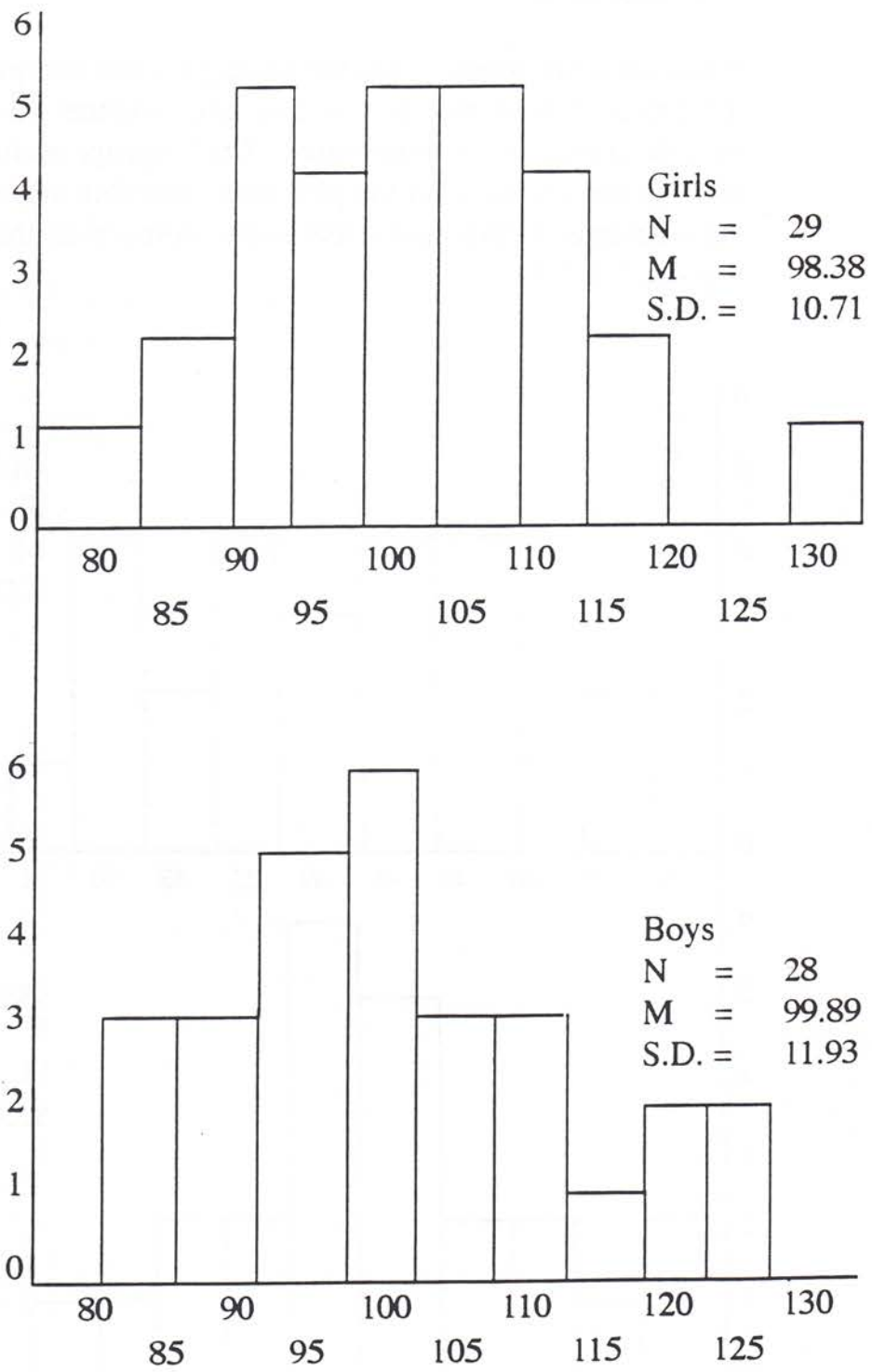


Fig. 3.2 Intelligence

The following table summarises results:

Table 4 Sex Differences					
	<u>Group</u>	<u>N</u>	<u>Mean</u>	<u>S.D.</u>	<u>t</u>
PLAB )	G	27	48.96	8.53	0.51
Combined) Scores )	B	26	47.96	9.00	
Otis I.Q.	G	29	98.38	10.71	1.56
	B	28	99.89	11.93	
	p < .05	t = 2.02	52	D.F.	
	p < .01	t = 2.70	52	D.F.	
	p < .05	t = 2.00	56	D.F.	
	p < .01	t = 2.66	56	D.F.	

There being no significant differences between the variances and the mean scores of language aptitude and intelligence between the boys and girls it was concluded that sex as a variable was not likely to have an effect on the results of the experiment.



## Design

Although this series of tests enabled the conclusion to be drawn that the two groups were reasonably matched on almost all the appropriate variables it was nevertheless considered that the most appropriate design for the experiment, should be an independent rather than a matched group design.

## Materials

For the two conditions all the materials had to be prepared. Materials for the Silent way are procurable from Educational Solutions Inc. New York, for teaching French, Russian, German, Spanish, Arabic, Chinese Mandarin, Japanese, and several other languages. None was obviously available for the Māori language. It was, therefore, necessary to design and prepare all materials for the experiment.

A set of Silent way materials for teaching English as a second language were procured and used as a model for the Māori language materials.

All together these materials consisted of:  
Four sets of cuisenaire rods  
A blackboard pointer  
A sound system chart  
A number chart  
Four vocabulary charts, each with 25 words randomly arranged (Appendix 1)

The materials for the opposing method had also to be prepared.

These were:

Four vocabulary charts (Appendix 2)  
A sound-system chart  
A number chart  
Three sets of worksheets (Appendix 3)  
Assorted classroom items (pens, books, chairs, tables, etc)

The sound system and number charts were similar to those for the first condition, but the vocabulary charts differed in that the words were ordered into their particular classes.

### Course Content

The content for both conditions was similar and included both culture and language components. The following table lists the culture component.

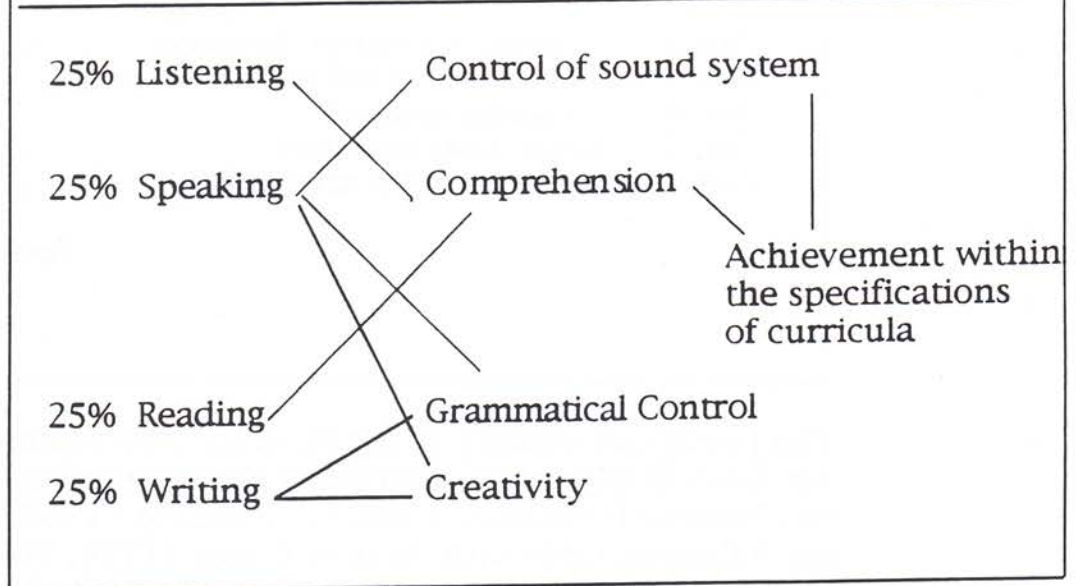
Table 5 Cultural Components in the Programme		
<u>Culture</u>		<u>10 hrs</u>
Art	Tukutuku Kowhaiwhai	4 hrs
Song poetry	Kiki Kehua Tihore mai te rangi	2 hrs
Games	Number games with balls	2 hrs
Oral Literature	Mimed stories in Māori Legends in English	2 hrs

The language component focussed on some of the elementary structures of the Māori language. The following tables list the words used to form these structures and the balance of specific language objectives.

Table 6  
Vocabulary Component

<u>Language - 20 hrs</u>		<u>No. words</u>	
Greetings	tēnā koe - korua - koutou pēwhea? pai	E ana	
Terms of address	kui, koro, hine, tama, hoa, tamariki	mā	7
Number	tahi/kotahi 2 - 10 100 1000	ma hia	17
Colour	whero, pango, kowhai kikorangi, mā, kakariki, karaka, māwhero, parauri		9
Definitives	te, ngā, tēnei, tēnā, tērā		8
Plurals	ēnei, ēnā, ērā		
Locatives	konei, konā, korā, runga raro, mua, muri, roto, waho taha	kei i whea? o	14
Nouns	rākau, pene, turu, tepu, ipu pukapuka, whare, motokā	me	9
Imperative verbs	homai, hoatu, tangohia, hoki tū, noho, haere, huri, peke oma, turituri, whakarongo	mai atu e	5
Pronouns	au, koe, ia, tāua, māua mātou, korua, rāua, koutou rātou, tātou	ki a	13
Possessives	-kü, -ü, -nā, tā, nā, mā, a		16
		Total	112 words

Table 7  
Teaching/ Learning Objectives and  
Proportion of Time Directed Towards Each



### Procedure

The total course of 30 hours involved 2 hours of language plus one hour of culture per week. Testing procedures were conducted outside of the 30 hours.

### Pre-testing

The Pimsleur Aptitude Test was administered one week prior to the commencement of the course. The following table summarises the areas having a relationship with language aptitude and the allocation of scores to each area.

Part 1	Subject Grades	Science Social Studies Mathematics Language	16
Part 2	Interest in a foreign language		4
Part 3	Vocabulary in the English Language		24
Part 4	Language analysis		15
Part 5	Sound discrimination		30
Part 6	Sound - symbol association		24
		Total	113

The predictive validity of the PLAB for New Zealand children has not been firmly established but the correlation co-efficients obtained by Pimsleur (Valdman, 1966, 177) and fay (1965, 47) are listed in the following table with those of Collett (1976, Vol. 1) obtained by New Zealand Form 2 children at the end of a Beginners Course in French.

		r
Pimsleur	PLAB with language grades	0.72
Fay	PLAB with reading attainment	0.48
Fay	PLAB with writing attainment	0.71
Fay	PLAB with listening attainment	0.34
Fay	PLAB with speaking attainment	0.74
Collett	PLAB with combined scores of attainment	0.62
Collett	PLAB with combined reading, writing, listening PLAB Grade-point average and auditory aptitude combined with I.Q. and combined scores of attainment	0.59 0.67

The test is easily administered. Parts 5 and 6, which measure auditory aptitude, is particularly well controlled, the whole being administered through a well-produced tape recording. The test takes 40 minutes. The Test Booklet, Answer Sheet and Scoring Sheet are included in Appendices 4, 5, 6. Measures for Subject Grades were obtained from the teachers of each group.

The Otis Intelligence Quotient of all subjects were also obtained from the class records of each teacher.

### Teaching Procedures

Because the Silent Way is not familiar to local teachers of Māori the teaching of both classes was done by the investigator. Each lesson was 1 hour long. The classes operated within a regular time-tabling slot: from 1.00-2.00pm. for Class A: and from 2.00-3.00 p.m. for Class B. Ideally these times should have been alternated, but such an arrangement was not possible since it would have disrupted other school programmes. The possible effect of this is noted in the discussion and summary of results. The following table illustrates the pattern of the teaching periods.

Day 1	1 hr	language
Day 2	1 hr	language
Day 3	1 hr	culture

Three sample lessons showing the application of the opposing strategies employed in the two methods follow.

Lesson 1 - Introduction to Sound System

The sound-symbol chart displayed was the same for both classes but the use of the chart for each class was different.

h					
k	a	cut	a	part	aa
m					
n	e	bet	e	egg	ee
o					
p	i	bit	e	meet	ii
r					
t	o	port	o	flaw	oo
w					
wh	u	put	u	moon	uu

Class S. W.

Both

Class E

.Introduce the chart and explain the differences in the vowel lengths.

a (short) ä (long) aa (extra long).

.Direct class attention to the sounds as enunciated in the given English words.

.Consonant sounds are similar to those in English except for the t (which is blunted) the r (which is rolled) and the wh (which is like f).

.Explain use of pointer which will slide over the chart

.Systematically drill each consonant with each vowel.

Class S.W.

- pointing out syllables of a word. Have children note that a word is complete when the pointer is raised from the chart. Model once only.
- .Point out tē-nā ko-e sliding the pointer from syllable to syllable and raising it between.
- .Repeat the action several times while children process the information in silence.
- .Elicit responses from class as a whole then from individuals.
- .When errors occur refer pupil to cue in English word and have student self correct.
- .Greet children singly and by name, tēnā koe Janet. Children respond in like manner.
- .Children practice greeting each other.
- .Introduce tēnā koutou with pointer as before.
- .Address the whole class with a sweep of the arms to indicate

Class E

- .Each consonant with diphthongs.
- .Each consonant with triphthongs.
- .Children to model on teacher.
  
- .Pointing to syllables on chart teacher enunciates tēnā koe several times.
- .Children mimic teacher and repeat several times.
- .Address each child singly with tēnā koe and elicit immediate response.
- .Errors to be corrected by teacher when they occur.
  
- .Greet children singly and by name, tēnā koe John. Each child to respond in like manner.
- .Children practice greeting each other.
- .What does tēnā koe mean in English?
- Pointing to syllables on the chart enunciate -



Class S.W.

the whole class - tēnā koutou  
.Have children respond with -  
tēnā koe.  
.Children practice - have  
individual children address the  
whole class.

.Introduce terms of address -  
e hine, e tama, e kui, e hoa mā  
in similar manner.  
.Children practice.  
.Write words randomly on black-  
board - koe tēnā hine e koutou  
tama mā kui mā and give read-  
in practice.

.Children make their own state-  
ments and record them in work  
books.

Class E

tēnā koutou. Children  
repeat after teacher several  
times. Greet whole class -  
tēnā koutou. What does  
koutou mean?  
Explain in English the differ-  
ence between koe and koutou.  
Greet whole class again and  
have children reply.

.Introduce terms of address -  
e hine, e tama, e kui, e hoa  
mā in similar manner. Use  
models and repetition. Drill.  
.Write sentences on blackboard  
tēnā koe e hine  
tēnā koe e tama  
.Use koutou kui hoa mā for  
substitution exercises.  
.Write statements on black  
board.  
Give reading practice.  
Children record statements.

Lesson 2 - Introduction to Number Chart

1	tahi/kotahi	
2	rua	
3	toru	
4	whā	
5	rīma	e
6	ono	mā
7	whitu	hia?
8	waru	
9	iwa	
10	tekau	
100	rau	
1,000	mano	
1,000,000	manomano	

Class S.W.

- .Hang number chart alongside Sound system Chart.
- .Point to 1 - point out syllables on sound chart - have children enunciate sounds from sound chart - tā - hi point to tahi - have children enunciate word.
- .Repeat process with other numbers to 10
- .Practice counting to 10
- .Write 11 on blackboard. Point out on number chart tekau-mā tahi - children enunciate.
- .Repeat process to 19.
- .Practice counting to 19.

Class E

- .Use number chart only.
- .Point out and enunciate each word. Children mimic
- .Practice counting to 10.
- .Write 11 on blackboard. Point out on Number Chart and enunciate tekau mā tahi
- .Repeat process to 19
- .Practice counting to 19.

Class S.W.

- .Write 20 on blackboard.  
Point out on Number - Chart  
rua-tekau. Children enunciate.
- .Repeat process with 30, 40, 50,  
60, 70, 80, 90.
- .Practice counting to 90.
- .Write 100 on blackboard.  
Point out kotahi mano. Have  
children enunciate words.
- .Practice counting to 100.
- .Teach 1000 and 1,000,000  
similarly

Class E

- .Write 20 on blackboard  
Point out and enunciate rua  
tekau. Children mimic
- .Repeat process with 30, 40, 50,  
60, 70, 80, 90.
- .Practice counting to 90.
- .Write 100 on blackboard.  
Point out and enunciate  
kotahi mano - children mimic
- Practice counting to 100.
- .Teach 1000, and 1,000,000 in  
like manner.

Write random numbers on blackboard.  
Children enunciate words - group  
responses, individual responses.  
Write another set of random numbers  
on blackboard. Children write  
words in work books.

Lesson 3 - te (rākau) ngā karaka  
me kōwhai kikorangi (pene)

Class S.W.

- Apparatus - sound chart  
- cuisenaire rods

Class E

Coloured pens

- .Establish rules:  
- no English  
- no questions

Class S.W.

- respond only when required
- no prompting
- cues given only once

.Hold up single rod and point out on sound chart ra-ka-u.

Say word once only.

Children enunciate word.

.Hold up another rod. Solicit response.

.Repeat process with a series of single different coloured rods.

.Hold up orange rod - point to colour -point to other orange objects. Point out on sound chart ka-ra-ka. Children enunciate.

.Hold up orange rod. Have children enunciate rākau karaka

.Hold up a single orange rod - point out on chart te rākau

Solicit response from group-from individuals.

.Hold up a single rod - solicit responses. Hold up several rods - solicit responses.

Class E

.Hold up a pen and say

pene

Children mimic.

.Hold up another pen and say pene. Children mimic.

.Repeat with other pens.

.What does pene mean in English.

.Hold up an orange pen and say te pene karaka.

.What does te pene karaka mean?

.What is the difference between te pene karaka and ngā pene karaka.

.Hold up a single orange pen and solicit statement. Hold up several pens and solicit statement.

Class S.W.

.Repeat process with yellow and blue rods.  
.Children practice in pairs.  
.Arrange rods of each colour singly and in groups.  
.Introduce me. Offer cue.  
Ngā rākau kikorangi me te rākau kowhai me ngā rākau karaka, me ngā rākau kōwhai.

.Re-arrange rods and solicit responses from group and individuals.  
.Children practice in pairs.  
.Write words randomly on blackboard.  
.Point out words - have children read words.  
.Point out sentences - have children read sentences.  
.Children write sentences in work books. As many as possible, each to be different.

Class E

.Repeat process with yellow and blue pens.  
.Practice drills.  
.Arrange pens of each colour singly and in groups.  
.Introduce me.  
Ngā pene kikorangi me te pene karaka me tō pene kowhai me ngā pene karaka me ngā pene kōwhai.

.Re-arrange pens and solicit responses from group and individuals.  
.Practice drills.  
.Write sentences on blackboard have children read sentences.

.Children write sentences in work books and translate.

## VI. POST-TESTING PROCEDURES

There being no standardised tests for Māori language programmes, all tests for this investigation had to be devised. A particular constraint was experienced in that there were no parallel groups doing the same language course with which the devised tests could be piloted.

The tests devised by Collett (1979) for a similar age group doing a Beginners Course in French might have been considered as models, but different criteria in each study prevented this possibility. Nevertheless, face validity was obtained through enlisting the scrutiny of Collett in the test designs. Only one of the four tests could be subjected to statistical item analysis.

The measures taken to ensure validity and objectivity of the testing instruments are described with each test.

### Test 1 - Curriculum Content -

Vocabulary

Grammar

Comprehension

(See Test Booklet-Appendix 4)

Items 5-30 in the test booklet were devised to test reading comprehension and sampled the vocabulary and grammatical structures taught within the context of the course. The test was administered to both the treatment groups at the end of the course, after which items 5-30 were subjected to item analysis.

Because the number of subjects tested were below 100 a tetrachoric correlation method was used. A 50/50 split of the total group resulted in criterion groups of 28 subjects each.

Items at or below the .25 level of difficulty were discarded along with items with difficulty indexes at or above .80; items with discrimination indexes below .20 were also discarded. There was one exception however. Item 7 had a difficulty index of .87 indicating that it was probably too easy an item. It was, however, retained because of its fair discriminatory index which was .30.

Of the 26 items subjected to item analysis 19 were validated and retained. ( See Item Analysis Sheet - Appendix 7. )

In summary, the validity of this test was ensured by the application of the following measures - using multiple-choice items; adequately and appropriately sampling the content of the course; item-analysing the items and discarding those that failed to meet the criteria of discrimination, difficulty, and number of choices; and by ensuring that the test was reliably and objectively scored. (See Test Answer Sheet - Appendix 5 and Score Sheet - Appendix 6. )

In determining the reliability of the test application of the Kuder Richardson formula (KR-21) resulted in a rationale equivalence reliability co-efficient of 0.75 for the total test.

### Test 2 - Writing Skills -

Sentence construction

Grammatical Control

Creativity

Mid-way through the course the subjects under each treatment were presented with a selection of randomly listed words and asked to write as many sentences as possible in the space of a half-hour. They could use any of all of the words in the list but each sentence had to be different. The lists were compiled from the first two vocabulary wall charts of the course. Altogether there were 53 words, all of which had been adequately taught.

Objectivity of scoring was determined by allocating scores for each correct phrase (1 point) and for each separate construct (5 points). Having no ceiling, this test proved to be particularly buoyant with scores ranging from 12 to 136 for one group, and scores ranging from 28-97 for the other. A further advantage of the test was its potential to elicit from subjects, learning language at an elementary level, an unrestricted sample of what they had learned.

A similar test was administered at the end of the course, (see Item 31 of Test Booklet - Appendix 4) but with some restriction; only 10 sentences were required from a list of 19 words. This was done deliberately to

accommodate both the factors of test duration, and interference from the text of the test booklet itself. The 19 words were, therefore, a sample from the latter part of the course not covered by the other test items. These restrictions, along with the possibility that this section of the course had not been taught adequately, appeared to have placed unreasonable constraints on subjects. Neither group responded adequately so the set of scores were discarded. Only the scores of the first test were used for analysis.

Test 3 - Auditory skills -

- Pt 1 Verbal responses to questions
- Pt 2 Action response to statements
- Pt 3 Sound-symbol association

Test 4 - Fluency of Speech -

- Pt 1 Verbal response
- Pt 2 Reading from a prescribed text

Part 3 of Test 3 which measures the ability of subjects to associate sounds with written symbols was included in the Test Booklet. (Appendix 4: Items 1-4). All other items in the two tests were administered orally at the same time, in a room removed from the general noises of the classrooms which was specially organised for testing. A reel-on-reel tape recorder was set up to record the verbal responses of each subject. Action responses were recorded on check lists (Appendix 8). Subjects were randomly called for testing and were tested individually.

Appendix 8 lists each part of Test 3, the test items, the correct responses, and scoring procedures for each discrete element of the test items.

Appendix 9 shows the prescribed text for Part 2 of the Fluency Test. Only three relatively short sentences were used. Each subject was asked to study the sentences and then to read them. Readings were recorded. An independent language expert was enlisted to score the readings. Scores were allocated for the correct pronunciation of each discrete item (as underlined in Appendix 9) for phrasing, and for melody.



## VII. RESULTS AND DISCUSSION

The data obtained from both the Pre-tests and Post - tests were programmed for computer analysis using S.S.P.S. Version 6.

### Programme Notes

1. t (separate variances) - This is a two sample statistic in which the variance of each group is the variance of each group estimated separately. It is appropriate whenever the population variances are not assumed to be equal.
2. t (pooled variances) - When the population variances in the two groups are assumed to be equal, the estimate of variance can be obtained by pooling or averaging the two estimates of the variance.
3. F (for variances) - This is a test of equality of variance.
4. For one sample tests, the t(separate) and t(pooled) are the same.

Of the 17 variables read into the data pool 13 relate to the separate parts of both the Pre-tests and Post-tests.

Since the variables associated with pre-testing have already been described and summarised this chapter will be devoted to the summary and discussion of the variables related to the Post-tests. Each of these variables will be considered separately and related to the appropriate aspect of the research hypothesis.

All computations are drawn from statistical analyses using the S.S.P.S. computer programme.

### Post-Test 1

This test sampled the entire content of the teaching programme and was devised to test through reading comprehension items the grammatical forms, the vocabulary and the sentence constructions taught in the programme. Figure 4.1 illustrates the spread and frequency of scores for each of the two conditions.

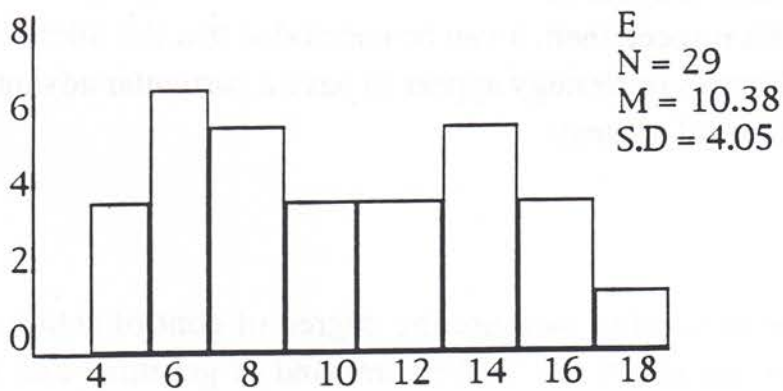
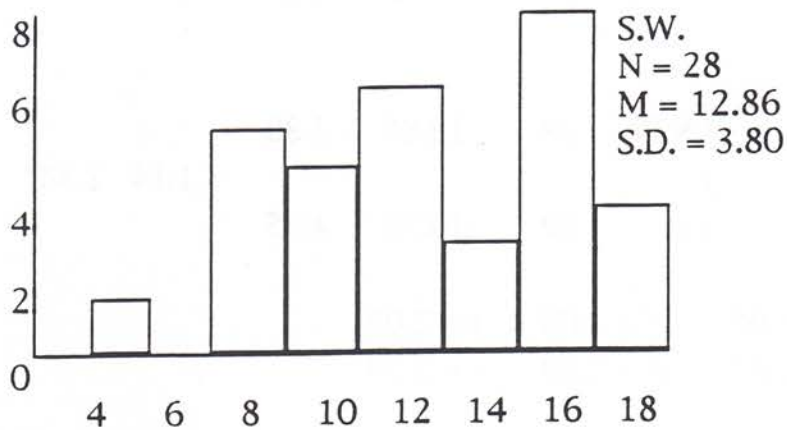


Fig. 4.1 Curriculum Content

A positive skew is evident for the experimental group while a negative skew is apparent for the control group, suggesting a likely difference in the means between the two groups. Specific differences are tabulated in Table 11.

	Group	N	Means	S.D.	F	t	D.F
Vocabulary	) S.W.	28	12.86	3.80			55
Grammar	)				1.14	2.38*	
Reading Comp.	) E	29	10.38	4.05			
	*p < .05	F = 4.08	t = 2.02				
	p < .01	F = 7.08	t = 2.70				

Related to Section 1.4 of the hypothesis, the experimental group made greater gains, statistically significant at the .05 level, in comprehending the vocabulary, grammar and sentence constructions of the language programme. In this respect, then, it can be concluded that the Silent Way methodological features of strategy appear to have a particular advantage over Eclectic features of strategy.

### Post Test 2

This test was devised to measure the degree of control achieved by subjects in written constructions, in the command of grammar and in the creative use of language.

Given a list of randomly ordered words, subjects were required to write as many sentences as possible within the space of half an hour. Subjects were informed that one mark would be allocated for every sentence and for every correct phrase, and five marks for each separate construction. Each sentence had to differ from the others.

The range in number of sentences produced by the subjects of both treatments was quite remarkable for elementary language learners. Also, as can be seen in the Fig. 4.2, the range of scores for the experimental group was more extensive than that for their control group.

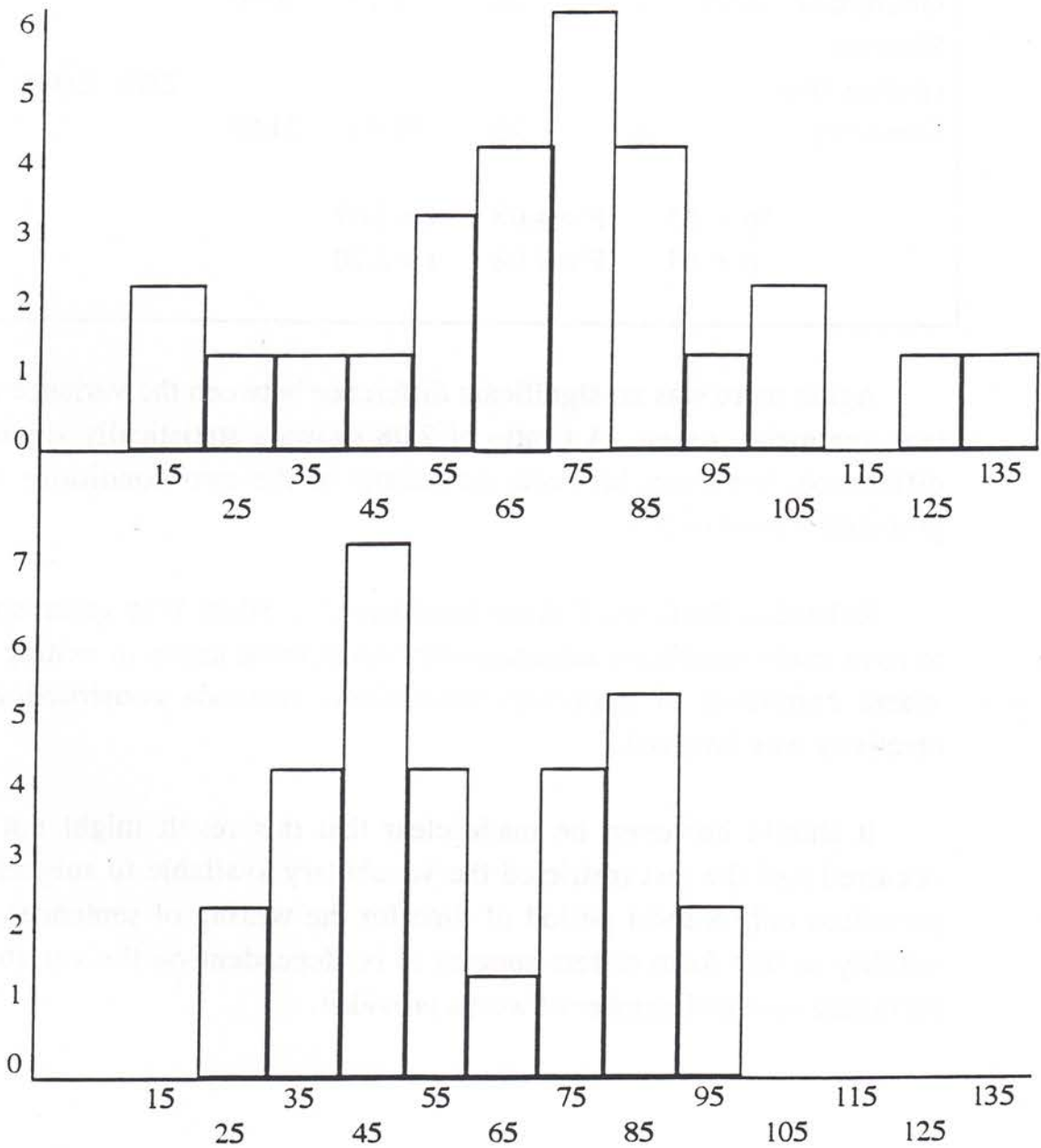


Fig. 4.2 Writing Skills

Table 12 summarises the results.

Table 12 Writing Skills							
	Group	N	Means	S.D.	F	t	D.F
Grammar Control	S.W.	28	73.18	30.65			
Sentence construction					2.08	2.08*	55
Creativity	E	29	58.66	21.06			
	*p < .05	F = 4.08	t = 2.02				
	p < .01	F = 7.08	t = 2.70				

Again there was no significant difference between the variance of the two treatment groups. A t ratio of 2.08 shows a statistically significant difference, however, between the means of the two conditions at the probability level of 5%.

Related to Section 1.3 of the hypothesis the Silent Way group appears to have made significant advances over the Eclectic group in writing skills where command of grammar, vocabulary, sentence construction and creativity was involved.

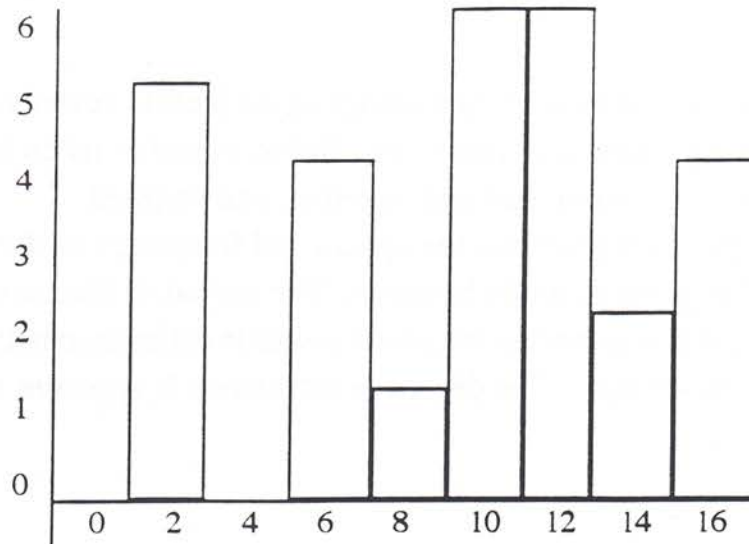
It should however, be made clear that this result might not have occurred had the test restricted the vocabulary available to subjects and permitted only a short period of time for the writing of sentences. The validity of this form of test appears to be dependent on the variables of sufficient time and number of words provided.

### Post Test 3

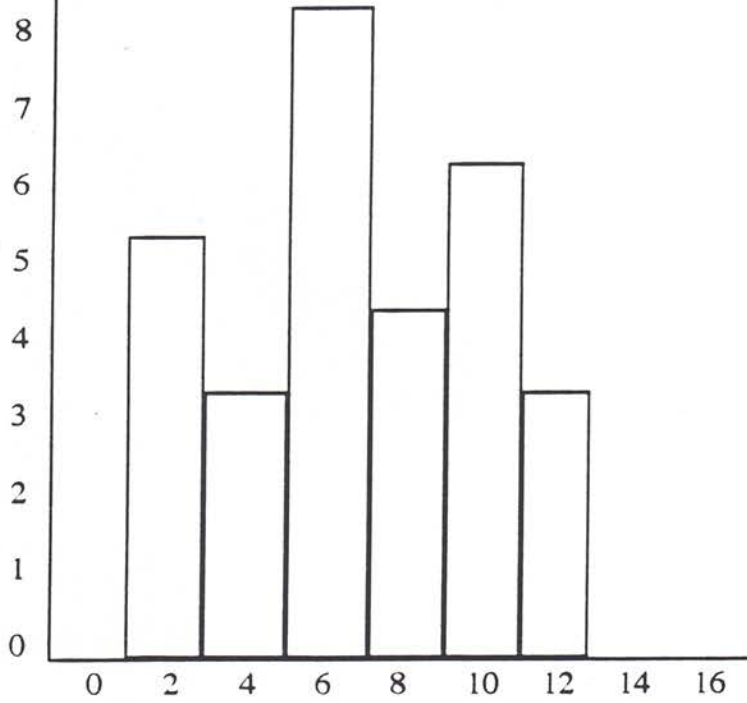
Devised to measure the listening facility of subjects this test consisted of three parts.

Part 1 was devised to measure the ability of subjects to respond verbally to a greeting and to oral questions. Subjects had to listen to a statement, comprehend its purpose and meaning, and respond appropriately. Figure 4.3 describes the spread and frequency of the scores obtained by the two groups on this measure. The spread of the scores is clearly similar but the frequencies suggest a possible difference between the means of the two groups. The degree of difference is apparent in Table 13.





S.W  
 N = 28  
 M = 8.86  
 S.D = 4.33



E  
 N = 29  
 M = 6.52  
 S.D = 3.31

Fig. 4.3 Verbal Response

A very similar result was obtained for Part 2 of the test, in which subjects had to listen to a statement, comprehend its significance and respond by performing a specified task. Again there was no difference between the variances of the two groups and only a slight difference in the standard deviation. Figure 4.4 suggests, however, the likelihood of a significant difference in the means of the two conditions. These results are also summarised in Table 13.

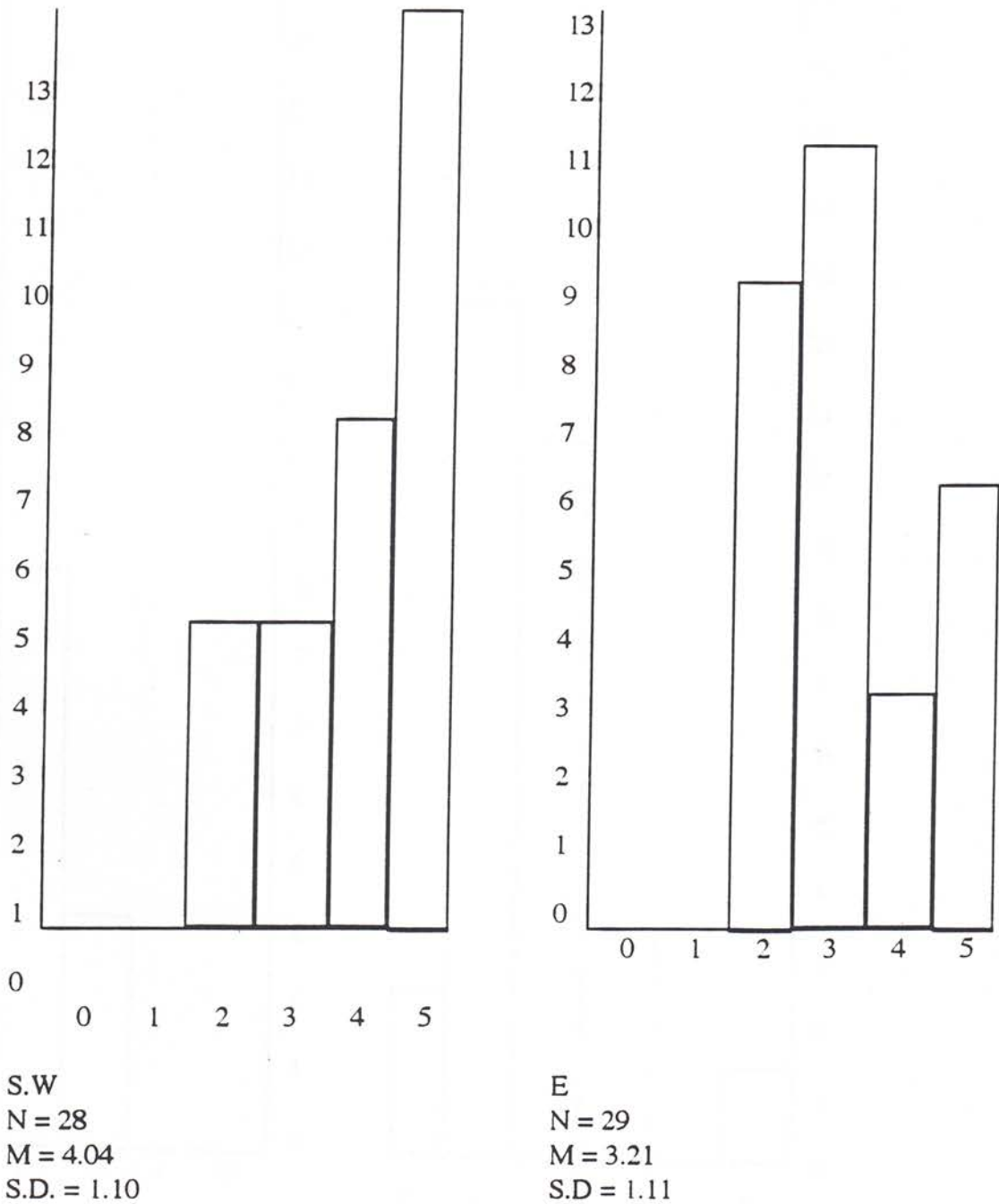


Fig. 4.4 Action Response



The results of Part 3 of this test, which measured the ability of subjects to associate a sound with its correct written symbol, are illustrated in Figure 4.5. Also summarised in Table 13, it can be observed that no significant differences exist between the groups on either the means or the variances.

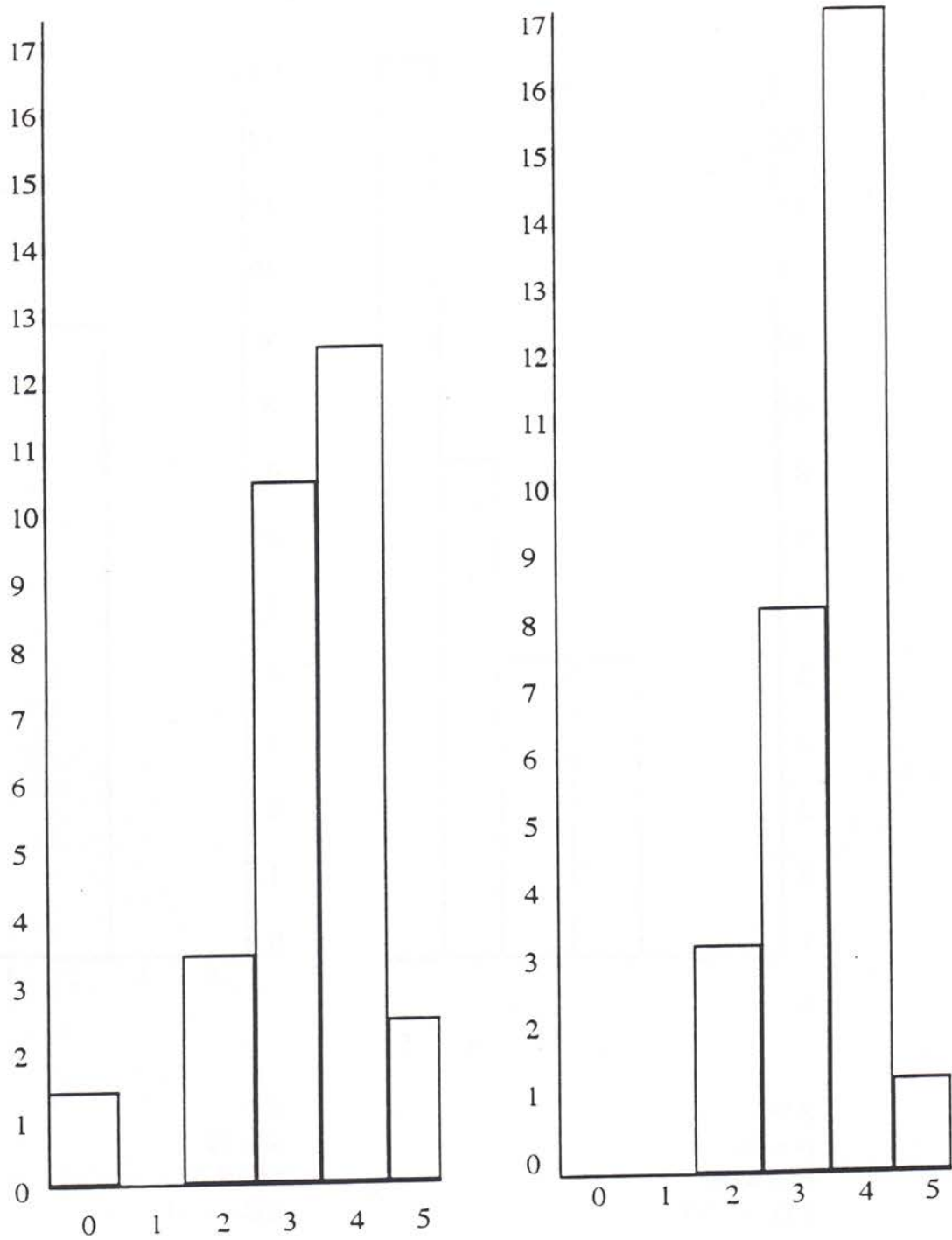


Fig. 4.5 Sound Symbol Association

Table 13  
Listening Comprehension

	Group	N	Means	S.D.	F	t	D.F.
Verbal Response	S.W.	28	8.86	4.33	1.71	2.30*	55
	E	29	6.52	3.31			
Action Response	S.W.	28	4.04	1.10	1.02	2.82*	55
	E	29	3.21	1.11			
Sound Symbol Association	S.W.	28	3.55	1.03	1.94	-0.82	55
	E	29	3.55	0.74			
		*p < .05	F = 4.08	t = 2.02			
		*p < .01	F = 7.08	t = 2.70			

It can be concluded, therefore, that in terms of listening skills and section 1.1 of the hypothesis, the hypothesis is only partly confirmed. The subjects taught through the Silent Way appear to have developed better listening skills, and responded better than the subjects of the control group in both speech and action to verbal cues. In terms of sound-symbol association, however, the hypothesis is not supported.

An interesting question is hereby raised. If the experimental group performed better than the control group on two of the listening measures, why should they not perform as well on the third measure?

It may be that teaching mode has no influence on this particular skill. There was, in fact, no deliberate effort to teach it. It is probable that the skill would have a high correlation with reading ability, a point which could be pursued at a later date. Alternatively, there were only four items measuring this skill, and this factor may be responsible for the test result.

It would be interesting to pursue this point further with a greater number of items.

#### Post Test 4

Measuring the fluency of speech is of itself a problematic area. This is particularly so of beginners in a foreign language, where levels of speech cannot be expected to reach particularly high standards. The normal procedure is to have subjects read a passage of reasonable length in which a number of discrete items are selected for measurement. These items tend to be those which present pronunciation difficulties. Further to this, measures of intonation, stress and phrasing have to be taken.

A degree of objectivity can be achieved in the scoring of discrete items but all other measures are to a large extent dependent on subjective assessment. Because neither treatment group was subjected to formal reading of prescribed texts a familiar passage could not be used. The oral reading practice subjects had in the programme grew out of their own sentence constructions which they were asked to read from time to time.

It was therefore decided that measures of fluency be taken from the verbal responses of subjects in the listening test, and from three short sentences which sampled words frequently pronounced in error.

Since both performances were taped it was possible to assess them at a time when full attention could be accorded them. The services of an independent assessor was obtained, and two assessments made, one by the experimenter and one by the independent expert. Comparison of scores showed a high degree of agreement on some measures, but considerable difference on others. It was therefore decided that the scores of the two assessors be averaged in allocating final scores.

By some mis-adventure it was discovered that the readings of half the number of subjects were either not recorded or had been inadvertently wiped from the tapes. Of the 57 subjects only the readings of 32 had been taped. Fortunately 16 from each of the treatment groups were available, and since the subjects had been randomly ordered for oral testing, the expectation was that the 16 subjects from each group would represent a cross section of the group. Rather than abandon this part of the testing procedures, the scores were nevertheless subjected to analysis.

Figure 4.6 illustrates the spread and frequency of the scores obtained from the readings and Table 14 summarises the results.

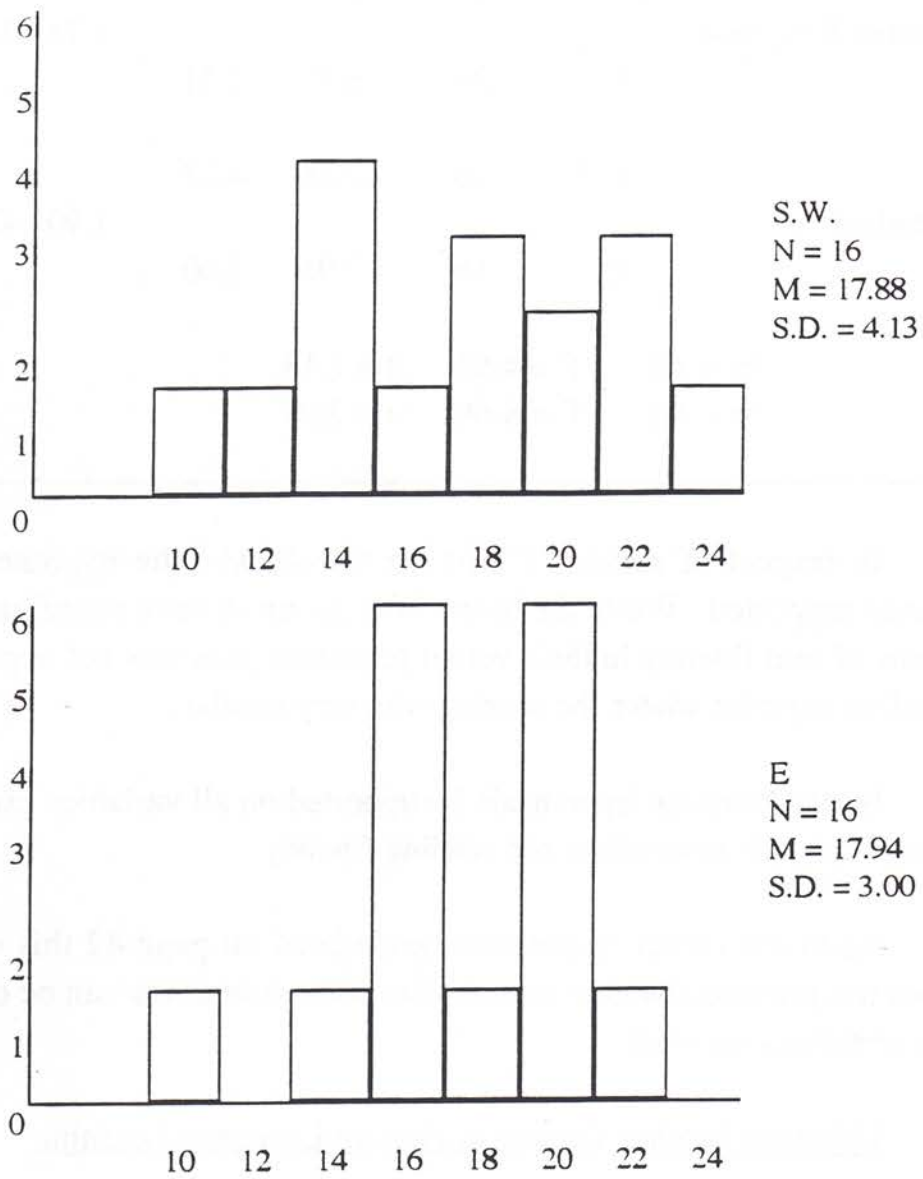


Fig. 4.6 Fluency

Table 14 Fluency							
	Group	N	Means	S.D.	F	t	D.F
Verbal Response	S.W.	28	8.86	4.33	1.71	2.30*	55
	E	29	6.52	3.31			
Reading	S.W.	16	17.88	4.13	1.90	-0.05	30
	E	16	17.94	3.00			
	*p < .05	F = 4.54	t = 2.13				
	*p < .01	F = 8.68	t = 2.95				

In respect of section 1.2 of the hypothesis, the hypothesis is only partly supported. While the Silent Way group showed significantly higher gains of oral fluency in their verbal responses, this was not apparent in the reading exercise where the scoring was very similar.

In summary the hypothesis is supported on all variables except that of sound-symbol association and reading fluency.

As to the research questions postulated on page 42 this experiment does not provide absolute answers but some inferences can be drawn from the observations made.

#### Using the Mother Tongue in Foreign Language Learning

Does the use of the mother tongue facilitate or hinder second language acquisition? This experiment suggests that there could be an advantage in using only the target language and avoiding the mother tongue, since the Silent Way group made greater advances than the control group. The issue, however, cannot be seen as a singularly simple one, i.e. avoid the mother tongue and expect better results. There were, in fact, attendant variables which in all probability aided the 'no mother tongue' situation, and without which the same degree of advancement might not have been evidenced.

The most important variable is the teacher. If the mother tongue is not to be used for determining meaning then the teacher has to use appropriate action, so that language input is clear and devoid of ambiguity. Both constraint and control has to be exercised so that the language used in general statements is language already acquired by the students. Similarly, the known vocabulary has to be the vehicle through which new language is introduced. In this case, however, all of this was made so much simpler by the manipulation of the cuisenaire rods.

The reaction of the Silent Way subjects to the idea that there would be no English used in their lessons was initially one of concern. "How are we going to understand?" they asked. At the beginning of the programme some children insisted on asking for translations and showed a certain insecurity when translations were not offered. At no time did I weaken on this point, however, and soon the demand for translations faded. Occasionally a student offered an English equivalent for a statement and seemed pleased when a head-nod confirmed that the equivalent statement was correct. A section in the test paper did call for English equivalents and the Silent Way group performed as well as the Eclectic group on this section. This fact supports the view that translation becomes automatic when learning has proceeded successfully in the target language only. It has to be said, however, that there was not a total ban on the mother tongue. Complex instructions concerned with matters of general classroom functioning etc. had to be given in English, and when the class were involved in group practice there were many lapses into English. It was essentially in the teaching/ learning mode that English was forbidden.

If a teacher is able to make meaning clear in the target language without resorting to the mother tongue there are advantages to the student. Firstly, more time is being spent on the target language. If in a normal classroom session there is constant shifting from the target language to the mother tongue and vice versa, the time for learning the second language is effectively halved. There is also the likelihood of student progress being hampered by interference from the mother tongue, and dependence on it to the extent that the student is never free of it and therefore cannot think in the target language. This is not to say that there should be a total ban on the use of the mother tongue, but rather that it may not be a necessary contingent to learning another language.

## The Acquisition of Grammar

In this experiment both groups were exposed to language in action and we expected to deduce the grammatical forms from the language used. Members of the control groups, however, were required to formulate and verbalise in English some of the simpler rules evident in the language constructs being used. The expectation was that this exercise would aid understanding and therefore give the subjects in this group greater control of the grammatical forms. The results, however, showed no particular advantage for the control group, suggesting that rule formulation and verbalisation may not necessarily be advantageous, at least for pre-adolescent children. This, of course, may not apply to older students or adults.

### Retention

With reference to retention, the results suggest an advantage again for the experimental group, but it is not clear why this was so. The deliberate use of silence, the emphasis on using the target language, and the multi-faceted learning mode, may be either separately or jointly responsible. More tightly designed experiments which isolate each of these variables for more thorough testing and analysis would be useful. It would also have been useful to test the groups again several weeks after the post-testing to see whether the Silent Way group maintained its advantage.

### The Cuisenaire Rods

If the rods have any advantage over real objects it is only in their flexibility and economy of use. If real objects are at hand the obvious thing to do is to use them in teaching. Even the Silent Way teacher will switch from rods to real objects if they are available. But real objects can never be anything they are not, while the cuisenaire rods can. A rod can be a person in one lesson, a point in time in another. A rod can in fact be used to symbolize anything from concrete objects and ideas, to vague abstractions. Even the intricacies of a particular sentence structure can be illustrated by manipulating rods. When a single object can serve so many purposes it is a valuable teaching resource.

### Teacher Modelling

Most teachers of language place considerable emphasis on good models as a necessary contingent to language learning, whether that language be a first language or a second one. If this is the case, then the control group of this experiment should have shown a marked advantage over the Silent Way group, not only in their pronunciation, but also in their sentence structures. For them there was much teacher modelling, a lot of repetition, and much mimicry. For the Silent Way group modelling was deliberately avoided. Most times a new word or construct was modelled only once. Yet the control group showed no advantage. Can we assume then that we have been under a delusion as to the importance of modelling. Here, too, is a further area for research. It may be that in education generally, the emphasis given to modelling may be unwarranted.

### Correction of Errors

With reference to errors and their correction, several points were observed. Immediate correction by the teacher of any error made by the students was the norm for the control group. Children in fact corrected each other often, and did not seem to mind being corrected. The subjects of the experimental group, on the other hand, were not corrected when an error was made and they were instructed to avoid correcting each other. This was for some a little unsettling at the start, especially when it was obvious that an error had been made. There was an expectation that I, the teacher, would correct the error, and when I did not a little consternation was shown. I had, in the end, to explain that I did not choose to correct mistakes because I wanted the children to recognise their own errors and to correct them themselves. It was necessary at times, during the early part of the programme to draw attention to an error, because some subjects were not always aware that an error had been made and could not therefore correct the error. Most times all that was necessary was the utterance of the error in the form of a question, ie, with a slight pitch of the voice. Children came to recognise the signal very quickly and were able to act upon it. Reinforcement of some kind was expected also, especially at the start. A nod or a shake of the head to indicate a correct or wrong statement was initially required by the children, and seemed to be necessary for their sense of security.

This was an interesting observation because everything seemed to be working in opposition to Gattegno's assumptions. In fact the childrens



behaviour reflected much of Skinner's theories. Was this normal behaviour, or had the children been so thoroughly indoctrinated by Skinner-inspired teaching that they could not act any other way? This is a tantalising question which I did not then have time to pursue. Suffice it to say that the Silent Way children were able, after some time, to recognise and correct some of their own speech errors. In the final analysis, however, neither group showed an advantage in pronunciation, but the Silent Way group was significantly better than the Eclectic group with regard to grammatical and structural expertise, there being fewer errors in their sentences. There would appear to be some evidence then that students ultimately come to recognise and correct their own errors as they do in everyday learning of their first language.

### Co-operative versus Competitive Learning

The co-operative learning encouraged among the Silent Way subjects appears to have been more conducive to learning than the competitive learning deliberately engineered for the Eclectic group.

The latter group had been organised into four evenly matched teams and all activities, both oral and written, were scored. A score board was kept and scores for each team were recorded at regular intervals. The prize for the winning team was to be a special excursion at the end of the programme. Every child could win a score for his team by responding correctly to a given cue. At the end of each activity the scores for each team were averaged and added to the scoreboard totals. The children enjoyed this activity and right up to the last week of the programme, scoring was so close there was no certainty as to which team would win.

If competition aids learning, then this group should have shown a clear advantage over the Silent Way group for whom there was no competition and no promises of a prize. Yet this was not the case. It seems then that while competition may light up the classroom and motivate some children, no particular learning advantage can be expected. When compared with co-operative learning, competition appears to have some limitations, although of course the results of the present experiment cannot be attributed to any single factor.

## VIII. CONCLUSIONS AND RECOMMENDATIONS

Given that in all the tests, except those for fluency and sound-symbol association, there appears to be a general advantage in favour of the Silent Way experimental group, can it be claimed that the Silent Way strategies are necessarily superior to the Eclectic features of the methodology used with the control group? The answer at this stage has to remain tentative for several reasons.

First, the size of the experimental sample was not sufficiently large for any conclusive generalisations to be made. Secondly the testing procedures could be questioned for their validity and reliability, particularly with reference to oral testing. A further question can be raised in terms of the teacher. Ideally someone other than the investigator should have been responsible for the teaching.

The results obtained in this experiment may well have been the effect of my own enthusiasm for and commitment to the Silent Way. Because the philosophy and teaching mode of the Silent Way suits my personality and fits my educational beliefs, it is perhaps not surprising that the experimental group made greater gains than the control group. In spite of a conscious effort on my part to teach both groups with the same degree of commitment to each, I have to admit to possible bias.

Both classes operated in the last two hours of the school day when a degree of fatigue could be expected. The eclectic group was particularly disadvantaged in this respect. Their language class was the last of the day, and this factor could have biased the results of the experiment.

The whole exercise would need to be replicated with many more subjects, with teachers other than the investigator, over a much longer period, and with more stringent testing, for more reliable conclusions to be drawn.

Nevertheless, since the focus of this experiment was to test the Silent Way as an effective teaching technique, and not necessarily to prove its superiority over other approaches to foreign language learning, the experiment has served my primary purpose. The results, though not conclusive, are sufficiently positive to permit a degree of confidence in taking the investigation further, that is, toward answering another question - can the techniques of the Silent Way be learned by non-professional

native speakers of the Māori language, and applied successfully in teaching, so that more people might listen with understanding, speak with confidence, and read and write the Māori language as their own?

***APPENDICES***

## VOCABULARY CHARTS FOR SILENT WAY PROGRAMME

1.				2.			
te	nga	rakau		tena	maua	koutou	
pene	karaka	ma		korua	raua	matou	
kakariki	tangohia			ratou	e	pewhea?	
whakahokia	tu			ana	pai	ko wai?	
kowhai	whero	a		haere	hoki	peke	
kikorangi	mawhero			huri	oma	mai	
noho	ia	paraui		atu	tamariki	tama	
e	pango	au	koe	hine	kui	koro	hoa
me	homai	ki		ma			
hoatu							














3.				4.			
tenei	enei	konei		ta	taku	maku	
runga	muri	te		a	aku	mana	
taha	o	he	aha?	na	ma	wai?	
tepu	tena	ena		ma	whare	au	
kona	raro	roto		naku	motoka		
ki	ipu	tera		whakarongo	tana		
era	kora	mua		ana	nau	nana	
waho	kei	whea?		pukapuka	turituri		
i	туру			tau	mau	tui	

**VOCABULARY CHARTS FOR ECLECTIC PROGRAMME**














1.				2.			
te	nga			tena			
rakau	pene			maua	korua	raua	
karaka	kakariki	ma		matou	koutou	ratou	
whero	pango	parauri		e	pewhea	ana?	
kowhai	kikorangi		mawhero	pai			
homai	hoatu	tangohia		ko wai?			
whakahokia	tu	noho		haere	hoki	peke	huri
me	ki	a	e	oma			
au	koe	ia		mai	atu		
				tamariki	tama	hine	
				kui	koro	hoa	ma

3.				4.			
tenei	tena	tera		ta	taku	tau	tana
enei	ena	era		a	aku	au	ana
runga	raro	mua	muri	na	naku	nau	nana
roto	waho	te	taha o	ma	maku	mau	mana
kei	whea?			ma	wai?		
he	aha?			na	wai?		
ki	i	te		motoka	whare	pukapuka	
tepu	ipu	туру		whakarongo	turituri		












# WORKSHEET

A	rakau 	pene 	tui 	aporo 	pune 
B	<p>Homai   +   +    </p> <p>Homai e rua pene me e toru rakau me e wha aporo</p>				

*Study A and B then write Māori sentences for the following:*

a. Homai    +     +      






---

b. Hoatu ki a Robert  +          

---

c.  $XXXXX + XXXX + XXXXX + \begin{matrix} XXXXXXXXXX \\ XXXXXXXXXX \\ XXXXXXXXXX \end{matrix}$




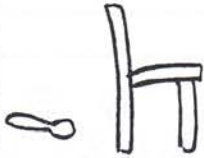


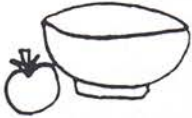
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d. Tangohia    +  

---

# WORKSHEET

Study the following and answer the questions

Kei whea te aporo? Kei runga i te tepu	
Kei whea te aporo?	
Kei whea te pune?	
Kei whea te pune?	
Kei whea te pukapuka?	
Kei whea te aporo?	
Kei whea te aporo?	

ipu -



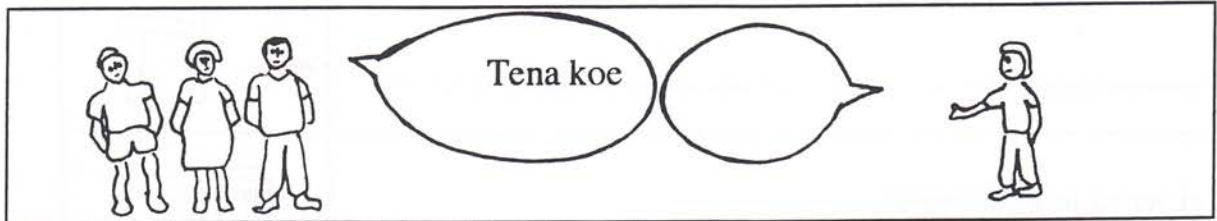
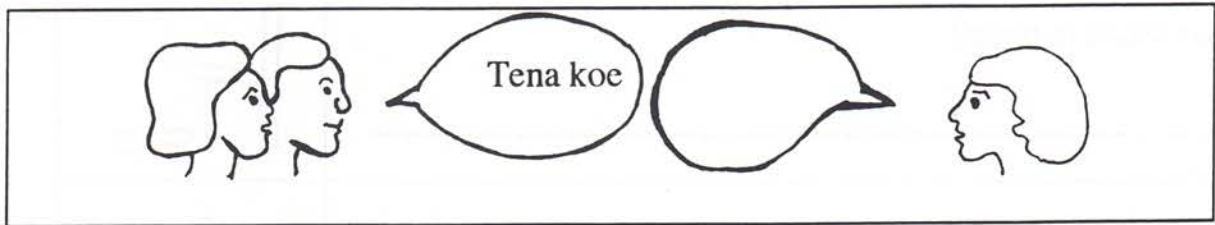
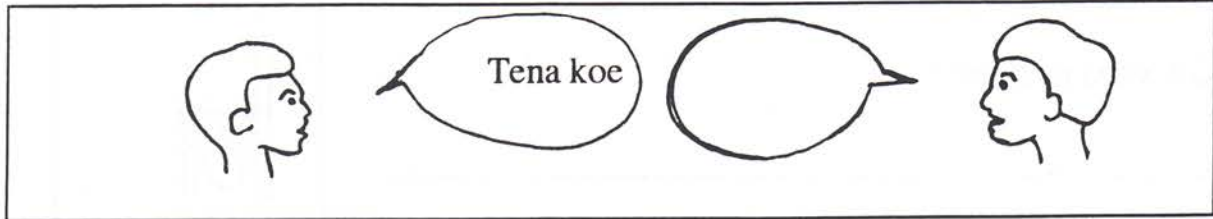


# WORKSHEET

Name \_\_\_\_\_

## MAORI LANGUAGE

1. Study the following pictures. Write in the empty balloons the correct reply to each greeting.



2. Match the following with a connecting line. The first question has been done for you.

E noho

E tu

Te tepu

E huri

He tepu

E peke

Haere mai

Nga tepu

Whakarongo

Timata

Turituri

Haere atu

Come

The tables

Turn around

The table

Listen

Go away

Stand up

Sit down



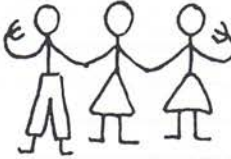
Be quiet

Jump

Begin

A table

# WORKSHEET

	au	koe	ia
	maua	korua	raua
	matou	koutou	ratou

Ko wai au?  
 Ko wai koe?  
 Ko wai ia?



Heni

Ko \_\_\_\_\_ ko  
 Ko \_\_\_\_\_ au  
 Ko \_\_\_\_\_ ia

Jill



John

Ko wai maua?  
 Ko wai korua?  
 Ko wai raua?



Jill

Bill

Ko \_\_\_\_\_ ko \_\_\_\_\_ korua  
 Ko \_\_\_\_\_ ko \_\_\_\_\_ maua  
 Ko \_\_\_\_\_ ko \_\_\_\_\_ raua



Ata

Paula



Heni

Michael

Ko wai matou?  
 Ko wai koutou?  
 Ko wai ratou?



Jill

May

Bill

Ko \_\_\_\_\_ Ko \_\_\_\_\_ Ko \_\_\_\_\_ koutou  
 Ko \_\_\_\_\_ matou  
 ko \_\_\_\_\_ ratou



Ata

Paula

Mandi







Heni

Robert

Michael

# WORKSHEET

E hine	E tama	E kui	E koro
			

Tena koe e hine.  
 E pewhea ana koe?  
 Ko wai koe?  
 No whea koe?



Tena koe e tama.  
 E pai ana au.  
 Ko Hine-moana au.  
 No Tauranga au.

Tena koe \_\_\_\_\_  
 E pewhea ana \_\_\_\_\_  
 Ko wai koe?  
 No \_\_\_\_\_



Tena \_\_\_\_\_  
 E \_\_\_\_\_  
 Ko \_\_\_\_\_  
 No \_\_\_\_\_

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MĀORI LANGUAGE TEST NO. 1  
40 MINUTES

You are about to begin the Māori Language Test - No. 1. You should have a Test Booklet and an Answer Sheet. Do not write on the Test Booklet. All your answers must be entered on the Answer Sheet. Study the following samples:

Match the following:

- A. Tēnei āporo
- B. Tērā āporo
- C. He āporo
- D. Te āporo

The correct answer is D. Now look at your answer sheet. Note that the answer is marked with a cross in column D. Give only one answer for each question.

Write your name clearly in the space provided on your Answer Sheet. Do not start writing until the teacher says so. A few seconds before finishing time the teacher will tell you to complete your last sentence. After that you must stop.


Te rā: \_\_\_\_\_


Ingoa: \_\_\_\_\_


To whom would you say the following greeting?


1. Tēnā koc e kui

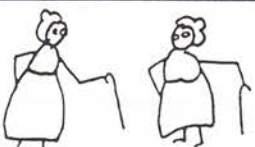
2. Tēnā kōrua e koro mā

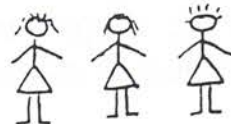
A. 


B. 


C. 


D. 


E. 

A. 

B. 


C. 


D. 


E. 

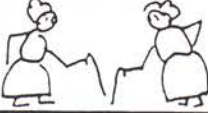
3. Tēnā koutou tamariki mā


4. E hine mā, e tama mā, tēnā koutou katoa


A. 


B. 


C. 


D. 


E. 

A. 

B. 

C. 

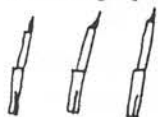
D. 

E. 

Give the full reply to the following:

- |                                |                                   |
|--------------------------------|-----------------------------------|
| 5. <u>E pēwhca ana koc?</u>    | 6. <u>E pēwhca ana kōrua?</u>     |
| A. E pai ana māua              | A. E pai ana rāua                 |
| B. E pai ana mātou             | B. E pai ana tāua                 |
| C. E pai ana au                | C. E pai ana tātou                |
| D. E pai ana rātou             | D. E pai ana māua                 |
| E. E pai ana koc               | E. E pai ana kōrua                |
| 7. <u>E pēwhca ana koutou?</u> | 8. <u>Ko wai ia?</u>              |
| A. E pai ana tātou             | A. Ko John au                     |
| B. E pai ana koutou            | B. Ko John koc                    |
| C. E pai ana rātou             | C. Ko John ia                     |
| D. E pai ana tāua              | D. Ko Hemi koc                    |
| E. E pai ana mātou             | E. Ko Hemi au                     |
| 9. <u>Ko wai rāua?</u>         | 10. <u>Ko wai rātou?</u>          |
| A. Ko Jim ko Kiri tāua         | A. Ko Mandy ko Theo ko Ata tātou  |
| B. Ko Jim ko Kiri rāua         | B. Ko Mandy ko Theo ko Ata koutou |
| C. Ko Jim ko Kiri māua         | C. Ko Mandy ko Theo ko Ata rātou  |
| D. Ko Jim ko Kiri ia           | D. Ko Mandy ko Theo ko Ata mātou  |
| E. Ko Jim ko Kiri kōrua        | E. Ko Mandy ko Theo ko Ata rāua   |

11. E hia ngā pene?



- A. E toru ngā pene  
 B. E rima ngā pene  
 C. E whitu ngā pene  
 D. E rua ngā pene  
 E. E whā ngā pene

12. E hia ngā āporo?



- A. Kotahi te āporo  
 B. E ono ngā āporo  
 C. E tekau ngā āporo  
 D. E waru ngā āporo  
 E. E iwa ngā āporo

Match the following:

- |  |   |
|--|---|
| 13. <u>Kotahi rau e rua tekau mā whitu</u> | 14. <u>E rua mano e toru rau e rima tekau mā tahi</u> |
| A. 246                                     | A. 4,289  |
| B. 329                                     | B. 2,351  |
| C. 421                                     | C. 2,631  |
| D. 127                                     | D. 5,842  |
| E. 721                                     | E. 2,451  |

15. The green apples  
 A. Te āporo whero  
 B. Ngā āporo karaka  
 C. Te āporo kākāriki  
 D. Ngā āporo kākāriki  
 E. Ngā āporo whero

16. The white car  
 A. Te motokā whero  
 B. Ngā motokā pango  
 C. He motokā mā  
 D. Ngā motokā mā  
 E. Te motokā mā

17. A yellow chair  
 A. Te tūru pango  
 B. He tūru kowhai  
 C. He tūru whero  
 D. Te tūru kōwhai  
 E. Ngā tūru pango

18. This orange book  
 A. Tēnā pukapuka kakariki  
 B. Tēnci pukapuka paka  
 C. Tērā pukapuka karaka  
 D. Tēnci pukapuka karaka  
 E. Tēnā pukapuka karaka

19. Those houses  
 A. Tēnā whare  
 B. Ēnci whare  
 C. Tērā whare  
 D. Ērā whare

20. That book near you  
 A. Tēnā pukapuka  
 B. Tēnci pukapuka  
 C. Ēnci pukapuka  
 D. Ēnā pukapuka

21. Kei whea te āporo?



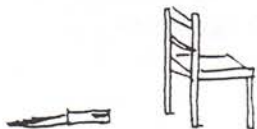
- A. Kei runga i te ipu  
 B. Kei raro i te ipu  
 C. Kei roto i te ipu  
 D. Kei muri i te ipu

22. Kei whea te ipu?



- A. Kei runga i te tepu  
 B. Kei raro i te tepu  
 C. Kei mua i te tepu  
 D. Kei muri i te tepu

23. Kei whea te pene?



- A. Kei raro i te tūru  
 B. Kei runga i te tūru  
 C. Kei mua i te tūru  
 D. Kei muri i te tūru

24. Kei whea te pukapuka?



- A. Kei roto i te ipu  
 B. Kei waho i te ipu  
 C. Kei raro i te ipu  
 D. Kei runga i te ipu





MĀORI LANGUAGE TEST - NO 1 ANSWER SHEET	
--	--

NAME.....
-----------

	A	B	B	C	D	E			A	B	C	D	E	
							Sample							
1								16						
2								17						
3								18						
4								19						
5								20						
6								21						
7								22						
8								23						
9								24						
10								25						
11								26						
12								27						
13								28						
14								29						
15								30						

Sentences: Use back of answer sheet if necessary

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# SCORES SHEET

MĀORI LANGUAGE TEST - NO 1															
	A	B	B	C	D	E			A	B	C	D	E		
							Sample								
1								16							
2								17							
3								18							
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5								20							
6								21							
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11								26							
12								27							
13								28							
14								29							
15								30							

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# ITEM ANALYSIS

		<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>%</u> <u>Correct</u>	<u>%</u> <u>Correct</u>	<u>Item</u> <u>Difficulty</u>	<u>Item</u> <u>Discrimination</u>	<u>Action</u>
5	H	3	1	8	9*	7	32	28	.28	.12	discard
	L	6	7	6	7*	2	25				
6	H	4	11*	1	11	1	39	28	.28	.49	retain
	L	7	5*	4	11	1	18				
7	H	1	0	1	0	26*	93	87	.87	.30	retain
	L	2	0	0	3	23*	82				
8	H	3	21*	3	1	0	75	64	.64	.35	retain
	L	3	15*	8	1	1	54				
9	H	0	1	17*	0	10	61	43	.43	.51	retain
	L	1	1	7*	3	16	25				
10	H	1	1	3	6*	17	21	14	.14	.40	discard
	L	4	4	3	2*	15	7				
11	H	2	20	1	1	4*	14	10	.10	-.20	discard
	L	3	16	3	4	2*	7				
12	H	7	6	10*	1	8	36	37	.37	-.00	discard
	L	12	2	11*	1	2	39				
13	H	4	16*	1	4	3	57	44	.44	.39	retain
	L	4	9*	6	5	4	32				
14	H	1	4	14*	5	4	50	48	.48	.04	discard
	L	3	1	13*	5	6	46				
15	H	0	1	27*	0	0	96	76	.76	.70	retain
	L	2	4	16*	3	3	57				

		<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>% Correct</u>	<u>% Correct</u>	<u>Item Difficulty</u>	<u>Item Discrimination</u>	<u>Action</u>
16	H	27*	0	1	0	0	96	67	.67	.87	retain
	L	11*	8	4	0	5	39				
17	H	2	0	0	26*	0	93	77	.77	.60	retain
	L	4	6	1	17*	0	61				
18	H	0	27*	1	0	0	96	75	.75	.79	retain
	L	1	15*	5	2	5	54				
19	H	0	1	10	17*	0	61	39	.39	.66	retain
	L	1	4	13	5*	0	18				
20	H	2	0	1	3	22*	79	73	.73	.21	retain
	L	3	1	3	2	19*	68				
21	H	0	16*	0	12	0	57	44	.44	.39	revise
	L	0	9*	3	16	0	32				
22	H	1	1	2	18*	6	64	51	.51	.39	retain
	L	4	3	8	11*	2	39				
23	H	2	5	5	15*	1	54	41	.41	.39	retain
	L	4	10	6	8*	0	29				
24	H	13*	8	2	4	1	46	35	.35	.22	revise
	L	7*	7	5	8	1	25				
25	H	15	3	4*	6	0	14	17	.17	-.04	discard
	L	8	7	6*	7	0	21				
26	H	24*	2	2	0	0	36	62	.62	.71	retain
	L	11*	9	6	1	1	39				
27	H	3	0	7	17	1*	04	5	.05	-.02	discard
	L	4	6	10	6	2*	07				
28	H	8	15*	3	1	1	54	39	.39	.43	retain
	L	7	7*	7	7	0	25				
29	H	0	1	19*	6	2	68	50	.50	.57	retain
	L	4	4	9*	11	0	32				
30	H	17*	8	0	3	0	61	36	.36	.74	retain
	L	3*	6	7	9	3	11				

**CHECKLIST FOR ORAL TESTING**

<i>Name of Subject</i> .....							
<b>Test 3</b>							
<b>Part Item Max. Score Correct Response</b>							<b>Score</b>
1	1	4	Tēna	koe	e	kui	
	2	3	ko	.....	au		
	3	5	kei	runga	i	te	tēpu
	4	5	kei	raro	i	te	turu
2	1	5	<u>Tangohia</u>	e	<u>toru</u>	<u>rākau</u>	<u>pango</u>
	2	3	<u>me</u>	e	<u>rīma</u>	<u>rākau</u>	<u>karaka</u>
	3	2	me	<u>kotahi</u>		<u>rākau</u>	<u>māwhero</u>
	4	3	me	<u>ngā</u>	<u>rākau</u>	<u>mā</u>	<u>katoa</u>
	5	2	<u>Homai</u>	<u>ngā</u>	<u>rākau</u>	<u>ki</u>	<u>au</u>

**TEXT FOR READING FLUENCY**

**Tēna Koe e Hone**

**Haere mai ki konei e hoa**

**E ono ngā ruri kei runga i te tēpu**

RAW SCORES FOR SILENT WAY GROUP: POST-TESTS

		Curriculum Content	Writing Skills	Reading/fluency	Listening Skills	Action Response	Verbal Response	Sound Symbol Association	Combined scores
Girls	1	8	58	16		4	9	2	15
	2	12	32	15		2	5	0	7
	3	12	77	23		5	8	3	16
	4	11	83	14		5	2	3	10
	5	18	133	19		5	2	4	11
	6	16	136	20		5	12	5	22
	7	18	83	20		4	13	3	20
	8	11	12			4	9	2	15
	9	8	58			2	6	4	12
	10	18	80			4	9	3	16
	11	16	60			4	11	4	17
	12	8	70			3	6	3	12
Boys	13	15	73	18		5	12	4	21
	14	17	98	24		5	15	5	24
	15	8	75	10		3	2	2	7
	16	17	125	23		5	15	4	24
	17	10	28	13		3	2	4	9
	18	16	77	18		2	2	4	8
	19	16	66			3	9	3	15
	20	12	18			5	9	3	17
	21	17	74			4	11	3	18
	22	8	81			4	11	3	18
	23	13	66			5	11	3	19
	24	11	67			2	5	4	11
	25	5	49			5	13	4	22
	26	11	59	15		5	9	5	19
	27	16	109	23		5	15	4	24
	28	12	102	15		5	15	4	24

RAW SCORES FOR ECLECTIC GROUP : PRE-TESTS

	Otis Intelligence Quotient	Pimsleur L.A.B.	Subject Grades	Interest in Foreign Languages	English Vocabulary	Language Analysis	Sound Discrimination	Sound Symbol Association	Combined Scores
Girls 1	110	10	3	2	3	13	14	45	
2	100	6	4	4	3	14	14	45	
3	90	6	3	3	2	13	15	42	
4	90	10	3	5	9	16	14	57	
5	99	8	0	7	5	20	11	51	
6	91	3	4	6	2	18	12	45	
7	86	4	3	5	1	17	13	43	
8	80	1	2	5	4	23	7	42	
9	108	8	0	7	3	19	18	55	
10	94	8	3	4	3	9	10	37	
11	87	6	2	9	3	17	19	56	
12	105	7	4	3	1	20	11	46	
13	126	12	4	7	13	14	16	66	
14	96	5	4	4	2	20	12	47	
15	115	12	3	11	8	16	20	70	
16	107	8	2	5	6	15	16	52	
17	104	6	3	6	2	16	6	39	
Boys 18	119	6	4	7	4	15	12	48	
19	106	6	3	2	3	17	16	47	
20	82	5	2	2	1	14	10	34	
21	93	5	2	4	6	15	13	45	
22	104	6	3	10	7	17	18	61	
23	120	10	3	9	6	24	18	70	
24	88	5	1	3	3	15	7	34	
25	100	6	3	3	3	11	15	41	
26	97	8	2	6	7	16	14	53	
27	100	6	4	7	0	12	19	48	
28	95	3	3	7	5	17	14	49	
29	84								



PIMSLEUR

FORM S

LANGUAGE

APTITUDE

BATTERY


---

by Paul Pimsleur

Director: Listening Center  
The Ohio State University

### To the Student

-DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.  
This booklet contains parts 3 and 4 of the test which you are about to take. It is to be used with the tape. Listen carefully to the instructions given on the tape and do not start working on the test until the voice on the tape tells you to do so.

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## Part 3: Vocabulary

## SAMPLE

- S prolonged  
 [a] prompt  
 [b] decreased  
 [c] difficult  
 [d] extended

- 1 fruitless  
 [a] intentional  
 [b] successful  
 [c] profitable  
 [d] ineffectual
- 2 jovial  
 [e] somber  
 [f] merry  
 [g] satisfied  
 [h] fatigued
- 3 vigorous  
 [a] weak  
 [b] sickly  
 [c] strong  
 [d] vigilant
- 4 malicious  
 [e] thirsty  
 [f] beneficent  
 [g] wicked  
 [h] charitable
- 5 vivacious  
 [a] lively  
 [b] pretty  
 [c] docile  
 [d] glum
- 6 loquacious  
 [e] sweet  
 [f] beautiful  
 [g] tall  
 [h] talkative
- 7 hilarious  
 [a] lengthy  
 [b] dull  
 [c] boisterous  
 [d] extemporaneous
- 8 smug  
 [e] self-satisfied  
 [f] friendly  
 [g] uncertain  
 [h] unhappy
- 9 ludicrous  
 [a] detailed  
 [b] absurd  
 [c] lengthy  
 [d] brilliant
- 10 rebuked  
 [e] promoted  
 [f] scolded  
 [g] praised  
 [h] retarded
- 11 grotesque  
 [a] luminous  
 [b] mythical  
 [c] distorted  
 [d] unique
- 12 benevolent  
 [e] courteous  
 [f] violent  
 [g] boring  
 [h] charitable
- 13 vociferous  
 [a] loud  
 [b] sedate  
 [c] vengeful  
 [d] timid
- 14 adroit  
 [e] brilliant  
 [f] skillful  
 [g] careless  
 [h] slow
- 15 agitated  
 [a] hungry  
 [b] tired  
 [c] agile  
 [d] excited
- 16 exhilarated  
 [e] stimulated  
 [f] satiated  
 [g] dejected  
 [h] expendable
- 17 mediocre  
 [a] excellent  
 [b] slow  
 [c] unusual  
 [d] average
- 18 wanes  
 [e] disappears  
 [f] increases  
 [g] decreases  
 [h] continues
- 19 commodious  
 [a] cramped  
 [b] spacious  
 [c] tiny  
 [d] uncomfortable
- 20 capricious  
 [e] changeable  
 [f] steady  
 [g] austere  
 [h] sedate
- 21 unpretentious  
 [a] pompous  
 [b] modest  
 [c] indignant  
 [d] conceited
- 22 chastised  
 [e] coaxed  
 [f] chosen  
 [g] chivalrous  
 [h] punished
- 23 abating  
 [a] spreading  
 [b] increasing  
 [c] decreasing  
 [d] beginning
- 24 dissent  
 [e] disagree  
 [f] defend  
 [g] disappear  
 [h] go down

# Part 4: Language Analysis

## DIRECTIONS:

The list below contains words from a foreign language and the English equivalents of these words.

gade ..... father, a father  
shí ..... horse, a horse  
gade shir le ..... Father sees a horse.

By referring to the above list, figure out how the following statement should be expressed in this language. Do this without writing on paper.

**A horse sees Father.**

Do NOT read ahead until you have decided on an answer.

---

The answer to the problem is: shí gader le. Notice particularly the final "r" of "gader"; it is added to the word in the sentence which receives the action. If you have not answered correctly, look at the problem again to see if you now understand it. You may *not* ask questions.

There are 15 similar problems on page 4 of this booklet. The voice on the tape will tell you when to turn the page. Read each problem carefully and indicate your answer on the separate answer sheet.

**DO NOT TURN THE PAGE  
UNTIL YOU ARE TOLD TO DO SO!**

Language Analysis, *continued*

LIST OF WORDS:

gade .....	father, a father
shi .....	horse, a horse
gade shir le .....	Father sees a horse.
gade shir la .....	Father saw a horse.
be .....	carries

Using the above list, figure out how to say each of the statements below. As soon as you decide how to say a statement, look at the four answers given beneath it and choose the one which agrees with yours.

1 Father carries a horse.

- |                  |                  |
|------------------|------------------|
| [a] gade shir be | [b] gade shir ba |
| [c] shi gader be | [d] shi gader ba |

2 Father carried a horse.

- |                  |                  |
|------------------|------------------|
| [e] gade shir be | [f] gade shir ba |
| [g] shi gader be | [h] shi gader ba |

3 A horse carried Father.

- |                  |                  |
|------------------|------------------|
| [a] gade shir be | [b] gade shir ba |
| [c] shi gader be | [d] shi gader ba |

4 A horse carries Father.

- |                  |                  |
|------------------|------------------|
| [e] gade shir be | [f] gade shir ba |
| [g] shi gader be | [h] shi gader ba |

The list below contains the same words as the list above and some additional ones. Use this list in figuring out how to say the statements in problems 5 through 15.

gade .....	father, a father	so .....	I, me
shi .....	horse, a horse	wo .....	you
gade shir le .....	Father sees a horse.	so shir le .....	I see a horse.
gade shir la .....	Father saw a horse.	sowle .....	I see you.
be .....	carries	so shir lem .....	I don't see a horse.

5 You carry me.

- |           |           |
|-----------|-----------|
| [a] sowle | [b] sowbe |
| [c] wosle | [d] wosbe |

6 You saw Father.

- |                 |                 |
|-----------------|-----------------|
| [e] wo gader le | [f] so gader le |
| [g] so gader la | [h] wo gader la |

7 I carried you.

- |           |           |
|-----------|-----------|
| [a] wosba | [b] sowbe |
| [c] sowba | [d] sowla |

8 You carried Father.

- |                 |                 |
|-----------------|-----------------|
| [e] wo gader ba | [f] wo gader be |
| [g] wo gade ba  | [h] so gade be  |

9 You saw me.

- |           |           |
|-----------|-----------|
| [a] sowla | [b] wosba |
| [c] wosla | [d] wosle |

10 You don't carry a horse.

- |                 |                 |
|-----------------|-----------------|
| [e] wo shir lem | [f] wo shir bem |
| [g] wo shir bam | [h] wo shi bem  |

11 You don't see me.

- |             |            |
|-------------|------------|
| [a] sowlem  | [b] wosle  |
| [c] wosolem | [d] woslem |

12 I didn't carry Father.

- |                  |                  |
|------------------|------------------|
| [e] so gader bam | [f] so gade bam  |
| [g] so gader bem | [h] so gader lam |

13 You saw a horse.

- |                |                |
|----------------|----------------|
| [a] wo shir le | [b] wo shir la |
| [c] wo shir be | [d] wo shir ba |

14 I didn't see you.

- |             |            |
|-------------|------------|
| [e] woslam  | [f] sowlam |
| [g] sowlem. | [h] woslem |

15 Father doesn't carry a horse.

- |                   |                    |
|-------------------|--------------------|
| [a] gade shir bem | [b] shir gader bem |
| [c] gade shi bem  | [d] gade shir bam  |

# LANGUAGE APTITUDE BATTERY

**PART 1 GRADES IN MAJOR SUBJECTS**

English Grade	Soc. St.-Hist. Grade	Arith.-Math. Grade	Science Grade
E/F--Space 1	E/F--Space 1	E/F--Space 1	E/F--Space 1
D--Spaces 1, 2	D--Spaces 1, 2	D--Spaces 1, 2	D--Spaces 1, 2
C--Spaces 1, 2, 3	C--Spaces 1, 2, 3	C--Spaces 1, 2, 3	C--Spaces 1, 2, 3
B--Spaces 1, 2, 3, 4	B--Spaces 1, 2, 3, 4	B--Spaces 1, 2, 3, 4	B--Spaces 1, 2, 3, 4
A--Spaces 1, 2, 3, 4, 5	A--Spaces 1, 2, 3, 4, 5	A--Spaces 1, 2, 3, 4, 5	A--Spaces 1, 2, 3, 4, 5

**PART 2 INTEREST**

We would like you to give an estimate of how interested you are in studying a modern foreign language. In making this estimate, ask yourself how useful a foreign language will be to you, how much you will enjoy it, and how interested you are in foreign languages as compared with other subjects.

Take time to think over your answer; then indicate your interest in studying a modern foreign language.

Rather uninterested	--Space 1	1
More or less indifferent	--Spaces 1, 2	2
Mildly interested	--Spaces 1, 2, 3	3
Rather interested	--Spaces 1, 2, 3, 4	4
Strongly interested	--Spaces 1, 2, 3, 4, 5	5

**PART 3 VOCABULARY**

SAMPLE

	a	b	c	d
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

**PART 4 LANGUAGE ANALYSIS**

	a	b	c	d
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

**PART 5 SOUND DISCRIMINATION**

1	cabin	boa	cabin	boa	friend
2	cabin	boa	cabin	boa	friend
3	cabin	boa	cabin	boa	friend
4	cabin	boa	cabin	boa	friend
5	cabin	boa	cabin	boa	friend
6	cabin	boa	cabin	boa	friend
7	boa	friend	cabin	boa	friend
8	boa	friend	cabin	boa	friend
9	boa	friend	cabin	boa	friend
10	boa	friend	cabin	boa	friend
11	boa	friend	cabin	boa	friend
12	boa	friend	cabin	boa	friend
13	boa	friend	cabin	boa	friend
14	boa	friend	cabin	boa	friend
15	boa	friend	cabin	boa	friend
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

LANGUAGE APTITUDE

BATTERY

PART 6 SOUND-SYMBOL ASSOCIATION				
SAMPLE	1	2	3	4
trapied	snosfen	thurksle	tiksgel	nimbrii
tapled	sonsfen	thruksle	tigskel	minbiri
tapdel	snosnef	thruskle	tiskgel	nimbiri
trapdel	sonsfef	thurskle	tigksel	minbiri
5	6	7	8	9
thorleg	rosktrag	afrap	culther	wotner
throgle	rostkrag	arfap	cluther	wontner
thorgle	rokstrag	afpar	cutler	wonter
throleg	rotskrag	arpaf	cluthier	wentnor
10	11	12	13	14
rielig	tronbieg	elasket	widnt	nasperdep
rigiel	tornbieg	calsket	windt	nasperdep
riegiel	trölbieg	clakset	witnd	nasperpod
rielieg	torlbieg	calkset	wintd	naspepod
15	16	17	18	19
mazordli	chebögex	fislanter	krimsöder	nafshosun
marozdli	cheboglex	fislantex	krümsöder	nafshosun
madorzli	chelbögez	fislätner	klimsöder	nashfosun
marozzli	chelgöbez	fislätner	klümsöder	nafshosun
20	21	22	23	24
birilum	kriblutos	saferkal	trazbimen	tolandus
bririlum	kribultos	sakerfal	trambuzen	todandlus
birilnum	kriblutos	safckal	trambuez	tolandus
bririlnum	kribultos	sakrefal	trazbimen	tolandlus



STENCIL KEY  
RING ONLY

FORM 1  
SIDE T

# PIMSLEUR LANGUAGE APTITUDE BATTERY

## PART 1 GRADES IN MAJOR SUBJECTS

NOTE:  
To facilitate scoring, cut out the slanted blocks. Write the score for each part in the appropriate cut-out space.

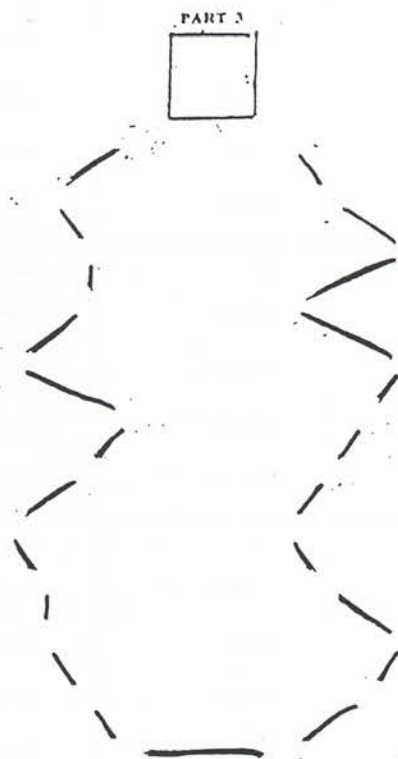


## PART 2 INTEREST

NOTICE:  
When using this key for hand-scoring, be sure that the holes at the bottom of the key are exactly positioned over the circles on the Answer Sheet.

NOTE:  
The score for Part 2 must be multiplied by 2 before entering it in the Score Box provided on Side 1 of the Answer Sheet.

## PART 3 VOCABULARY



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## PART 4 LANGUAGE ANALYSIS



PART 4

## PART 5 SOUND DISCRIMINATION



PART 5

# PIMSLEUR LANGUAGE APTITUDE BATTERY

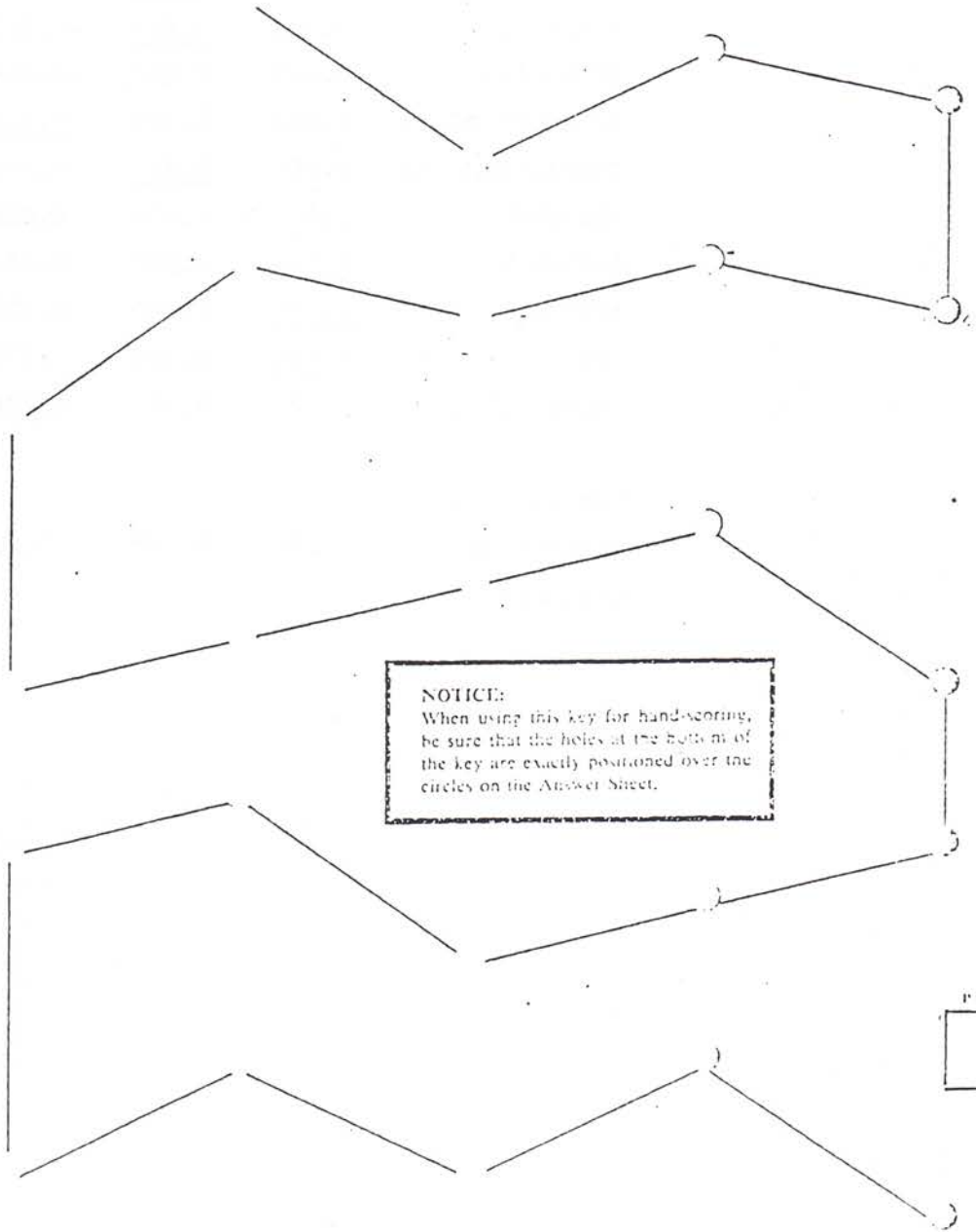
## PART 6 SOUND-SYMBOL ASSOCIATION

### PIMSLEUR LANGUAGE APTITUDE BATTERY, FORM 5: HAND- AND MACHINE-SCORING KEY: SIDE 2

The score on Part 6 is number right. Set master switch on A and formula switch on R.

This key may be used for hand-scoring or machine-scoring. Specific directions for scoring by either method are given in the *Manual*. In hand-scoring, position this key over the answer sheet and count the number of pencil marks appearing through the holes in the key. The number of right responses is the raw score for Part 6. Enter the raw score in the *Score Box* provided on Side 1 of the Answer Sheet.

In machine-scoring, place this key face down in the far side of the key rack (side away from the operator when rack is in scoring position).





ROTATED FACTOR LOADINGS

		Factor	Factor	Factor	Factor
		1	2	3	4
IQ	2	0.089	0.469	<u>0.693</u>	-0.030
GRADES	4	0.165	<u>0.678</u>	0.378	-0.072
INTEREST	5	-0.101	0.178	0.073	<u>0.764</u>
VOCABULARY	6	-0.046	<u>0.582</u>	0.268	0.059
ANALYSIS	7	0.301	<u>0.692</u>	-0.023	-0.119
SOUND DIS	8	-0.246	0.250	-0.036	-0.683
SOUND ASSOC	9	0.082	0.154	<u>0.831</u>	0.002
CURRICULUM	10	0.259	<u>0.627</u>	0.299	0.334
WRITING	11	0.442	0.404	0.056	0.342
LISTENING	12	<u>0.931</u>	0.093	0.223	0.017
ACTION	15	<u>0.595</u>	0.383	0.005	0.319
VERBAL	16	<u>0.914</u>	0.115	0.174	-0.031
SOUND ASSOC	17	0.220	0.095	<u>0.714</u>	0.194
Cummulative )					
proportion of )		34.7%	47.4%	57.1%	64.9%
variance )					

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